TEXAS CUSTOMER AUDIT HANDBOOK

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INTRODUCTION

This customer audit handbook provides information for current and potential customers of the US Ecology Texas facility in Robstown, TX. Many customers require an audit handbook to provide an orientation to the company, the facility, and its specific permitted features. This handbook provides useful information in this regard, although customers may have additional questions. Please contact US Ecology Texas for information on items not covered in this document.

To facilitate communication, the document is formatted electronically to allow download from the company's web page (http://www.usecology.com). Due to the large number of pages, the facility's hazardous waste permits and other permits are available as separate pdf files on the web page. Customer contract forms, waste profile forms, and other documents may also be downloaded from the web page.

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US ECOLOGY TEXAS DETAILS

1. Location

The US Ecology Texas (USET) hazardous waste management facility is located approximately four miles south of Robstown, Nueces County, Texas on Petronila Road, also known as County Road 69. The facility's coordinates are North Latitude 27° 43"43', West Longitude 97° 39"28'. The surrounding area is rural and used for growing sorghum and cotton. See Figure 1.

Figure 1 - Facility location map

2. General Facility Description

The facility's total area is 440 acres, which is divided into an eastern portion (159 acres), a northwest portion (200 acres), and a western portion (81 acres). The eastern portion contains active and inactive waste management operations, the northwest portion is a buffer zone, and the western portion contains treatment tanks, a container storage building and active disposal cells.

Facility features include treatment tanks, recycling operations, landfill cells, container storage buildings, an onsite laboratory, an office, shop buildings, truck parking garage, and non-commercial deep well injection. See Figure 2.

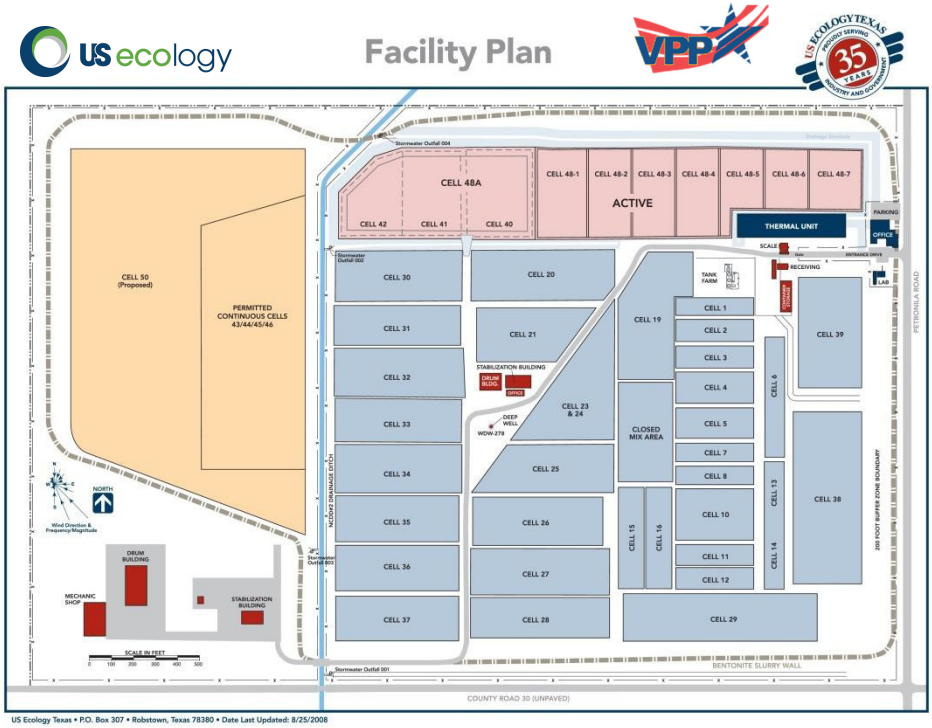

Figure 2 - Facility layout

3. Health and Safety Program

US Ecology Texas became an OSHA VPP Star site in 2006 and was recertified in 2009, 2013 and again in 2017. This marks the fourth certification of the facility. The site's Health and Safety Plan is available for review upon request. USET's Health and Safety Manager monitors all safety and employee health programs at the facility. Additionally, corporate safety personnel perform audits of USET's facilities and health and safety program. USET's drug testing program conforms to the requirements of the Drug-Free Workplace Act.

All hazardous waste operations personnel receive a required initial 24 hour OSHA training (HAZWOPER) and complete an 8 hour annual refresher training thereafter. Additionally, personnel receive TSCA training and any other specific job training needed to perform the duties assigned.

All employees receive a pre-employment physical to determine a baseline for medical surveillance and all hazardous waste operations employees are monitored annually thereafter. Additional medical testing and monitoring is performed if, during health and safety monitoring of work areas, OSHA mandated levels are exceeded or exposures are identified.

USET utilizes a security program that allows for continuous monitoring of all areas of the facility. An automatic security alarm system is used to detect unwanted access in the main office areas during off hours. The facility is manned twenty-four hours a day, 365 days a year. Guards inspect the facility perimeter and process areas frequently and report any issues found immediately to site management. During operating hours, security personnel ensures all visitors are signed in and escorted while on-site.

The facility is also surrounded by a six foot tall chain link security fence, topped with three strands of barbed wire. All gates are locked unless attended and warning signs are posted consistently along the fence line. Gate lock combinations are routinely changed for continued security.

USET maintains emergency procedures for all required plans according to their RCRA permit. A contingency plan is maintained per USET's RCRA permit to allow for prompt and effective response to any emergency situation. Annually, emergency response drills and evacuations are held for site personnel and local emergency responders are brought to the facility for a briefing and tour. Agreements are setup with local responders that insure adequate resources are available to meet the needs of the site in the event of an emergency. All visitors are required to receive a site orientation covering various site rules and protocols, as well as various areas of the contingency plan. All visitors sign an acknowledgement and waiver when entering the site that shows their understanding and acceptance of their roles and responsibilities while at the facility.

4. Laboratory

USET maintains a state of the art analytical laboratory that provides analytical support for waste receipt and stabilization. USET performs disposal confirmation testing, but does not provide analytical services for waste characterization.

USET maintains instrumentation to analyze organic and inorganic compounds. Analytical capabilities include heavy metals, mercury, VOC and SVOC methods. Other basic methods such as pH, flashpoint, etc., are utilized for waste acceptance screening.

All analyses are performed in accordance with EPA Manual SW-846, ASTM and Standard Methods, and/or proprietary USET permit approved methods. USET follows a stringent quality assurance/quality control (QA/QC) program. All required calibration checks, matrix spiked samples, duplicates and other QA/QC samples are analyzed. All QA/QC data is tracked to insure that the laboratory is operating at a high level of accuracy and precision.

The Lab's Chemical Hygiene plan insures that USET is operating its laboratory in compliance with all OSHA regulations.

5. Cell Design

The cell design consists of multiple liners and double leachate collection systems exceeding the minimum technology requirements of the Hazardous and Solid Waste Amendments of 1984. See Figure 3.

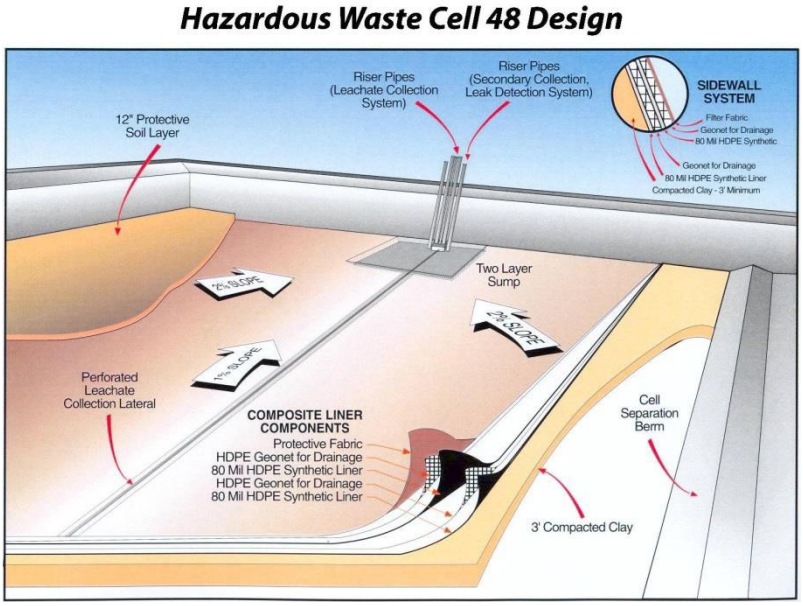

Figure 3 - Typical cell design profile

6. Surface Water Control

Surface water (run-on and run-off) is controlled to minimize the amount of water that comes into contact with hazardous wastes. Run-on control minimizes erosion of facility containment structures and the surface discharge of waste constituents and downward percolation of liquids through wastes. In addition to general surface grading activities, run-on control berms are in place around the perimeter of active cells. Also the caps of closed cells are graded to provide positive drainage away from these areas. Rainwater which falls into the active disposal cell is contained within the cell and is subsequently disposed as leachate using the site's own non-commercial deep well.

7. Waste Acceptance Protocol

The Waste Analysis Plan outlines protocols for waste treatment, storage and disposal in accordance with USET's operating permits. The plan provides a framework for waste management beginning with pre-acceptance review and continuing through waste receipt and disposal. Referenced forms are available on the US Ecology Texas web page.

The USET RCRA Part B permit identifies wastes that are not acceptable for treatment or disposal at USET. Highly water reactive, explosive, pyrophoric, shock sensitive, etiological (Medical or Biological wastes), and Compressed Gases are included in waste categories not acceptable at USET. A comprehensive list of prohibited wastes and those that are not accepted due to safety and/or operational limitations can be obtained from the site.

7.1 Pre-Acceptance Protocol

The pre-acceptance protocol evaluates waste streams prior to acceptance and on-site receipt. The protocol identifies waste streams that can be properly treated, stored, and disposed at USET. The pre-acceptance protocol begins with a completed Waste Profile (WP).

The WP contains a physical and chemical characterization and a description of the waste generating the process. The generator signs the WP and certifies the following:

- Characterization was performed on a representative waste sample in accordance with RCRA
- All known or suspected constituents have been identified in the WP
- Waste subject to the Land Disposal Restriction (LDR) Standards either meet treatment standards, require treatment, or are subject to a variance
- All information submitted in the WP is true and accurate

The WP is initially reviewed for completeness and may undergo further review by Laboratory, Regulatory, and Safety personnel. Waste streams that are being sent for stabilization (usually bulk shipped wastes) normally require a sample for analysis, mix design development and physical review.

7.2 Waste Receipt Summary

A summary sheet of the WP is produced after all reviews are complete. The summary establishes laboratory fingerprint testing parameters for waste acceptance, identifies appropriate personal protective equipment (PPE), additional inspection requirements, and any process testing parameters (treatment wastes). The parameters, in part, are determined by the information given on the WP.

Process parameters are determined by the treatment design developed by the laboratory. Percent solids, metals concentrations, and other physical characteristics have an effect on stabilization and chemical fixation, and these process parameters are monitored by laboratory testing as needed or required.

7.3 WP Terms and Conditions and Contract Addendums and Amendments

After WP approval, the waste stream is priced and contracted. A list of terms and conditions for the receipt of the waste at USET is issued. Any special requirements are also listed with these conditions. An addendum and/or amendment is issued for the waste stream along with the terms and conditions. The addenda and amendments reference the Waste Disposal Agreement Contract number. A Waste Disposal Agreement with the customer must be on file at USET prior to scheduling or approval of any waste stream.

7.4 Approval Letters

When a WP has been approved, an approval letter is sent to the customer informing them that USET has all the permits required to receive the waste stream listed on the letter. The customer may then schedule waste shipments.

7.5 Waste Receipt Protocol

Waste Receipt is controlled through scheduling, receiving, sampling, and fingerprint analysis. The waste receipt protocol is used to verify that waste streams received are within acceptance criteria. During scheduling, the generator provides the expected date of arrival, waste stream identification number, shipment mode, number of containers, and transporter. The transportation coordinator will verify the waste approval and confirm that the waste can be received on the date requested.

When the shipment arrives, USET's Receiving Department verifies accuracy of the manifest, shipping papers, and LDR certification. A computerized work order (WO) is generated at this time. This form is used to track waste acceptance, processing, and disposal. The WO contains information specific to the generator, broker, waste stream, and unique load number. The WO tracks the waste through laboratory analysis, treatment, and finally disposal.

The Receiving Department enters all waste management information into the Company's Standard Operating Platform (AESOP) system (i.e. weights, reagents, disposal locations, etc.). Depending on the waste in question, wastes received at USET may be placed in temporary permitted storage, or sent to one of the stabilization units, or sent to the thermal desorption unit, or directly landfilled. Upon final waste placement, three-dimensional disposal coordinates are recorded on a Work Order Supplement and in the associated electronic database (AESOP).

Field Technicians deliver load samples to the laboratory. The internal control form (or work order) is used as the sample chain of custody. Laboratory staff conducts fingerprint testing parameters and records the results in the associated electronic database. Samples may include tests for water reactivity, pH (50:50 slurry with water for solid samples), cyanide and sulfides screening test (if applicable), and flammability for liquids, and any process parameter testing. Samples must pass receipt parameters for waste acceptance.

Each bulk load and 100% of all containers are uncovered/opened and inspected. Samples are collected from a minimum of 10% of containers and 10% of each waste stream for bulk loads. Large direct bulk disposal waste streams shipped over a short period of time are 10% sampled. TSCA wastes are sampled in only a few circumstances.

Samples are analyzed for the fingerprint parameters established during the WP review. If the inspection and fingerprint results match the waste profile data, the waste is approved for receipt and the next waste management step.

All discrepancies noted during waste receipt are resolved prior to waste management. If the discrepancies cannot be resolved through re-analysis and consultation with the generator, the shipment is rejected. In most cases, the transporter is not released until all discrepancies are resolved.

7.6 Waste Process Controls

When receipt, sampling, inspection, and testing have been completed and approved the Operations department directs the waste to the next waste management step. Waste may be directly land filled, sent to the stabilization unit, or placed in temporary storage. Waste is tracked through the system on the WO generated during receipt.

7.7 Post Treatment Testing Requirements

All wastes that are stabilized have specific post treatment sampling and testing requirements. Wastes that only require solidification have to meet the paint filter test. Debris waste which has been microencapsulated must be visually inspected for coating and must pass paint filter test. Wastes that have been stabilized have several different sampling and testing regimens based on whether it's a characteristic waste, a process waste subject to LDR requirements, or a specialized waste subject to delisting.

Larger individual waste streams that are treated require post treatment testing on receipt of the first load and once a year thereafter. In addition, each new stabilization process design has to be tested after treatment in the same manner. Mixtures of different waste streams (i.e. consolidated waste shipments) are tested each time after treatment.

The post treatment sampling and testing for SuperDetox™ K061 EAF dust are more stringent than the LDR testing requirements. All batches of waste are sampled for testing purposes. The samples can be analyzed separately or as a composite. If the sample or sample composite passes the general de-listing limits, the waste can be disposed of as non-hazardous. Treated waste that fails the de-listing limits may be re-tested, retreated, or disposed as LDR waste meeting those treatment standards. Information on USET's delisting authority can be found in 40 CFR Part 261, Appendix IX, Table 2 (Conversion Systems Inc.).

7.8 Final Document Package

All documents for each waste shipment are packaged and filed together. These documents are stored on-site (3 years from receipt date) and in an off-site storage facility. The following is a list of documents that can be included in the final package:

- Finalized WO
- Tracking WO
- Weight Ticket
- Bill of Lading

- Copy of the Original Signed Manifest
- TSDF copy of the Manifest
- Copy of the Certificate of Disposal
- Other items that may be included if required or applicable:
- Manifest Notification (LDR Form)
- Stabilization Field Sheet
- Discrepancy Reports

8. Disposal Procedures

Wastes are placed within the cell to prevent contact with any potentially incompatible waste. Once a disposal cell is full, it is closed. Final backfill is added and topped with a cell cap system consisting of a three-foot-thick compacted clay layer, an 80-mil HDPE geomembrane, a one-foot thick compacted clay layer and an 18-inch thick layer of topsoil. The cap is seeded during the first available planting season to provide erosion control and to maximize evapotranspiration.

9. Environmental Monitoring

The facility is equipped with over sixty wells to extract and monitor groundwater. Semi-annual reports are prepared and submitted to TCEQ. Storm water runoff is also monitored within the facility.

10. Typical Types and Quantities of Waste

USET has all necessary permits to manage most EPA hazardous wastes that are acceptable for landfill disposal. The facility may also accept PCB contaminated materials. See Figure 4 for a summary of acceptable and unacceptable waste streams. Each waste undergoes technical review prior to approval to ensure compliance with applicable regulatory restrictions. Wastes that the facility will not accept include dioxins, pyrophorics, shock sensitive wastes, and compressed gases.

Acceptable Waste	Unacceptable Waste
• RCRA hazardous wastes meeting Land Disposal Restriction Standards • Waste that can be treated to meet Land Disposal Restriction Standards • Texas Class 1, 2 & 3 non-hazardous material • Drummed and bulk solid and liquid wastes • Texas Department of Health certified exempt material • Certain Naturally-Occurring Radioactive Materials • Bulk PCB remediation waste* • PCB's for storage • Lab packs • Wastes suitable for recycling by thermal desorption • Authorized non-industrial wastes • Authorized pressurized gases	• Explosives and Reactive wastes • Cyanide (CN) or sulfide (S) compounds with concentrations greater than 10% • Highly biodegradable organic matter • Dioxin-containing wastes • Bulk waste containing >20% VOCs • Infectious/medical wastes • Unknown or unidentified waste
Generators must identify waste components before shipment. Samples are taken and analyzed to verify waste characteristics on receipt.	*Only PCBs which are required to go to a TSCA regulated disposal facility are banned from disposal at US Ecology Texas.

Figure 4 - Waste acceptance summary

11. Groundwater Compliance Plan

In 1977 (during installation of monitoring wells), contamination was noted in soil samples from the shallow sand underlying the facility in the eastern portion of the active disposal area. This contamination resulted from site disposal activities that occurred prior to this date. A groundwater compliance plan is presently in effect, and includes a circumferential slurry wall, a groundwater recovery system, aboveground storage tanks, and a deep injection well. The injection well is permitted by the TCEQ as a non-commercial Class 1 Underground Injection System.

12. Closure/Post Closure Requirements

In accordance with 40CFR264.143(e)(9) and 40CFR264.145(e)(9), adopted by reference in 30 TAC 335.512(a)(6), US Ecology Texas meets financial assurance requirements for closure and post closure at its Robstown Facility. The existing mechanism for insuring financial assurance requirements for closure and post closure activities has been approved by the Texas Commission on Environmental Quality (TCEQ).