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REALM

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# WASTE MANAGEMENT PLAN

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## FORMER PEREGRINE (US) INC.
## COLDWATER ROAD FACILITY
## GENESEE TOWNSHIP, MICHIGAN

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# LIST OF ACRONYMS

| | |
|---|---|
| CA | Corrective Action |
| GM | General Motors Corporation |
| HASP | Health and Safety Plan |
| IM | Interim Measures |
| PCB | Polychlorinated Biphenyls |
| ppm | parts per million |
| Participants | Consultants, Sub-Consultants, Contractors, Sub-Contractors preparing REALM/ENCORE Waste Management Plans |
| POTW | Publicly Owned Treatment Works |
| RCRA | Resource Conservation and Recovery Act |
| RFI | RCRA Facility Investigation |
| TCLP | Toxicity Characteristic Leaching Procedure |
| TSCA | Toxic Substances Control Act |
| U.S. DOT | U.S. Department of Transportation |
| U.S. EPA | U.S. Environmental Protection Agency |
| WMP | Waste Management Plan |

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# 1.0 INTRODUCTION

The Waste Management Plan (WMP) presented herein, describes policies, procedures, and protocols for the handling of waste materials generated consulting/contracting members (Participants) working on REALM projects during RCRA Corrective Action at the Former Peregrine (US) Inc. Coldwater Road Facility (Site) located in Genesee Township, Michigan. Figure 1.1 presents the Site Location. Figure 1.2 presents a Site Plan. Types of wastes that may be generated, potentially include but may not be limited to the following:

- Toxic Substances Control Act (TSCA) polychlorinated biphenyls (PCB) remediation waste (includes solids and liquids from drilling and excavating activities), as defined by 40 CFR Part 761;
- RCRA Subtitle C hazardous waste (includes solids and liquids from drilling and excavating activities), as defined by 40 CFR Part 261;
- RCRA Subtitle D solid waste (includes solids and liquids from drilling and excavating activities, personal protective equipment (PPE), debris, and soil); and
- Liquid waste from concrete cleaning activities (includes oily water and detergent).

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The procedures and protocols outlined in the following subsections of this WMP include administrative roles and responsibilities, management, characterization, testing/sampling, containerization, storage, transportation, and/or disposal of wastes generated during project activities. These procedures should be performed in conjunction with those presented in the project Health and Safety Plan (HASP). The HASP will be revised/updated to address any unanticipated activities associated with the project. In addition, the site-specific WMP will be revised/expanded, as appropriate, while the project work progresses to include information, methodologies, and procedures associated with any changes in work scope and/or site conditions.

Several of the procedures in this WMP reference the REALM/ENCORE Field Method Guidelines (FMG) Manual. The relevant FMGs are referenced in this General WMP and a copy of each is attached, as appropriate. The REALM/ENCORE Field Method Guidelines Manual is available by electronic means on REALM/ENCORE's web site (www.realm-encore.com).



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## 2.0 ADMINISTRATIVE ROLES AND RESPONSIBILITIES

Appendix A presents a Waste Administration Checklist that has been completed with specific waste generation information for this project, including anticipated waste streams, administrative contacts, and disposal contractors. This Checklist was prepared with the ENCORE/REALM project manager prior to preparing this WMP.

During implementation of REALM/ENCORE waste disposal activities, the Project Team Members will have the following planning and administrative roles and responsibilities:

- **REALM/ENCORE Project Manager (Cheryl Hiatt) -** The REALM/ENCORE Project Manager is responsible for providing to the Participant Project Manager all project specific information available concerning project conditions relevant to the waste media being handled. The REALM/ENCORE Project Manager will review and approve the Waste Management Plan and verify that the Waste Management Plan is being followed.
- **Participant Project Manager (Sylvie Eastman) -** The Participant Project Manager will be responsible for preparation of the Waste Management Plan, selecting the Project Waste Administrator, and ensuring that the REALM/ENCORE Project Manager reviews and approves the Waste Management Plan. The Participant Project Manager is ultimately responsible for the implementation of the Waste Management Plan in a timely and cost effective manner, and responsible for ensuring that the proper resources are available to complete the waste disposal activity, including quality checks to ensure the Waste Management Plan is being followed.
- **Participant Waste Administrator (Shawn McLean) -** The Participant's Waste Administrator will be responsible for implementation of the Waste Management Plan. The Waste Administrator will oversee the day to day activities concerning waste management, ensure characterization and sampling activities are performed (if required), complete the waste documentation required, complete the waste manifests (if required), tracks the waste materials to final disposition, and perform project notifications/communications. These tasks will be completed whether or not the Waste Administrator performs the manifesting and/or the manifest signing.
- **Participant Internal Auditor -** The Participant Waste Internal Auditor will be identified and responsible for completing the internal audits of the waste handling activities, as needed, to document that the site-specific WMP is being followed.

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## 3.0 TYPICAL WASTES GENERATED

The wastes generated during remediation projects will be subject to the regulations developed pursuant to one or more of the following statutes:

- Toxic Substances Control Act (TSCA) for the regulation of polychlorinated biphenyls (PCBs);
- Resource Conservation and Recovery Act (RCRA) Subtitle C for the regulation of hazardous waste; and
- RCRA Subtitle D for the regulation of solid waste.

Potential waste types generated include solids, liquids, and mixtures:

- Solids: Soil/rock cuttings, drill cuttings, soil excavations, concrete, Personal Protective Equipment (PPE), and equipment.
- Liquids: Groundwater, surface water runoff, concrete cleaning fluids (may include oily water and detergent) and decontamination fluids.
- Mixtures: Drilling mud, sediments, and sludges.

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Waste materials generated during remediation project activities will typically be drummed or handled in bulk form and may include the following:

- Drummed and/or bulk aqueous wastes consisting of decontamination water and wastewater from concrete cleaning, aquifer testing, well purging, well installation, and well development activities;
- Drummed and/or bulk solid wastes from drilling and excavating (may include a mixture of soils and PPE); and
- Drummed and/or bulk mixed aqueous and solid waste consisting of drilling mud, river/stream sediments, soils (may include PPE also).

None of the above wastes are considered to be explosive or shock-sensitive; therefore, provisions for these types of waste are not presented, herein. A detailed inventory by waste types/categories of all wastes produced during performance of each project are to be maintained by the Participant's Site Representative.

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## 4.0 STORAGE OF PROJECT GENERATED WASTES

The waste storage location is the Building #63 slab and is shown on Figure 1.2. Once full, all drummed or containerized wastes will be stored at the primary waste storage area. Waste soil may also be stockpiled temporarily adjacent to the excavation. Visqueen or other material will be used to prevent contamination of material to remain in place. Waste intended for off-site disposal will be sent for disposal as soon as possible following proper waste characterization. The logistics of completing the waste characterization and finalizing the disposal arrangements are the responsibility of the Participant Waste Administrator.

### 4.1 RCRA HAZARDOUS WASTE STORAGE REQUIREMENTS

RCRA hazardous wastes must be stored in compliance with the RCRA regulations. RCRA hazardous wastes may be stored on-site for 90 days without a permit or without having interim-status if the generator complies with the applicable requirements of Title 40 CFR 265 Subparts I, J, AA, BB, and CC if the wastes are placed in containers or tanks. RCRA storage requirements generally require secondary containment and inspections to check for leaks. The requirements vary depending on whether the material is stored in containers or tanks. Title 40 CFR 265 Subpart I applies to containers only and Subpart J applies to tanks only. Subparts AA, BB, and CC apply to both containers and tanks.

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Appendix B contains a weekly hazardous waste inspection form for containers with secondary containment

### 4.2 TSCA WASTE STORAGE REQUIREMENTS

The TSCA storage requirements apply to the storage for disposal of PCBs at concentrations of 50 ppm or greater and PCB items with PCB concentrations of 50 ppm or greater. PCBs with a concentration of less than 50 ppm are not subject to the TSCA storage requirements. However, GM policy requires TSCA regulated wastes with less than 50 ppm PCBs to be stored as if they have 50 ppm or greater PCBs.

TSCA regulated wastes may be stored in containers for a period of up to 30 days from the initial waste generation date prior to shipment. TSCA regulated wastes that are more than 30 days old must be placed in a TSCA compliant storage area and disposed of within one year of generation. If a drum of PCB waste is placed in an overpack drum it

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is compliant with the TSCA storage area requirements. The TSCA storage area requirements are found in 40 CFR 761.65(b). The TSCA regulations include provisions for storing bulk remediation waste in piles at the clean-up site or site of generation for up to 180 days [40 CFR 765.65(c)(9)].

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# 5.0 DRUM AND CONTAINERIZED WASTE

## 5.1 GENERAL

This section applies to all activities involved in the handling of the generated waste drums and containers that may contain potentially RCRA hazardous, non-hazardous, or TSCA waste materials in either solid or liquid state. All drum and container handling activities will be conducted in accordance with the site specific HASP.

## 5.2 SAFETY EQUIPMENT/HANDLING EQUIPMENT

During the handling of drums or containers, PPE as specified in the HASP will be worn at all times. All handling, moving and transporting of drums or containers will be performed with mechanical equipment whenever possible.

Minimum equipment and materials will be maintained on site at all times for control/cleanup in response to any spill, release, or discharge.

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## 5.3 DRUM HANDLING

### 5.3.1 DRUM STAGING AND HANDLING

Drummed or containerized waste generated during project activities will be stored daily at a temporary nearby location while the drums/containers are still being filled. Once full, all drummed or containerized wastes will be stored on site at the designated primary storage location(s) pending off-site treatment/disposal. If known RCRA hazardous wastes are being generated then more specific accumulation/storage requirements will apply.

All drums will be transferred to the site's waste storage location using mechanical equipment whenever possible. Drums will be moved by grappler, non-metallic slings, within a backhoe bucket or front end loader or by other means that will minimize damage to the drums and the potential release of contents. All drums will be placed on pallets and oriented to permit inspection and sampling of each individual drum, if necessary.

All drummed waste placed in the waste storage area will be initially marked to include waste generation method, date produced (first date waste placed in drum, except for satellite accumulation containers which should be marked with the date the container

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became full), and a unique drum number. All drums will be recorded by entering the container information in the waste tracking program used to track the site wastes. Subsequent to completing waste sampling and characterization, as discussed in Sections 5.0 and 6.0, all drums containing hazardous and/or TSCA wastes designated for off-site disposal/treatment will be labeled and manifested, as discussed in Section 4.0.

RCRA hazardous wastes may be generated on site in containers for 90 days without a permit or without having interim-status if the generator complies with the applicable requirements of 40 CFR 265 Subparts I, AA, BB, and CC. The primary requirements include inspecting the area where the containers are stored, at least weekly, for leaks and for deterioration.

Containers with TSCA regulated waste may be stored outside of a TSCA storage area for a period of up to 30 days from the initial waste generation date prior to shipment. It is recommended that TSCA containers be stored in a TSCA storage area at all times. Containers which are more than 30 days old will be placed in a storage area that meets the TSCA storage area requirements. The container can also be placed in an overpack drum to provide TSCA storage. Placing the container in TSCA storage allows the storage time to be extended to ensure disposal in a period of less than 1 year. TSCA containers more than 30 days old must be inspected for leaks pursuant to 40 CFR Part 761.

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## 6.0 SPILL PREVENTION AND RESPONSE

The handling and transport of containerized waste will be, at all times, conducted in a controlled and safe manner that will minimize damage to the containers and prevent release of the contents.

In the event that a drum or container of liquid is spilled, the site personnel will immediately respond to the spill. The spilled liquids will be confined to the immediate area of the spill and the liquids will be pumped, with the use of a portable hand pump, into a repack drum. The spilled liquids will be confined by diking around the spill with native material or with an inert absorbent. Any residual liquids, which cannot be pumped, will be absorbed with a sufficient quantity of inert absorbent to ensure that no free liquids remain. If the spill occurred on soil, outside of a previously identified contaminated area, the Participant's Site Representative will immediately consult with the Participant's Project Manager to determine the appropriate response. If the spilled liquid consisted of non-aqueous phase liquid (NAPL) or laboratory extract waste, the spilled material and visibly affected soils will be immediately excavated, placed in drums and transferred to the staging area. If the spilled liquid consisted of decontamination water, wastewater from aquifer testing or well purging/development water, the decision to excavate the visibly affected soils will be based on whether the water was generated from a source known to exhibit contamination (e.g., monitoring well within the identified groundwater aqueous phase plume). However, if the spill of aqueous liquid occurred on soil within a previously identified contaminated area, the affected soil will not be excavated if the soils in these identified areas will be remediated as part of the project.

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All spills that potentially meet the following criteria must be immediately identified to the Participant Project Manager, and the REALM/ENCORE Project Manager to evaluate and complete the reporting requirements.

Under 40 CFR 302.6 EPA requires persons in charge of facilities (including transport vehicles, vessels and aircraft) to report any release of a hazardous substance in a quantity equal to or greater than its reportable quantity, as soon as that person has knowledge of the release, to the U.S. Coast Guard National Response Center at (toll free) 800-424-8802 or (toll) 202-267-2675.

The Clean Water Act requires the reporting of any spills which cause a sheen on waters of the U.S. (report to the NRC).



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U.S. Department of Transportation (DOT) requires that reporting of any incidents that occur during the course of transportation (including loading, unloading, and temporary storage) that meet the criteria in 49 CFR 171.15(a).

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## 7.0 EQUIPMENT DECONTAMINATION

Proper decontamination is required to reduce the risk of transfer of contaminants from areas of contamination to other areas and to minimize the potential for cross-contamination that would compromise sample quality. The degree of decontamination required will be dependent on the nature of the activity, equipment used, and on the amount of exposure to contaminants. Equipment Decontamination procedures are found in Field Method Guide FMG 9.0 (Appendix B).

All sampling equipment and tools will be decontaminated prior to the collection of samples for waste characterization for disposal purposes. Decontamination will include the following wash/rinse sequence at a minimum:

i) wash with low phosphate detergent (i.e., Alconox or equivalent);

ii) potable water rinse (three rinses minimum);

iii) rinse with deionized water; and

iv) air dry.

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A rinse with pesticide-grade methanol or isopropanol can also be added between the potable water and deionized water rinses depending on the site-specific requirements. This requirement may not be appropriate for sites where methanol or isopropanol is a contaminant of concern.

A rinse with nitric acid can also be added after the organic rinse for metal samples (especially important for sites with potentially high metals concentrations).

Fluids used for cleaning will not be recycled. All wash water and rinse water will be transferred to drums and/or a wastewater tank on site pending final disposal. Isopropanol or methanol rinsing, if conducted, will be kept separate from wash/rinse waters and will be transferred to drums pending final disposal.

Following final rinse, sampling equipment will be visually inspected to verify that they are free of soil particulates and other solid material that may contribute to possible sample cross-contamination. Dedicated equipment that is used only once (e.g., glass thiefs) will not be subject to the above decontamination procedures.

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# 8.0 WASTE SAMPLING

## 8.1 GENERAL

Waste sampling for characterization purposes will be conducted as required on containerized liquid/solid wastes, bulk soil stock piles, or in-situ materials to determine the appropriate disposal mode. These activities will be conducted to ensure compliance with 40 CFR 261 (Identification and Listing of Hazardous Waste), 40 CFR Part 268 (Land Disposal Restrictions - LDR), 40 CFR Part 761 (Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions) and/or applicable state regulations.

The Participant Waste Administrator will be responsible for developing the waste characterization strategy, and completing this task to determine the final disposition requirements.

The following subsections describe the procedures that will be implemented for sampling bulk wastewater, drummed liquid wastes, drummed or containerized solid wastes, and drummed/containerized or bulk mixtures of solids and liquids for disposal characterization purposes. The sampling of in-situ materials is also discussed.

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## 8.2 SAMPLE COLLECTION PROTOCOLS

USEPA SW-846 describes the rationale for sampling plan development and sampling procedures and can be used as a reference.

The Waste Characterization Field Method Guideline (FMG 10.0) describes the sampling methods applicable to liquid and solid media (see Appendix D). The following sub-sections describe the sampling methods selected for this WMP.

### 8.2.1 COLLECTING LIQUID AND SOLID SAMPLES

Containerized wastes will be sampled and analyzed in accordance with requirements of the receiving off-site treatment/disposal facility. During the sampling of containerized wastes, personal protective equipment as specified in the HASP must be worn at all times. The frequency of sample collection will be determined in consultation with the disposal facility.

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### 8.2.2 DRUMMED/CONTAINERIZED MATERIAL SAMPLING

This section describes the general procedures that will be followed when sampling drums or bulk waste containers.

#### 8.2.2.1 SAFETY EQUIPMENT

During the sampling of containerized materials, personal protective equipment as specified within the HASP will be worn at all times.

#### 8.2.2.2 SAMPLING EQUIPMENT

Materials and equipment that may be required for sampling are as follows:

1. Chain-of-Custody data sheets.
2. Glass sampling thief or other appropriate sampling device for the collection of liquid samples.
3. Stainless steel trowel, spoon or trier for collection of solid or sludge samples, core sampler if applicable.
4. Bung wrench for drummed wastes.

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All drums should be sampled on the storage pad whenever possible to mitigate potential spillage onto unprotected ground surfaces.

#### 8.2.2.3 SAMPLING PROCEDURES FOR CONTAINERIZED LIQUIDS AND SOLIDS

The following procedures will be adhered to during sampling of drummed liquid waste.

1. Remove cover from sample container and remove lid/bung from the drum. It is preferable to remove only the bung from drums containing liquids only.
2. Insert sampling thief almost to the bottom of the drum or until a solid layer is encountered. If the liquid in the drum is a single phase, a representative sample of the liquid in the entire drum will be collected for compatibility testing, if necessary, and waste characterization. If more than a single phase of liquid is

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determined to be present in the drum, each phase of liquid will be sampled separately.

3. Allow the liquid waste in the drum to reach its natural level in the tube.
4. Cap the top of the sampling tube with a double-gloved thumb or stopper, ensuring liquids do not come into contact with the sampler's thumb or stopper.
5. Carefully remove the capped tube from the drum and insert the uncapped end in the sample container. Do not spill liquid on outside of bottle.
6. Slowly release the thumb or stopper and allow the glass thief to drain completely and fill the sample container. Repeat the above steps until sufficient volume has been collected for analysis.
7. Cap the sample container tightly and place pre-labeled sample container in a carrier.
8. Complete chain-of-custody data sheets.
9. Transport the sample to the laboratory for analysis.

Sampling of drummed and/or containerized solids or sludges will, in general, conform to the preceding procedures with the following exceptions:

1. Sample collection will be accomplished using a stainless steel trowel, spoon or trier, or core sampler. All sampling equipment will be cleaned prior to use. Reusable sampling equipment will be cleaned between subsequent drums using the protocol presented in Section 7.0.
2. A representative sample of drummed and/or containerized solids or sludges, will be collected, if practical.
3. The sample collected will be a composite of a minimum of four 25-gram samples collected from representative locations throughout the containerized material unless it is known that the containerized material is homogeneous in nature (e.g., soil cuttings, spent carbon). In this case, only one sample will be collected from the drum or container.

Samples collected from containerized waste containing the same material may be composited during sample collection into one sample for disposal characterization purposes except for volatile compounds. Samples collected for volatile analysis will consist of grab samples only. The grab samples will be analyzed individually and the results averaged or the laboratory may be instructed to combine the extracts from the separate grab samples prior to analysis. Note, samples collected for LDR determination

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must consist of individual grab samples only. Composite samples are not allowed for LDR determination.

### 8.2.3 IN-SITU SAMPLING

This section describes the general procedures that will be followed when sampling in-situ soil or sediments.

In-situ sampling can be conducted in order to characterize the material prior to excavation/removal. Characterizing the material in-situ will allow the material to be properly managed and disposed immediately after removal based on the in-situ characterization results. In-situ characterization will allow large quantities of material to be removed and sent for disposal in a short period of time because characterization will be completed before the material is excavated/removed.

In-situ sampling will be conducted for all waste streams, unless total sample results indicate the material is non-hazardous (e.g., all sample results are below applicable cleanup criteria and/or 20x TCLP limits). Soil will be considered to be from a separate waste stream if it is known or suspected to contain different contaminants (based on investigation results or different historical operations in the area) or if field observations suggest different contaminants may be present (e.g., change in color, odor, PID readings, etc.)

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In-situ sampling will be conducted as follows:

1. Overlying concrete, if present, will be removed by coring or other means;
2. Overlying concrete will be sampled, if appropriate;
3. Soil from the interval expected to be most contaminated (based on investigation results and/or field observations) will be selected for analysis;
4. If there is no indication of variability in contamination, a representative and/or composite sample may be collected; and
5. Soil sample(s) will be collected using appropriate sampling equipment, which may include stainless steel trowel, spoon or core sampler.

After excavation/removal is complete, verification sampling may be required.

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## 9.0 SAMPLE HANDLING AND SHIPMENT/CHAIN-OF-CUSTODY

Good sample management ensures that samples are properly recorded, properly labeled, not lost, broken, or exposed to conditions that may affect the sample's integrity. All samples must be properly labeled as soon as practical after collection. In most cases, the project will require shipment of samples by overnight carrier or by arranging for pickup by the laboratory. Appropriate chain-of-custody procedures will be followed. Additional information on sample handling and shipping can be found in Field Method Guideline FMG 6.10 (Appendix E).

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## 10.0 HAZARDOUS WASTE DETERMINATION

Waste codes assigned to hazardous waste can be listed or characteristic codes. Listed codes are specific to the source of the waste. Listed codes are assigned based on the process from which the waste material originated. Characteristic codes are based on the physical/chemical characteristics of the waste. The U.S. EPA regulation (40 CFR 262.11) require the generator to first determine if the waste is a listed hazardous waste. REALM and CRA do not have generator knowledge of listed hazardous wastes at the Site. If the waste is not a listed hazardous waste, the generator then determines if it is a characteristically hazardous waste.

There are various physical and chemical testing protocols required to meet the general testing requirements of various treatment/disposal facilities. The waste characterization requirements will be confirmed following selection and identification of the treatment/disposal facility(ies). The activity-specific WMP will identify the appropriate sampling strategy.

In general, samples will be analyzed for total constituent levels (VOCs, SVOC, and metals, as applicable) along with reactivity, corrosivity, and ignitablity, as necessary, to determine if the material is potentially a characteristically hazardous waste. The VOC, SVOC and metals analytical laboratory results will be compared to 20 times the RCRA Toxicity Characteristic Leaching Procedure (TCLP) limits. Should a total result for a RCRA parameter exceed 20 times the RCRA TCLP limit, another waste characterization sample will be collected from the material in question and the sample will be analyzed for the TCLP parameter(s) in question to confirm whether or not the material is a characteristically hazardous waste for that parameter.

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This approach is subject to change based on generator knowledge of the waste (Title 40 CFR 262.11) and project timing (i.e., rush projects may require total constituent analysis and TCLP analysis simultaneously).

The samples will also be analyzed for PCBs if they are a potential concern. The PCB results will be compared to the TSCA PCB limit of 50 parts per million (ppm) and any other company or state-specific levels[1].

1. U.S. EPA Region 5 has an unofficial policy that in-place PCB concentrations greater than 10 ppm are likely from a source greater than 50 ppm, and thus should be considered a TSCA waste, unless the generator can demonstrate otherwise. GM policy assumes all PCBs >2 ppm are from a source >50 ppm unless it is demonstrated otherwise.



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## 11.0 INVESTIGATION DERIVED WASTES

Field investigation activities may result in the generation of waste materials that may pose a risk to human health and the environment. Investigative derived wastes (IDW) are dealt with following "Best Management Practices" and are not handled under RCRA regulations until proven to be listed and/or identified characteristically hazardous. In most cases, investigative soils and groundwater are not considered as listed wastes. Consequently, waste sampling and characterization is performed to determine if the wastes exhibit a characteristic of hazardous waste. Once the waste characterization is complete the RCRA hazardous waste regulations apply if determined to be hazardous or, if determined to be non-hazardous solid waste, "Best Management Practices" apply. Additional information regarding the characterization of investigation derived wastes can be found in GM Field Method Guideline No. FMG 10.0 (Appendix D) and EPA publication "Guide to Management of Investigation - Derived Wastes," U.S. EPA, January, 1992.

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## 12.0 WASTE TRANSPORTATION AND DISPOSAL

### 12.1 MANIFESTING AND LABELING

All RCRA hazardous and/or TSCA wastes designated for off-site disposal will be labeled and manifested prior to leaving the Site for off-site treatment/disposal facilities, following applicable U.S. DOT and U.S. EPA requirements. The manifest forms and records must be consistent with 40 CFR Part 262 "Environmental Protection Agency (EPA) Hazardous Waste Generator Standards", 40 CFR Part 263 "EPA Hazardous Waste Transporter Standards", 40 CFR Part 268, "Land Disposal Restriction Standards", 40 CFR Part 761, "EPA Polychlorinated Biphenyls Rules" and the State to which the waste is being shipped.

The hazardous waste generator identification number for the Site must be used on all manifests.

The waste tracking program will track individual waste containers from generation through disposal. Specifically the program will track container start dates, container locations, container contents, regulatory storage/disposal timeframes, container labeling requirements, approved disposal locations, approved waste stream profiles and shipping documentation, including generating manifests and tracking receipt of returned manifests.

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All manifests must be signed by the generator or an authorized agent. The Participant cannot sign waste manifests, hazardous or otherwise, unless an agreement with GM has been made. Any person who signs manifests must have current hazardous waste training and DOT training.

TSCA waste manifests only apply to PCB wastes as defined in 40 CFR 761.3. The requirements for PCB waste manifests is slightly different than for hazardous waste manifests. The following general manifesting requirements apply to PCB wastes:

Bulk loads:

- The identity of the PCB waste;
- The earliest date of removal from service for disposal; and
- The weight in kilograms of the PCB waste.

When selecting the manifest to ship a PCB waste, use the following criteria:

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- If the State to which the shipment is manifested (i.e., consignment State) supplies the manifest and requires its use, then the generator must use that manifest.
- If the consignment State does not supply the manifest, but the State in which the generator is located (i.e., generator State) supplies the manifest and requires its use, then the generator must use that State's manifest.
- If both State's supply manifests and require their use, the generator must use the consignment State's manifest.
- If neither state supplies the manifest, the generator may obtain the manifest from any source.

Generator Requirements for Manifesting PCB Wastes:

The requirements for PCB manifests are similar to hazardous waste manifests. The generators shall comply with the following manifesting requirements when shipping PCB wastes (40 CFR 761.208):

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- Sign manifest;
- Obtain signature of initial transporter and date of acceptance;
- Retain copy until 3 years after receiving copy of manifest signed by the disposal facility (or longer if subject to annual document requirements in 40 CFR 761.180);
- Give transporter remaining copies of manifest;
- Confirm by phone, or other means agreed to by both parties, by the close of business the day after generator receives the manifest hand-signed by the disposal facility that the disposal facility actually received the manifested waste;
- If the hand-signed manifest from disposal facility is not received within 35 days after transporter accepted the waste, telephone or communicate with disposal facility to determine if waste has actually been received. If not received, contact transporter to determine disposition of the waste. Retain written record of all telephone or other confirmations; and
- If generator has not received a copy of the signed manifest within 45 days of shipping the waste, the generator shall submit an Exception Report (in accordance with 40 CFR 761.215(b)) to U.S. EPA no later than 45 days from the date on which the generator should have received the signed manifest.

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## 12.2 PREPARATION OF OFF-SITE TRANSPORT VEHICLES

All off-site transport vehicles will be prepared as appropriate prior to receiving drummed or bulk waste. Drummed wastes will be loaded and secured in a manner that will prevent damage to the containerized materials. All U.S. DOT applicable requirements will be followed.

A weatherproof tarp will be provided and secured over each shipment leaving the Site except for enclosed transport units.

Transport drivers will remain in their vehicle cabs while they are in an Exclusion Zone, temporary Exclusion Zone, or Contaminant Reduction Zone, as defined in the HASP.

Following tarping, each transport vehicle will enter the decontamination facility if leaving an Exclusion Zone, temporary Exclusion Zone, or Contaminant Reduction Zone. Each vehicle will be decontaminated to ensure that no loose soil, sludge or other material is tracked off-site. Particular attention will be paid to removing materials from the tires, undercarriage and portions of vehicles that may have been in contact with waste material during loading operations. Decontamination activities will include sweeping, brushing and/or steam cleaning, as appropriate.

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The Participant's Site Representative will inspect and document that each vehicle leaving the decontamination area has been decontaminated properly, tarps are secured, proper placards are in place, manifest/documents are correct, appropriate copies of the manifest are retained for filing and/or submission, and there are no visible signs of leaks from the drums/containers that have been loaded onto the vehicles.

## 12.3 AUTHORIZED TRANSPORTERS

All hazardous waste transporters will be permitted by the U.S. EPA and the appropriate states through which the trucks will travel. All transporters must be licensed by the U.S. DOT. Transporters will comply with applicable state and federal hazardous waste transportation requirements (i.e. 40 CFR Part 263) and other applicable rules including DOT requirements (i.e., 49 CFR).

If wastes are deemed to be non-hazardous, then transporters will be licensed for general transportation of sanitary wastes or as required by the State for the transport of Special Waste.

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## 12.4 TRANSPORTATION ROUTES

Transportation routes to off-site facilities will be pre-determined by the authorized transporter prior to commencing off-site transport of waste materials. A primary and secondary route to each facility will be identified. The secondary route will be used only if the primary route becomes impassible due to weather and road conditions or blockage from traffic accidents. The appropriate State and interstate officials will be consulted as to whether any proposed routes are scheduled for construction or seasonal closures that will occur during implementation of this project.

## 12.5 OFF-SITE TREATMENT/DISPOSAL

All off-site treatment/disposal of waste materials will be conducted accordance with applicable state and federal regulations and GM.

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### 12.5.1 APPROVED TREATMENT/DISPOSAL FACILITIES

Off-site facilities for the treatment, storage, or disposal of drummed/containerized or bulked wastes will be approved by GM prior to commencing transport to these facilities. All facilities identified for hazardous waste treatment/disposal will be CERCLA-approved, RCRA compliant and/or TSCA compliant, as applicable.

Any wastes deemed to be non-hazardous may be transported to a sanitary landfill and/or POTW system, as applicable, for disposal, if allowed by regulations.

## 12.6 MANIFEST TRACKING/NOTIFICATION OF DISPOSAL

Hazardous waste manifest tracking requirements vary by state. The requirements for the originating state and the destination state should be reviewed for each project. Appendix F contains a flow diagram for tracking hazardous waste manifests for wastes originating in Michigan. Appendix G contains a manifest tracking log. Appendix H shows an example of a filled out manifest.

The waste tracking program will track receipt of returned manifests and certificates of disposal. The Participant Waste Administrator will send the REALM/ENCORE project manager a copy of each return manifest and certificate of disposal.

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## 12.7 SECURITY PLAN

Certain shippers and carriers must develop and implement Security Plans (required by 40 CFR 172, Subpart I). By September 25, 2003, each person (which includes each separate corporations, partnership, or association, as well as a sole proprietorship) who offers for transportation in commerce or transports in commerce one or more of the following hazardous materials must develop and adhere to a Security Plan (all hazardous wastes are DOT hazardous materials):

(1) A highway route-controlled quantity of a Class 7 (radioactive) material, as defined in 49 CFR 173.403, in a motor vehicle, rail car, or freight container;

(2) More than 25 kg (55 pounds) of a Division 1.1, 1.2, or 1.3 (explosive) material in a motor vehicle, rail car, or freight container;

(3) More than 1 L (1.06 quart) per package of a material poisonous by inhalation, as defined in 49 CFR 171.8, that meets the criteria for Hazard Zone A, as specified in 49 CFR 173.116(a) or 173.133(a);

(4) A shipment of a quantity of hazardous materials in a bulk packaging having a capacity equal to or greater than 13,248 L (3,500 gallons) for liquids or gases or more than 13.24 cubic meters (468 cubic feet, 17.3 cubic yards) for solids;

(5) A shipment in other than a bulk packaging of 2,268 kg (5,000 pounds) gross weight or more of one class of hazardous materials for which placarding of a vehicle, rail car, or freight container is required for that class under the provisions of subpart F of 40 CFR 172;

(6) A select agent or toxin regulated by the Centers for Disease Control and Prevention under 42 CFR part 73; or

(7) A quantity of hazardous material that requires placarding under the provisions of subpart F of 40 CFR 172.

The most likely situations to be encountered with the management of hazardous wastes are items 4 and 7 above.

### 12.7.1 PLAN REQUIREMENTS

The Security Plan must include an assessment of possible transportation security risks for shipments of the hazardous materials listed above that will be shipped and appropriate measures to address the assessed risks. Specific measures put into place by

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the plan may vary commensurate with the level of threat at a particular time. At a minimum, a Security Plan must include the following elements:

(1) *Personnel security.* Measures to confirm information provided by job applicants hired for positions that involve access to and handling of the hazardous materials covered by the Security Plan. Such confirmation system must be consistent with applicable Federal and State laws and requirements concerning employment practices and individual privacy.

(2) *Unauthorized access.* Measures to address the assessed risk that unauthorized persons may gain access to the hazardous materials covered by the Security Plan or transport conveyances being prepared for transportation of the hazardous materials covered by the Security Plan. Unauthorized persons include persons who are not employed by the company or members of the general public, unless such persons are specifically authorized by the company to have access to hazardous materials or transport vehicles being prepared for transportation.

(3) *En route security.* Measures to address the assessed security risks of shipments of hazardous materials covered by the Security Plan en route from origin to destination, including shipments stored incidental to movement. The DOT expects shippers to work with carriers to address en route security risks of the materials covered by the Security Plans. In some cases, a shipper and carrier may have a joint plan; in others, a shipper and carrier may have two separate Security Plans. The regulation provides shippers and carriers with the flexibility necessary to determine the best methods for addressing en route security issues. The DOT expects shippers to address the en route security risks to some degree, particularly in light of the fact that the shipper has best access to information relative to the hazardous properties of the material being shipped.

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The Security Plan must be in writing and must be retained for as long as it remains in effect. Copies of the Security Plan, or portions thereof, must be available to the employees who are responsible for implementing it, consistent with personnel security clearance or background investigation restrictions and a demonstrated need to know. The Security Plan must be revised and updated as necessary to reflect changing circumstances. When the Security Plan is updated or revised, all copies of the plan must be maintained as of the date of the most recent revision.

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## 12.7.2 SECURITY PLAN HAZMAT TRAINING REQUIREMENTS

Hazmat employees of companies required to have a Security Plan must be trained in the plan's specifics (49 CFR 172.704).

### Security Awareness Training

No later than the date of the first scheduled recurrent training after March 25, 2003 and in no case later than March 24, 2006, each hazmat employee must receive training that provides an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. This training must also include a component covering how to recognize and respond to possible security threats. New hazmat employees (after March 25, 2003) must receive the security awareness training within 90 days of employment.

### In-Depth Security Training

By December 22, 2003, each hazmat employee of a person required to have a Security Plan must be trained concerning the Security Plan and its implementation. Security training must include company security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach, and the organizational security structure.

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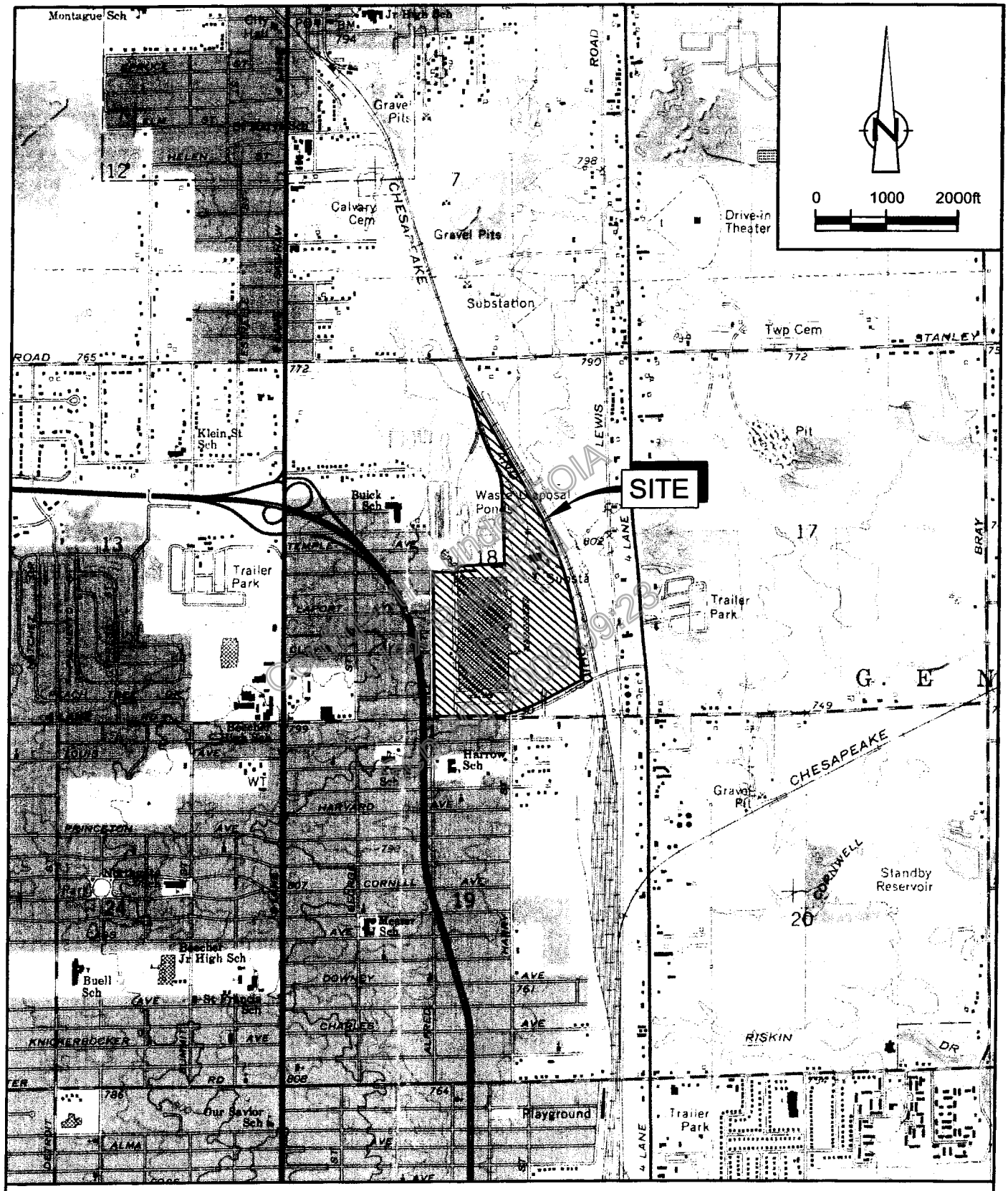


SOURCE: USGS QUADRANGLE MAP;
FLINT NORTH, MICHIGAN

figure 1.1

FACILITY LOCATION
FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY
*Genesee Township, Michigan*

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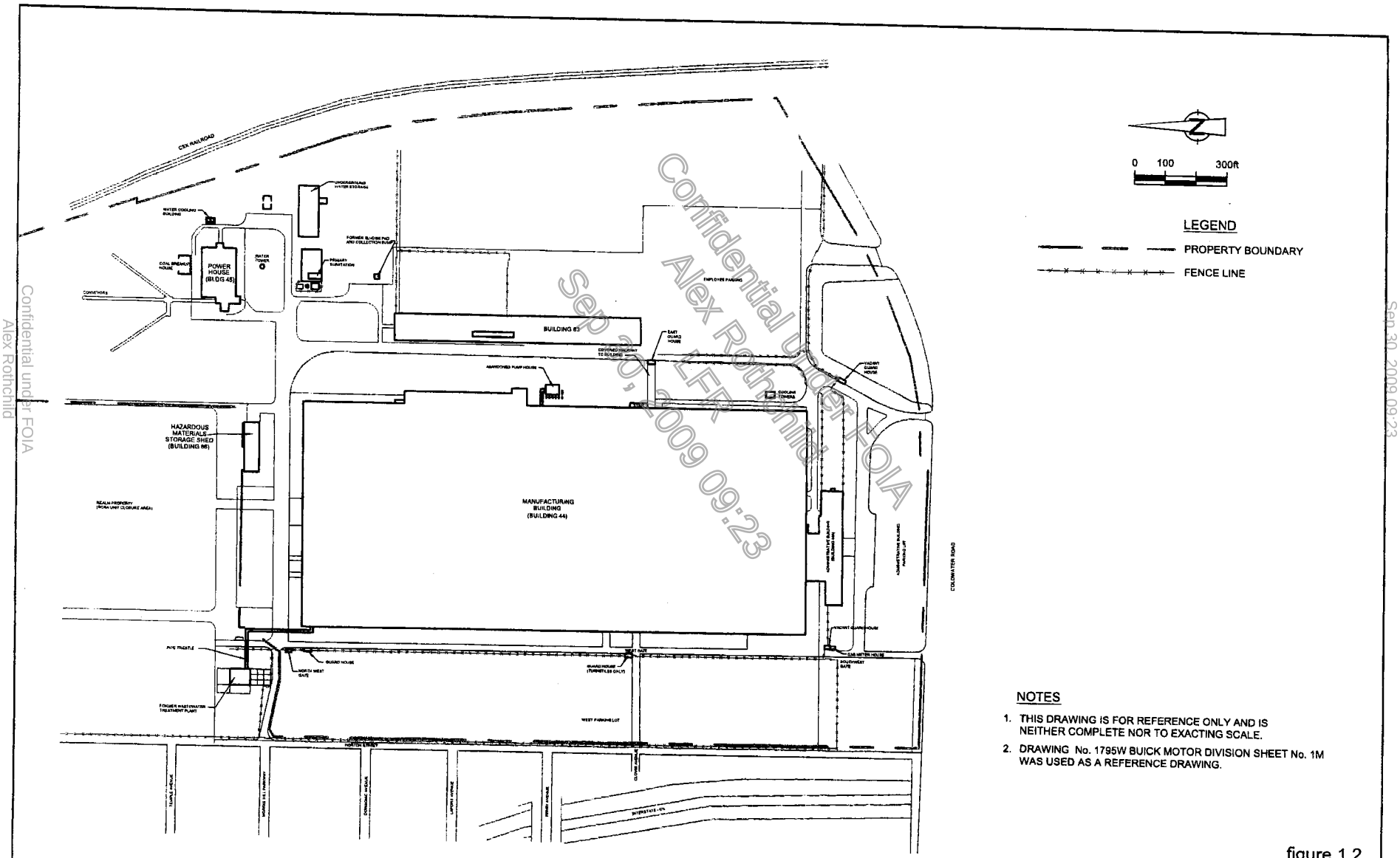


NOTES

1. THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE.
2. DRAWING No. 1795W BUICK MOTOR DIVISION SHEET No. 1M WAS USED AS A REFERENCE DRAWING.

figure 1.2

FACILITY PLAN
FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY
*Genesee Township, Michigan*

12636-50(030)GN-WA002 MAR 04/2004

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# APPENDIX A

# WASTE ADMINISTRATION CHECKLIST

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# WASTE ADMINISTRATION CHECKLIST
# REALM/ENCORE PROGRAMS
# PROJECT NAME:Peregrine Coldwater Road

## A. ANTICIPATED WASTE STREAMS

| WASTE STREAM | REGULATORY PROGRAM: | MEDIA: | CONTAINERIZATION/ HANDLING: | TEMPORARY STORAGE: | PROPOSED FINAL DISPOSITION: |
|---|---|---|---|---|---|
| 1. Non-Hazardous Soil and Concrete | ☐ RCRA Subtitle C (Hazardous Waste)<br>☒ RCRA Subtitle D (Solid Waste)<br>☐ TSCA (PCBs)<br>☐ Other: _____ | ☒ Soils/Solids<br>☐ Wastewater<br>☐ Chemical Waste Liquids<br>☐ Sludges<br>☐ Industrial Debris<br>☐ Other: _____ | ☐ Drums<br>☐ Overpack Drums<br>☐ Roll-offs<br>☐ Stockpiles<br>☐ Waste Tankers<br>☐ Vac-Trucks<br>☒ Other: trucks | ☐ On-Site Facilities Required<br>☐ Off-Site Facilities Required<br>☒ Other: loaded directly into trucks | ☐ On-Site Disposal<br>☒ Off-Site disposal<br>☐ Off-Site Treatment<br>☐ Off-Site Destruction<br>☐ Other: _____ |
| 2. Non-Hazardous Washwaters | ☐ RCRA Subtitle C (Hazardous Waste)<br>☐ RCRA Subtitle D (Solid Waste)<br>☐ TSCA (PCBs)<br>☒ Other: MI Liquid Industrial Waste | ☐ Soils/Solids<br>☒ Wastewater<br>☐ Chemical Waste Liquids<br>☐ Sludges<br>☐ Industrial Debris<br>☐ Other: _____ | ☐ Drums<br>☐ Overpack Drums<br>☐ Roll-offs<br>☐ Stockpiles<br>☒ Waste Tankers<br>☒ Vac-Trucks<br>☐ Other: _____ | ☒ On-Site Facilities Required<br>☐ Off-Site Facilities Required<br>☐ Other: _____ | ☐ On-Site Disposal<br>☐ Off-Site disposal<br>☒ Off-Site Treatment<br>☐ Off-Site Destruction<br>☐ Other: _____ |
| 3. _____ | ☐ RCRA Subtitle C (Hazardous Waste)<br>☐ RCRA Subtitle D (Solid Waste)<br>☐ TSCA (PCBs)<br>☐ Other: _____ | ☐ Soils/Solids<br>☐ Wastewater<br>☐ Chemical Waste Liquids<br>☐ Sludges<br>☐ Industrial Debris<br>☐ Other: _____ | ☐ Drums<br>☐ Overpack Drums<br>☐ Roll-offs<br>☐ Stockpiles<br>☐ Waste Tankers<br>☐ Vac-Trucks<br>☐ Other: _____ | ☐ On-Site Facilities Required<br>☐ Off-Site Facilities Required<br>☐ Other: _____ | ☐ On-Site Disposal<br>☐ Off-Site disposal<br>☐ Off-Site Treatment<br>☐ Off-Site Destruction<br>☐ Other: _____ |

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## B. ADMINISTRATIVE RESPONSIBILITIES

Participant Project Manager:

Sylvie Eastman
Phone: 519-884-0510
Fax: 519-725-1394
Email: seastman@craworld.com

Participant Waste Administrator:

Shawn McLean
Phone: 313-506-7170
Fax:
Email: smclean@craworld.com

REALM and/or ENCORE

Project Manager (WFG GM contact):

Cheryl Hiatt
Phone: 248-753-5799
Fax: 248-753-5829
Email: cheryl.r.hiatt@gm.com

GM Facility Manager:

None
Phone:
Fax:
Email:

GM Area Manager:

None
Phone:
Fax:
Email:

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## C. DISPOSAL CONTRACTORS/FACILITIES ANTICIPATED

**WASTE STREAM**

1. Non-Hazardous Soil and Concrete

Contractors Handling/Generating/Transporting Waste Materials: Young's Environmental

☐ To be determined by bidding process

Disposal Facilities/Services Anticipated: Republic Environmental

☐ To be determined by bidding process

2. Non-Hazardous Washwaters

Contractors Handling/Generating/Transporting Waste Materials: Young's Environmental

☐ To be determined by bidding process

Disposal Facilities/Services Anticipated: Edward's Oil

☐ To be determined by bidding process

3. _____

Contractors Handling/Generating/Transporting Waste Materials:

☐ To be determined by bidding process

Disposal Facilities/Services Anticipated:

☐ To be determined by bidding process

**D. EMERGENCY RESPONSE CONTRACTOR**

☐ CHEMTREC
☐ INFOTRAC
☒ Other: Young's Environmental

**E. INTERNAL AUDITS**

Participant Waste Internal Auditor: _____

☐ Other: _____ Phone: _____

Fax: _____

Email: _____

**F. DISTRIBUTION LIST**

Name:
Company:

Name:
Company:

Name:
Company:

Name:
Company:



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# APPENDIX B

# WEEKLY HAZARDOUS WASTE MAINTENANCE CHECKLIST

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| MONTH:<br>YEAR: | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEEK # | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Labeled | | | | | | | | | | | | | | | | | | | | |
| Dated | | | | | | | | | | | | | | | | | | | | |
| Containers Closed | | | | | | | | | | | | | | | | | | | | |
| Spills | | | | | | | | | | | | | | | | | | | | |
| Containment | | | | | | | | | | | | | | | | | | | | |
| Corrective Measures | | | | | | | | | | | | | | | | | | | | |
| Date | | | | | | | | | | | | | | | | | | | | |
| Initials | | | | | | | | | | | | | | | | | | | | |

Labeled: Check that all drums and all other containers are properly labeled ("Hazardous Waste" and waste number).

Dated: Check to see if the container is dated with the date accumulation began and the date on the container has not exceeded 90 or 180 days, which ever is applicable. If container date has exceeded 90 or 180 days, contact management.

Containers Closed: Make sure that containers are closed (i.e. both bungs are in drums, drum ring top is secure, funnel tops closed, funnel valve closed, or tarp over roll-off box).

Spills: Check that all containers are not leaking, bulged, or in poor condition. Are spills present?

Containment: Make sure that there hasn't been any degradation to the secondary containment, (i.e., any cracks, is coating sufficient?) (Is there enough set back distance of containers for squirt protection? Are all containers in the containment area?)

Corrective Measures: Are corrective measures needed?

Date & Initials: Inspector dates and initials.

On the back write comments on any areas above that were not in compliance (include the date). Also, record any measures being taken to correct the problems (include the date).

(rev. on 5/14/97 by-clz::\doc\y\required weekly hazardous waste maintenance checklist: EAB))

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# APPENDIX C

# FIELD METHOD GUIDELINE FMG 9.0 – EQUIPMENT DECONTAMINATION

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| | |
|---|---|
| REMEDIATION SECTION | FIELD METHOD GUIDELINE NO.: FMG 9.0 |
| WORLDWIDE FACILITIES GROUP | EFFECTIVE DATE: NOVEMBER 20, 2001 |
| GENERAL MOTORS CORPORATION | |
| REVISION NO.: 0 | REVISION DATE: |

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| | |
|---|---|
| REMEDIATION SECTION | FIELD METHOD GUIDELINE NO.: FMG 9.0 |
| WORLDWIDE FACILITIES GROUP | EFFECTIVE DATE: NOVEMBER 20, 2001 |
| GENERAL MOTORS CORPORATION | |
| REVISION NO.: 0 | REVISION DATE: |

# EQUIPMENT DECONTAMINATION

## INTRODUCTION

This procedure describes decontamination of field equipment potentially exposed to contaminants. Proper decontamination is required to reduce the risk of transfer of contaminants from areas of contamination to other areas and to minimize the potential for cross-contamination that would compromise sample quality. The degree of decontamination required will be dependent on the nature of the activity, equipment used, and on the amount of exposure to contaminants.

## PROCEDURES REFERENCED

- FMG 2.0 - Subsurface Investigations.
- FMG 5.0 - Aquifer Characterization.
- FMG 6.0 - Sample Collection for Laboratory Analysis.
- FMG 8.0 - Field Instruments – Usage/Calibration.
- FMG 10.0 - Waste Characterization.

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## PROCEDURAL GUIDELINES

Decontamination activities must be performed in a controlled area outside any exclusion zones established on the site. Care must be taken to minimize the potential for transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve removal of gross material (dirt, grease, oil, etc.), washing with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e., steam cleaner) is acceptable.

Drill rigs, backhoes, and other exploration equipment must be decontaminated prior to initiating site activities, in between exploration locations to minimize cross-contamination potential, and prior to mobilizing off site after completion of site work. Heavy equipment is generally best deconned with a combination of steam-cleaning equipment and detergent scrubbing. Particular attention should be paid to parts in direct contact with contaminants, e.g., shovels, tires, augers, drilling decks, etc.

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Control and containerization of all decontamination fluids is critical. A decontamination pad must be constructed that is appropriate for the size and type of equipment being decontaminated. At a minimum, the decontamination pad will have the following elements:

- An impermeable barrier capable of containing decon fluids.
- A low point where fluids will collect and can be pumped into appropriate containers.
- Durability to withstand equipment such as vehicle and foot traffic.
- Appropriate ancillary equipment such as racks to place decontaminated equipment to drain without further exposure to contaminated fluids.
- Labels to alert personnel as to the potential presence of contaminated materials.

Decontamination of Specific Sampling Equipment

The following specific decon procedure is recommended:

- Brush loose soil off of equipment.
- Wash equipment with laboratory grade detergent (i.e., Alconox or equivalent).
- Rinse with tap water (three rinses minimum).
- Rinse equipment with reagent grade methanol for VOC samples (this requirement may not be appropriate for sites where methanol is a contaminant of concern).
- Rinse equipment with nitric acid for metal samples (especially important for sites with potentially high metals concentrations.
- Rinse equipment with distilled water.
- Allow water to evaporate before reusing equipment

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Decontamination of Monitoring Equipment

Because monitoring equipment is difficult to decontaminate, care should be exercised to *prevent* contamination. Sensitive monitoring instruments should be protected when they are at risk of exposure to contaminants. This may include enclosing them in plastic bags allowing an opening for the sample intake. Ventilation ports should not be covered.

If contamination does occur, decon of the equipment will be required; however, immersion in decon fluids is not possible. As such, care much be taken to wipe the instruments down with detergent-wetted wipes or sponges, and wiped with deionized water-wetted wipes or sponges.

Disposal of Wash Solutions and Contaminated Equipment

All contaminated wash water, rinsates, solids and materials used in the decon process that cannot be effectively decontaminated (such as polyethylene sheeting) will be containerized and disposed of in accordance with applicable regulations and GM requirements. All containers will be

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labeled with an indelible marker as to contents and date of placement in the container, and any appropriate stickers required (such as PCBs).

Sampling of containerized wastes will be performed immediately upon completion of the investigations to minimize storage time on site. Storage of decon wastes on site will not exceed 90 days under any circumstances.

## EQUIPMENT/MATERIALS

Decontamination equipment and solutions are generally selected based on ease of decontamination and disposability.

- Polyethylene sheeting.
- Metal racks to hold deconned equipment.
- Soft-bristle scrub brushes or long-handle brushes for removing gross contamination and scrubbing with wash solutions.
- Large galvanized wash tubs, stock tanks, or wading pools for wash and rinse solutions.
- Plastic buckets or garden sprayers for rinse solutions.
- Large plastic garbage cans or other similar containers lined with plastic bags can be used to store contaminated clothing.
- Contaminated liquids and solids should be segregated and containerized in DOT-approved plastic or metal drums, appropriate for off-site shipping/disposal if necessary.

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## REFERENCES

ASTM D5088 - Practice for Decontamination of Field Equipment Used at Non-Radioactive Waste Sites.

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# APPENDIX D

## FIELD METHOD GUIDELINE FMG 10.0 – WASTE CHARACTERIZATION

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WASTE CHARACTERIZATION



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# WASTE CHARACTERIZATION

## INTRODUCTION

The following procedure describes the techniques for characterization of investigation derived waste (IDW) for disposal purposes.

## PROCEDURAL GUIDELINES

IDW may consist of soil cuttings (augering, boring, well installation soils, test pit soils), rock core or rock flour (from coring, reaming operations), groundwater (from well development, purging, and sampling activities), decontamination fluids, personal protective equipment (spent gloves, tyveks), (PPE), and disposal equipment (DE).

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This procedure applies when disposition of investigation soils and/or groundwater is required in accordance with the project Work Plan. Generally, this procedure is applicable to Facilities where the Project Manager has assessed the areas of investigation and has developed a waste handling plan. In some areas and/or sections within a Facility is permitted to return soil cuttings/test pit soils and groundwater to the source area (RCRA guidance allows waste management techniques within an area of concern without 'triggering' new points of waste generation). In other areas it may not be practical to return cutting/soils to their origin, and are better handled by this characterization/disposal procedure. These practice is consistent with USEPA procedure for IDW at RCRA facilities and CERCLA sites (Reference 1, 2).

Typically investigative derived wastes are dealt with following "Best Management Practices"; and are not handled under RCRA regulations until proven to be listed and/or identified characteristically hazardous waste. Investigative soils and groundwater cannot be considered a listed waste (in most circumstances) due to the lack of generator knowledge concerning chemical source, chemical origin and timing of chemical introduction to the subsurface. Consequently waste sampling and characterization is performed to determine if the wastes exhibit a characterization of hazardous waste. Once the waste characteristic is complete RCRA regulations apply if determined hazardous, if determined to be non-hazardous solid wastes, best management practices apply.

The disposal of soil cuttings and/or purged groundwater must be reviewed on a case by case basis prior to initiation of field activities. Two scenarios typically exist:

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i) Sufficient Facility and/or site information exists that allows investigative cutting and/or purged groundwater to be placed back into the borehole or spread on the ground surface; or discharged or in the case of purged water directly onto the ground surface - No disposal required.

ii) Site conditions warrant that all materials handled will be contained and disposed of.

DISPOSAL PROCEDURES

The following outlines the waste characterization procedures to be employed when IDW disposal is required.

Soil/Rock Cuttings

Soils removed from boring activities and well construction tasks (including, rock flour from bedrock coring) will be contained within an approved container, suitable for transportation and disposal.

- Once placed into the approved container, any free liquids (i.e., groundwater) will be poured off for disposal as waste fluids, or solidified within the approved container using a solidification agent such as speedy-dri (or equivalent). No free liquid as determined by the "paint filter test" shall be present.
- Contained soils will be screened for the presence of Volatile Organic Compounds (VOCs), using a photoionization detector (PID); this data will be logged for future reference.
- Once screened, full and closed the container will be labeled in accordance with the Facility labeling requirements and placed into the Facility container storage area. At a minimum the following information will be shown a each container label: date of filling/generation, Facility name, source of soils (i.e., borehole or well), and Facility contact. If necessary, the exterior of the container will be cleaned to remove any lose dirt/cuttings.
- Prior to container closure, representative samples from a percentage of the containers will be collected for waste characterization purposes and submitted to the project laboratory. The waste characterization sampling scheme will be dictated by the Work Plan and establish the volume of soils required for analysis (depending on parameters required), the number of containers considered representative, the homogenization procedure, volatile analysis collection procedure (if required) and preparation handling requirements. Typically at a location where an undetermined site-specific parameter group exists, sampling and analysis may consist of the full RCRA Waste Characterization (ignitability, corrosivity, reactivity, toxicity), or a subset of the above based upon data collected, historical information and generator knowledge.

Groundwater

Well construction development, purging and sampling groundwater which requires disposal will be contained. Containment may be performed in 55-gallon drums, tanks suitable for temporary

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storage (i.e., Nalgene or Facility provided tanks 500 to 1,000 gallons) or if large volumes of groundwater are anticipated, drilling "frac" tanks may be utilized (20,000 gallons ±), or tanker trailer (5,000 to 10.000 gallons ±). In all cases the container/tank used for groundwater storage must be clean before use such that cross-contamination does not occur.

Decon Waters/Decon Fluids

- Decon waters and/or fluids will be segregated, contained, and disposed of accordingly.
- Decon waters may be disposed of with the contained groundwater once analytical results have been acquired. Depending on the extent of chemistry present it may be appropriate to discharge the decon waters to the Publicly Owned Treatment Works (POTW); or discharge to an on-site treatment system; or send off site for treatment. (Proper permitting may be required.)
- Spent Solvent/Acid Rinses - Solvents and acids used during decon activities must be segregated and disposed separately from the groundwater/decon water. Often if only small amounts of solvents are involved these can be left to evaporate. If large volumes are involved then containerization, labeling, and storage is required.

PPE/DE

- A number of disposal options exists for spent PPE/DE generated from investigation tasks. The options typically employed are:
  - i) Immediately disposed of within on-site dumpster/municipal trash; or
  - ii) If known to be contaminated with RCRA hazardous waste, disposed of off site at a RCRA Subtitle C facility; or alternatively PPE/DE decontaminated and disposed of on site within dumpster/municipal trash; or
  - iii) Contained and stored until the final remedy is implemented.

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WASTE CHARACTERIZATION PROCEDURES

The Work Plan will identify the appropriate sampling strategy and analytes required to determine the IDW characteristics and disposal requirements. USEPA SW-846 (Reference 5, Chapters 9 and 10) describes the rationale for sampling plan development and sampling procedures. Generally random sampling and preparation of a composite sample of the media is employed for most investigative programs. The "GM Statistical Guidance – 2nd Edition" (Reference 4, Section 2.5) outlines the statistical rationale and approaches applicable to one-time waste streams. Often a minimum of four representative samples are required to gain valid waste characteristic data to determine the disposal option applicable (if statistics are employed).

Sampling procedures for IDW are:

- Solid Wastes - Grab sampling using precleaned sample spoons from bulk piles, lugger boxes, or as drums are being filled is commonly employed. In some instances sufficient media

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mixing may be evident to permit drum sampling from a random number of drums by accessing only the top solids. In other instances where stratification is evident, a sample trier/hand auger or device to collect from the entire vertical profile is required. Typically, a composite sample(s) from representative areas of the container(s) is homogenized and submitted for analysis. If VOCs are being evaluated, compositing and homogenization is not permitted. Individual grab samples are typically required for VOCs.

- Waste Waters - Grab sampling techniques using precleaned bailers or sampling pumps are typically employed. Waters in bulk are typically sampled once using a bailer or pump. The Work Plan will outline the appropriate sample frequency and analytes necessary to adequately characterize the contained waters. Facility sewer discharge permit parameters will be evaluated when disposal to the POTW is being considered.

  Note: If NAPL is present special sampling and handling requirements will apply. Precautions to separate the NAPL from the wastewater will commonly be employed, due to the special material handling and waste disposal requirements when dealing with phase materials.

- Spent Solvent/Acid Rinses - The need for sampling must be determined in consultation with the waste management organization handling the materials. If known that only the solvent and/or acids are present, then direct disposal/treatment using media specific options maybe possible without sampling (i.e., incineration).

- PPE/DE - Typically not sampled and included with the disposal of the solid wastes.

## EQUIPMENT/MATERIALS

- Sample spoons, trier, auger.
- Sample mixing bowl.
- Sampling bailer, or pump.
- Sample glassware.

## REFERENCES

USEPA RCRA - Guidance and Policies: Management of Remediation Waste Under RCRA (October 1998).

USEPA RCRA - Management of Contaminated Media (October 1998).

USEPA CERCLA Guidance (Options Relevant to RCRA Facilities): Guide to Management of Investigation-Derived Wastes (January 1992).

2nd Edition - GM Statistical Guidance Section 2.5.1. Solid Waste Characterization Subsection 2.5.1.1. One-Time Waste Stream Characterization (Date Required).

USEPA Office of Solid Waste - SW-846 Chapter 9 Sampling Plan, Chapter 10 Sampling Methods (September 1986).

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# APPENDIX E

## FIELD METHOD GUIDELINE FMG 6.10 – SAMPLE HANDLING AND SHIPPING

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# SAMPLE HANDLING AND SHIPPING

## INTRODUCTION

Sample management is the continuous care given to each sample from the point of collection to receipt at the analytical laboratory. Good sample management ensures that samples are properly recorded, properly labeled, not lost, broken, or exposed to conditions which may affect the sample's integrity.

All sample submissions must be accompanied with a chain-of-custody (COC) document to record sample collection and submission.

The following sections provide the minimum standards for sample management.

## PROCEDURAL GUIDELINES

Field Handling

Prior to entering the field area where sampling is to be conducted, especially at sites with defined exclusion zones, the sampler should ensure that all materials necessary to complete the sampling are on hand.

If samples must be maintained at a specified temperature after collection, proper coolers and ice/cool-packs must be brought out to the field. Consideration should be given to keeping reserve cooling media on hand if sampling events will be of long duration. Conversely, when sampling in extremely cold weather, proper protection of water samples, trip blanks, and field blanks must be considered.

Personnel performing groundwater sampling tasks must check the sample preparation and preservation requirements to ensure compliance with the Work Plan QAPP. Typical sample preparation may involve pH adjustment (i.e., preservation), sample filtration and preservation, or simply cooling to 4°C. Sample preparation requirements vary from site to site and vary depending upon the analytical method for which the samples will be analyzed.

The sampling personnel must also confirm before the sample event, the amount of bottle filling required for the respective sample containers. VOC samples must not have any headspace



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within the sample collection vial; whereas when collecting select analytes (i.e., metals) a headspace must be provided to allow addition of the required preservative.

Sample Labeling

Samples must be properly labeled as soon as practical after collection.

Note that the data shown on the sample label is the minimum data required. The sample label data requirements are listed below for clarity.

i) Project name.
ii) Sample number.
iii) Sampler's initials.
iv) Date of sample collection.
v) Time of sample collection.
vi) Analysis required.
vii) Preservatives.

The Work Plan Quality Assurance/Quality Control (QA/QC) specification should be reviewed to determine any additional requirements.

Quite often the analytical laboratory supplying the containers will provide blank sample labels. If these are adequate and convenient they can be used.

Under certain field conditions it is impractical to complete and attach sample labels to the container at the point of sample collection. However, to ensure that samples are not confused, a clear notation should be made on the container with a permanent marker indicating the last three digits of the sample number. If the containers are too soiled or small for marking, the container can be put into a zip-lock bag which can then be labeled.

No one sample number format is adequate for every type of sampling activity. Prior to the start of every project or sub-sampling event within the project, Project Managers and field personnel should devise a sample number format. Sample number formats should be as simple and short as possible. Simple number formats will reduce transcription errors by both Consultants and lab personnel. The sample number format should be comprehensive enough to allow for easy location of detailed sample data within the Site log books. Sample format must also be consistent with any future data management activities.

Unless otherwise instructed, labels should not contain specific names of the sample source (i.e., "Well No. 16"). Provision of such specific data on the label can produce biased lab results.



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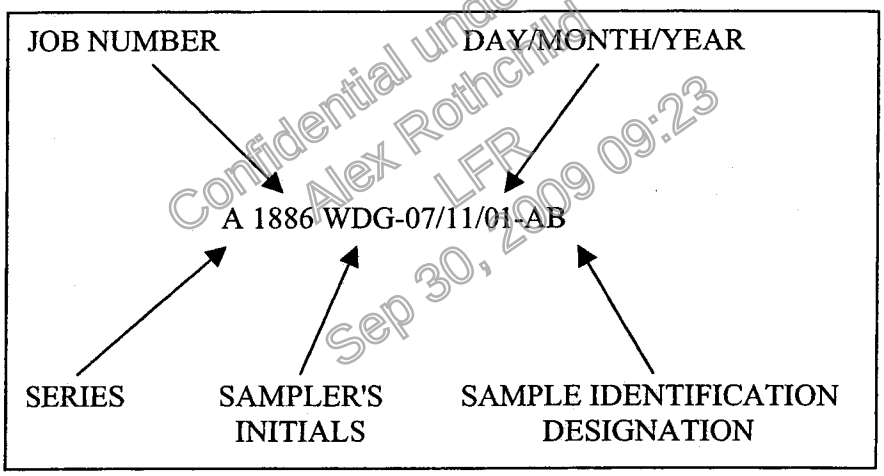
Sample Labels/Sample Identification

All samples must be labeled with:

- A unique sample number (never to be re-used, nor likely to be).
- Date and time.
- Parameters to be analyzed.
- Job number.
- Sampler's initials.

Labels should be secured to the bottle and should be written in indelible inks. It is also desirable to place wide clear tape over the label before packing in a cooler for label protection during transportation.

The unique sample identification number may follow the format recommended below, or a specific sample protocol for labeling may be specified in the project Work Plan.

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This format has been selected to maximize the information content of the sample number. Minor modifications are certainly reasonable.

i) Series is a letter which designates a group of samples. This might include sample round, or might designate sample type (e.g., sediment, soil, volatile analysis, Round 2 Lower Aquifer wells), or sample source. For example, "A" might mean samples of influent to some treatment system, "B" might mean samples of effluent. Letters should be used, not numbers. Series is optional.

ii) Job number together with the series number, will allow easier tracking of samples.

iii) Sampler's initials will allow identification of the sampler, and so allow all project personnel to contact the correct person for information regarding that sample and its



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collection. The use of three initials is requested. Special arrangements will need to be made if two individuals have the same initials.

iv) Sample date will allow monitoring of actual holding time of samples and should ensure that all sample numbers are unique, even if sample location designation is used in a system, as opposed to assigned at random.

v) Sample identification designation will identify the sample, and can be any numerical or letter designation.

The decision of how to assign sample numbers should be made at the beginning of a job or phase, and should be consistent throughout the job.

Packaging

When possible, sample container preparation and packing for shipment should be completed in a well organized and clean area, free of any potential cross-contaminants.

Sample containers should be prepared for shipment as follows:

i) Containers should be wiped clean of all debris/water using paper towels (paper towels must be disposed of with other contaminated materials).

ii) Clear, wide packing tape should be placed over the sample label for protection.

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While there is no one "best" way to pack samples for shipment, the following packing guidelines should be followed.

i) Plan time to pack your samples (and make delivery to shipper if applicable). Proper packing and manifesting takes time. A day's worth of sampling can be easily wasted due to a few minutes of neglect when packing the samples.

ii) Always opt for more coolers and more padding rather than crowd samples. The cost associated with the packing and shipment of additional coolers is usually always small in comparison with the cost of having to re-sample due to breakage during shipment.

iii) Do not bulk pack. Each sample must be individually padded.

iv) Large glass containers (1 L and up) require much more space between containers.

v) Ice is not a packing material due to the reduction in volume when it melts.

The following is a list of standard guidelines which must be followed when packing samples for shipment.

i) When using ice for a cooling media, always double bag the ice in zip-lock bags.

ii) Double-check to ensure trip and temperature blanks have been included for all shipments containing VOCs, or where otherwise specified in the QA/QC plan.



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iii) Enclose the COC form in a zip-lock bag.

iv) Ensure custody seals (two, minimum) are placed on each cooler. Coolers with hinged lids should have both seals placed on the opening edge of the lid. Coolers with "free" lids should have seals placed on opposite diagonal corners of the lid. Place clear tape over custody seals.

v) Ensure that all "Hazardous Material" stickers/markings have been removed from coolers being used which previously contained such materials.

*Note: Never store sterile sample containers in enclosures containing equipment which use any form of fuel or volatile petroleum based product. An alternate means of secure storage must be planned for.*

*When conducting sampling in freezing conditions at sites without a heated storage area (free of potential cross contaminants), trip blanks and temperature blanks not being used in a QA/QC role should be isolated from coolers immediately after receipt. Trip and temperature blanks should be double-bagged and kept from freezing.*

Chain-of-Custody

COC forms will be completed for all samples collected. The form documents the transfer of sample containers.

The COC record, completed at the time of sampling, will contain, but not be limited to, the sample number, date and time of sampling, and the name of the sampler. The COC document will be signed and dated by the sampler when transferring the samples.

Each sample cooler being shipped to the laboratory will contain a COC form. The COC form will consist of four copies which will be distributed as follows: The shipper will maintain a copy while the other three copies will be enclosed in a waterproof envelop within the cooler with the samples. The cooler will then be sealed properly for shipment. The laboratory, upon receiving the samples, will complete the three remaining copies. The laboratory will maintain one copy for their records. One copy will be returned to the Field QA/QC Officer upon receipt of the samples by the laboratory. One copy will be returned with the data deliverables package.

COC records are legal documents. They must be completed and handled accordingly.

The following list provides guidance for the completion and handling of all COCs.

i) COCs used should be Consultant standard forms or those supplied by the analytical laboratory. Do not use any COC forms from other labs, even if the heading is blocked out.

ii) COCs must be completed in black ball-point ink only.

iii) COCs must be completed neatly using printed text.



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iv) If a simple mistake is made, line out the error with a single line and initial and date next to it.

v) Each separate sample entry must be sequentially numbered.

vi) The use of "Ditto" or quotation marks to indicate repetitive information in columnar entries should be avoided. If numerous repetitive entries must be made in the same column, place a continuous vertical arrow between the first entry and the next different entry.

vii) When more than one COC form is used for a single shipment, each form must be consecutively numbered using the "Page ___ of ___" format.

viii) If necessary, place additional instructions directly onto the COC. Do not enclose separate loose instructions.

ix) Include a contact name and phone number on the COC in case there is a problem with the shipment.

x) Do not indicate the source of the sample as this may produce a biased lab result.

xi) Before using an acronym on a COC, define clearly the full interpretation of your designation [i.e., Polychlorinated Biphenyls - (PCBs)].

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Shipment

In all but a few cases the QA/QC plan for the field work will require shipment of samples by overnight carrier. A great many problems can be avoided by proper advance planning.

Prior to the start of the field sampling, the carrier should be contacted to determine if pickup can be made at the field site location. If pickup at the field site can be made, the "no-later-than" time for having the shipment ready must be determined.

If no pickup is available at the site, the nearest pickup or drop-off location should be determined. Again, the "no-later-than" time for each location should be determined.

Sufficient time must be allowed not only for packaging but also for delivery of samples if this becomes necessary. Driving at high rates of speed in order to make the drop time is unacceptable.

Sample shipments must not be left at unsecured or questionable drop locations (i.e., if the cooler will not fit in a remote drop box do not leave the cooler unattended next to the drop box).

Some overnight carriers do not in fact provide "overnight" shipment to/from some locations. Do not assume; call the carrier in advance before the start of the field work.

Copies of all shipment manifests must be maintained in the field file.



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# APPENDIX F

# HAZARDOUS WASTE MANIFEST TRACKING SYSTEM

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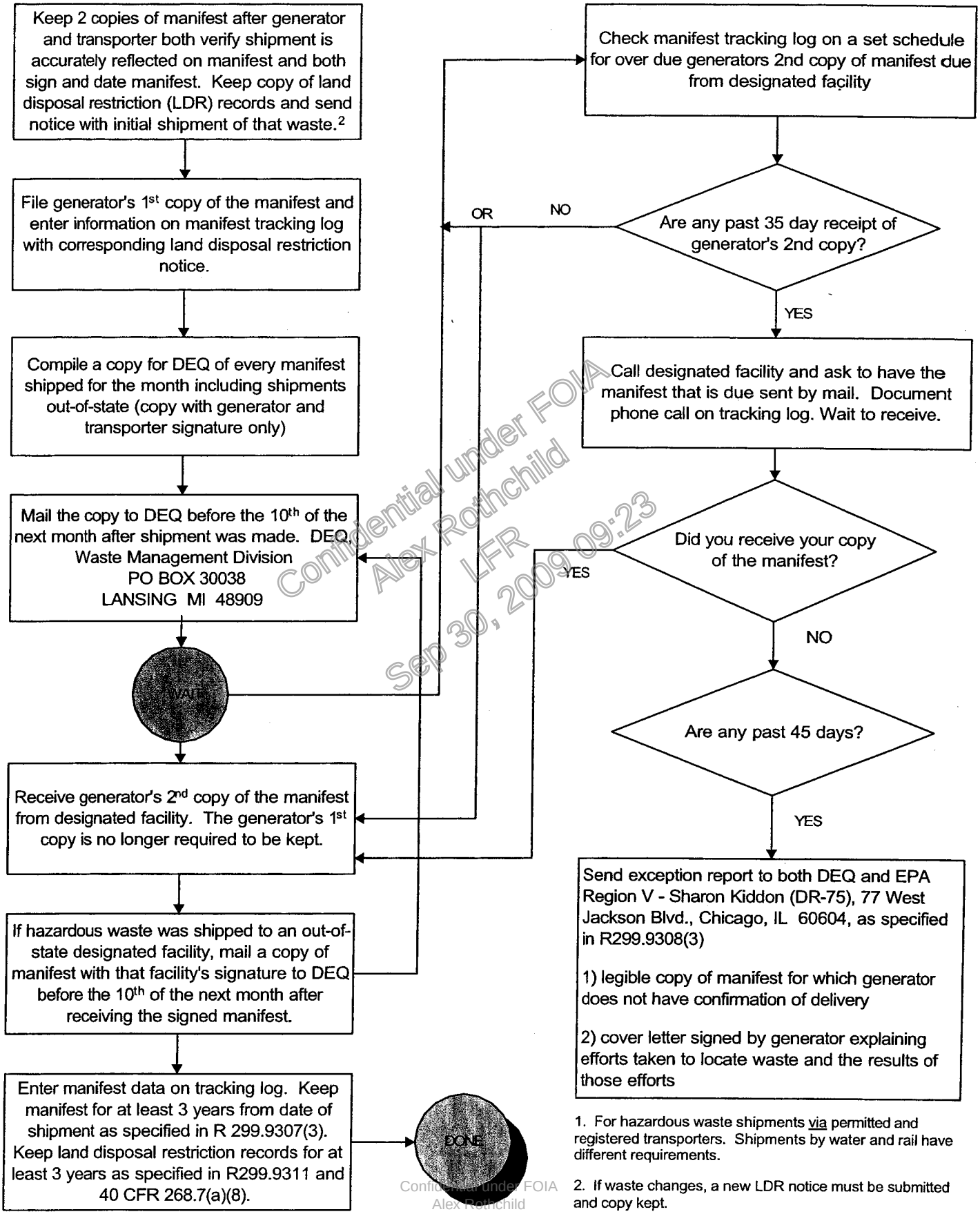
# LARGE QUANTITY GENERATOR'S TRACKING SYSTEM FOR HAZARDOUS WASTE MANIFESTS
# R 299.9304




1. For hazardous waste shipments via permitted and registered transporters. Shipments by water and rail have different requirements.

2. If waste changes, a new LDR notice must be submitted and copy kept.

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# APPENDIX G

## MANIFEST TRACKING LOG

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# MANIFEST TRACKING LOG

| State Manifest Number | Date Shipped Off-Site | Date Rec'd From TSDF | Land Ban Notice[1] | Date copies sent to State: MI, OH, etc.[2] | Filed | Waste Type | Volume |
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[1] one Land Ban Notice is sent to TSDF with original shipment, new Land Ban Notice required when waste changes

[2] Copies of all manifested waste shipments need to be sent to Michigan DEQ/WMD-P.O. Box 30241, Lansing, MI 48909 (rev. 5/14/97by clz::doc\y\manifest tracking log.doc: EAB)

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# APPENDIX H

## EXAMPLE MANIFEST

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(2)

# REPUBLIC SERVICES

Manifest Number: No 036502

## NON-HAZARDOUS WASTE MANIFEST

**DELIVER TO:** ☐ Carleton Farms (New Boston, MI) ☒ Brent Run (Montrose, MI)
☐ Whitefeather (Pinconning, MI)

**GENERATOR:**

Generator Name WFG Environmental Services Group Remediation Team US EPA ID # MID 005356860

Billing Address Pontiac Centerpoint Campus - Central, 2000 Centerpoint Parkway, Pontiac MI mailcode: 483-520-190 ATTN: Cheryl Hratt

Site Address 1245 East Coldwater Road, Flint, MI

County of Origin Genesee Phone 248 753 5791

| Description of Waste | Approval Number | Total Quantity | Unit of Measure | Container Type |
|---|---|---|---|---|
| Non-haz concrete debris | 402116 | | | |
| Non-haz soil, debris | 402117 | | | |
| | | | | |
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**Special Handling Instructions:**

I hereby certify that the above described materials are non-hazardous wastes as defined by 40 CFR 261 or any applicable state law. Further, that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Generator Authorized Agent Name | Signature | Date Shipped

**TRANSPORTER:**

Transporter Name _____ DOT # _____

Address _____ Truck Number _____

Driver's Name | Signature | Date Delivered

**DISPOSAL FACILITY:**

Site Name ~~Carleton Farms~~ Brent Run Phone Number 810 639-3077 ~~(734) 654-0801~~

Address ~~28800 Clark Road New Boston, MI 48164~~ 8247 Vienna Rd., Montrose, MI 48457

I hereby acknowledge receipt of the above described materials.

Name of Authorized Agent | Signature | Date Received

White: Generator Canary: Transporter Pink: Disposal Facility Gold: Generator

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# APPENDIX I

# COMMON WASTE GENERATOR VIOLATIONS

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## Common Waste Generator Violations

The following violations index is organized into categories of common waste generator violations. The violation categories are not listed by severity or frequency of findings. Click on the category to access the list of violations commonly found. These violations have been identified during hazardous waste and liquid industrial waste inspections by Michigan Department of Environmental Quality (DEQ) Waste Management Division staff. This is not a comprehensive list of all the requirements staff look for while doing inspections.

CONTAINER
EMERGENCY PLANNING AND TRAINING
RECORDKEEPING
USED OIL
WASTE ACCUMULATION AREA
WASTE DETERMINATION

If you are looking for specific information about a facility's compliance history, contact the Waste Management Division district office that oversees the area where the facility is located. If you are looking for environmental information about a facility or area, you may want to visit the National Institute for the Environment's Your Neighborhood site to access various US Environmental Protection Agency (EPA) databases.
If you are unfamiliar with hazardous waste requirements, you may want to review other sources for more information. Click on highlighted text to access guidance documents on a particular subject or link to another internet site. For example, the DEQ Guide to Understanding Hazardous Waste Management in Michigan and EPA's RCRA Orientation Manual and Understanding the Hazardous Waste Rules, A Handbook for Small Businesses provide overviews of the requirements. Additional information is available in the DEQ publications Conditionally Exempt Small Quantity Generator, Small Quantity Generator Requirements and Small Quantity Generator Management Practices. State waste regulations can be downloaded or purchased from the Waste Management Division. Many state rules adopt federal requirements. The federal waste regulations can be downloaded or purchased from the US Government Printing Office by calling 202-512-1800. Additional resource links are included under the various violations.

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### CONTAINER

Hazardous waste generators are required to put waste into containers that are compatible with the type of waste that is placed in it, use containers that are in good condition, properly label the containers, and keep the containers closed. In addition, there are pre-transporter requirements regarding packaging and labeling shipping containers according to US Department of Transportation (US DOT) regulations [R 299.9305 and R 299.9306].VIOLATIONS INCLUDE:

1. Listing incorrect or incomplete information on hazardous waste labels

   - Missing the accumulation date (the date you first put waste into the container)
   - Missing the words "Hazardous Waste"
   - Missing the hazardous waste number

2. Failing to keep the containers closed, except when waste is added or removed

   - Leaving funnels in place that are not screwed into bung and do not have the capability of being kept closed

3. Failing to have appropriate US DOT placards available for transporters

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Above are common generator violations that have been identified during hazardous waste inspections by Department of Environmental Quality (DEQ), Waste Management Division staff. The violations are not listed by severity or frequency of findings. The hazardous waste administrative rules referenced are promulgated under Part 111 of the Natural Resources and Environmental Protection Act, 1994 PA, as amended (Act 451).

ADDITIONAL RESOURCE LINKS:

- US DOT regulations specify the containers, placards, etc that must be used during hazardous materials transportation
- Michigan State Police, Motor Carrier Division, Hazardous Materials Unit guidance on placarding, shipping papers, transporting hazardous materials, etc.
- Labeling requirements and sample labels for transportation, accumulation, universal waste (link to be developed)

**EMERGENCY PLANNING AND TRAINING**

Hazardous waste generators are required to be prepared and be able to respond to incidents involving hazardous waste releases, and report any releases under specific conditions [R 299.9306].PLANNING VIOLATIONS INCLUDE:

1. Large Quantity Generators

   - Missing current written Contingency Plan
   - Missing, outdated, or incomplete emergency coordinator and other contacts information including addresses and home phone numbers
   - Missing list of emergency equipment and description of its capabilities
   - Missing facility map showing location of emergency equipment
   - Failing to include an evacuation plan that includes the signal to begin evacuation, evacuation routes and alternative evacuation routes
   - Failing to mail plan to local emergency responders
   - Failing to keep documentation that outside organizations, such as fire department, police, hospitals, local emergency planning committees, etc. were contacted

2. Small Quantity Generators

   - Missing, outdated, or incomplete emergency posting information by telephones for Small Quantity Generators
   - Failing to make arrangements with outside organizations, such as fire department, police, hospitals, local emergency planning committees, etc., that you would need to call if an emergency occurred.

TRAINING VIOLATIONS INCLUDE:

1. Missing or incomplete documented records of required training for Large Quantity Generators

   - Missing job title
   - Missing job description
   - Missing employee name

2. Missing written training description for Large Quantity Generators
3. Failing to have Large Quantity Generator employees trained annually

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4. Using other emergency training programs required by other regulations, including videos or seminars, which do not have a portion clearly devoted to the hazardous waste requirements and does not cover the facility's contingency plan

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ADDITIONAL RESOURCE LINKS:

- Michigan State Police, Emergency Management Division has guidance workbooks for emergency planning.
- EPA's Chemical Emergency Preparedness and Prevention Office has various emergency preparedness and response publications.
- EPA's RCRA, Superfund & EPCRA Hotline Training Modules contain an introduction and regulatory summary for various topics.
- DEQ Spill Reporting Requirements has a summary of various release reporting requirements.
- DEQ Pollution Incident Prevention Plan Informational Packet contains planning requirements under Part 31, Water Resources Protection, of Act 451. The suggested format/contents may be used by a Small Quantity Generator or Conditionally Exempt Small Quantity Generator who choose to develop a written emergency response plan and are not required to prepare a plan under other regulations.
- Department of Consumer and Industry Services, Occupational Health Division maintains a list of HAZWOPER trainers. Call 517-322-1608 to obtain a copy or download the educational handout material order form. If you hire training providers to do your training, you will need to confirm with them if they will incorporate hazardous waste training pertinent to your company's activities into the program.

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**RECORDKEEPING**

Hazardous waste generators are required to properly prepare, maintain, and submit copies of various records [R 299.9304, R 299.9307, R 299.9308, and R 299.9311].VIOLATIONS INCLUDE:

1. Failing to have a copy of manifest signed by designated facility within the applicable timeframe
2. Failing to send manifest copies within the applicable timeframe to the Waste Management Division; and if sending to an out of state treatment, storage, and disposal facility, failing to send manifest copies to both the Waste Management Division and the other state agency
3. Using wrong generator identification number on manifests or other reports (for example using a Michigan identification number instead of the facility's EPA identification number if they had been issued both numbers, or for those companies which have several sites, writing down another one of their site numbers instead of the site number where the waste was generated)
4. Missing or incorrect waste codes or USDOT descriptions on manifests
5. Missing copy of EPA's biennial hazardous waste report for Large Quantity Generators
6. Missing land disposal restriction (LDR) notification and waste analysis documents
7. Missing or incomplete information on the LDR documents such as categories, underlying hazardous constituents, and manifest numbers
8. Listing LDR information that is inconsistent with waste characterization

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ADDITIONAL RESOURCE LINKS:

- Manifest Tracking Log
  - Small Quantity Generator and Conditionally Exempt Small Quantity Generator Timetable Flowchart
  - Large Quantity Generator Timetable Flowchart
- EPA's biennial reporting system database
- EPA's Land Disposal Restriction resource index
- USDOT shipping descriptions

**USED OIL**

Used oil generators have specific used oil and spent filter management requirements regarding waste oil characterization, accumulation, shipping and disposal under several different regulations. Waste Management Division inspectors are looking for compliance with the used oil management requirements under Part 111 Hazardous Waste Management administrative rules [R 299.9809 through R 299.9816] and Part 121 Liquid Industrial Waste.

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VIOLATIONS INCLUDE:

1. Failing to label used oil containers and tanks with the words "Used Oil"
2. Failing to keep the containers closed, except when waste is added or removed
   - Leaving funnels in place that are not screwed into bung and do not have the capability of being kept closed
3. Leaving containers exposed to weather or vandals
4. Failing to analyze and retain total halogen testing records for used oil
5. Failing to have records of liquid industrial waste, including used oil, that was shipped with a consolidated manifest
6. Failing to use manifest, when required, for liquid industrial waste shipments
7. Failing to have a copy of manifest signed by designated facility
8. Failing to send manifest copies to appropriate state agencies within the applicable timeframe
9. Using wrong generator identification number on manifests (for example using a Michigan identification number instead of the facility's EPA identification number if they had been issued both numbers, or for those companies which have several sites, writing down another one of their site numbers instead of the site number where the waste was generated)

Above are common generator violations that have been identified during hazardous waste and liquid industrial waste inspections by Department of Environmental Quality (DEQ), Waste Management Division staff. The violations are not listed by severity or frequency of findings. The hazardous waste administrative rules referenced are promulgated under Part 111 of the Natural Resources and Environmental Protection Act, 1994 PA, as amended (Act 451)."

ADDITIONAL RESOURCE LINKS:

- Recycled Materials Market Directory for a list of companies who recycle used oil and filters
- Manifest Tracking Log
  - Small Quantity Generator and All Liquid Industrial Waste Shipments Timetable Flowchart
- Large Quantity Generator Timetable Flowchart
- US DOT regulations specify the containers, placards, etc that must be used during hazardous materials transportation

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- Michigan State Police, Motor Carrier Division, Hazardous Materials Unit guidance on placarding, shipping papers, transporting fuel oil, etc.
- Labeling requirements and sample labels for transportation and accumulation (link to be developed)

**WASTE ACCUMULATION AREA**

Hazardous waste generators have specific requirements regarding how and where they accumulate their hazardous waste, including requirements for satellite accumulation [R 299.9306].

VIOLATIONS INCLUDE:

1. Failing to conduct weekly inspections. Missing or incomplete written documentation of inspections by Large Quantity Generators.
2. Exceeding the allowable on-site accumulation time frame for hazardous waste.
3. Having inadequate space or aisle width to properly inspect containers and for emergency personnel access.
4. Failing to have labels visible for inspections.
5. Leaving containers exposed to weather or vandals.
6. Lacking or inadequate secondary containment including:
   - Lacking or inadequate resistant coating and having cracked surfaces on secondary containment,
   - Lacking or inadequate squirt protection, and
   - Failing to have containers elevated or base of containment sloped to drain or sump, when required.

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**SATELLITE ACCUMULATION**

Generators may choose to accumulate waste in limited amounts at or near the point of generation under specific conditions. This practice is commonly referred to as satellite accumulation [R 299.9306(2)].

VIOLATIONS INCLUDE:

1. Missing the words "Hazardous Waste" on container.
2. Missing the hazardous waste number or chemical name that identifies the contents on container.
3. Exceeding the allowable volume for each satellite site (total of 55 gallons of hazardous waste or one quart of acute or severely toxic hazardous waste).
4. Failing to keep the container at or near the point of waste generation. Lacking operator control of the process that generates the waste that goes into the satellite container.
5. Failing to keep satellite containers closed, except when waste is added or removed.
6. Forgetting to list the date the satellite container(s) reaches the 55 gallons limit and failing to manage it under all of the applicable hazardous waste accumulation area requirements within the allowable timeframe.

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ADDITIONAL RESOURCE LINKS:

- Weekly Hazardous Waste Maintenance Checklist is a form to assist in documenting weekly inspections. This form is not required to be used.

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- Satellite Accumulation Areas WMD operational memo 111-2 (link to be developed)

**WASTE DETERMINATION**

Hazardous waste generators are required to determine if the waste is a hazardous waste by either knowledge of the waste stream or by testing it, and maintain records of that determination [R 299.9302]. VIOLATIONS INCLUDE:

1. Failing to properly identify all the hazardous waste generated at the business. Commonly overlooked wastes include, but is not limited to, partially empty aerosol cans, electric lamps, electronic equipment, batteries, antifreeze, rags and other textiles, sorbents, spent paint filters, spent activated carbon filter media, and sand blasting residue.
2. Failing to have waste evaluations documented and keep records for at least 3 years.
3. Managing universal waste, such as electric lamps, mercury devices, batteries, and pesticides, incorrectly [R 299.9228].

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**ADDITIONAL RESOURCE LINKS:**

Hazardous Waste Identification EPA Hotline Training Module discusses how to identify hazardous waste

Solid and Hazardous Waste Exclusions EPA Hotline Training Module discusses the regulatory exclusions of some waste streams from the hazardous waste regulations

EPA's Waste Identification Resource Index provides a list of various publications or EPA clarifications about hazardous waste characterizations.

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