UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

WASTE MANAGEMENT DIVISION
RCRA ENFORCEMENT OFFICE

Purpose:	RCRA Compliance Evaluation Inspection
Facility:	Clean Harbors Buttonwillow, LLC.
Facility Address:	2500 West Lokern Road Buttonwillow, CA 93206
Mailing Address:	PO Box 787 Buttonwillow, CA 93206-0787
EPA ID Number:	CAD 980 675 276
Dates of Investigation:	October 18 through 22, 2010
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Date of Report:	June 2, 2011

Background:

The Clean Harbors Buttonwillow, LLC. facility (herein "Clean Harbors" or "Facility") is a commercial hazardous waste storage, treatment, and disposal facility. The facility is located in Kern County, California, approximately 8 miles west of the community of Buttonwillow and 36 miles west of Bakersfield, at north latitude 35° 24' 00" and west longitude 119° 38' 00". The Facility occupies approximately 320 acres of land owned by Clean Harbors, and is located in the eastern ½ of Section 16, Township 29S, Range 22E, M.D.B. & M. (Assessors Parcel Number: 99-290-17).

A summary of operations conducted by Clean Harbors is found in the following table:

Facility Name	Clean Harbors Buttonwillow, LLC.
Corporate Web-Site	http://www.cleanharbors.com/
Number of Employees	Approximately 21
Link to Facility Aerial Photograph	http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=clean+harbors+buttonwillow,+ca&sll=37.0625,-95.677068&sspn=41.275297,93.076172&ie=UTF8&hq=clean+harbors&hnear=Buttonwillow,+Kern,+California&ll=35.403883,-119.610558&spn=0.166504,0.363579&t=h&z=12&iwloc=A
Hours of Operation	24 hours, 7 days per week, 365 days per year.
Filed Notification of Hazardous Waste Activity	2009 Hazardous Waste Report submitted 2/16/2010.
Facility Processes	RCRA-permitted treatment, storage, and disposal facility. The facility accepts solid and hazardous wastes from generators for onsite landfill disposal. RCRA and California hazardous wastes are treated (through stabilization) prior to disposal or are shipped to an offsite treatment, storage, disposal facility if wastes cannot be treated by stabilization. The facility also operates as a hazardous waste transfer facility.
Wastes Streams	The primary hazardous waste generated at this facility is landfill leachate (F039 listed hazardous waste). Other wastes include contaminated personal protective equipment, contaminated environmental media, cleanup wastes, and vehicle/facility maintenance wastes.
Generator Status	Large Quantity Generator (LQG)
Compliance History	The California Department of Toxic Substances Control (DTSC) performs annual Resource Conservation and Recovery Act (RCRA) compliance evaluation inspections (CEIs) of the facility. The most recent DTSC CEI was performed on December 8 - 9, 2009 (Attachment #1). The past three CEI reports were reviewed, and no violations were noted during the inspections.

Investigation:

Between October 18, 2010 and October 22, 2010, a RCRA CEI was conducted by inspectors from the United States Environmental Protection Agency (U.S. EPA or EPA), accompanied by representatives from the DTSC. The purpose of the inspection was to determine the compliance of operations conducted by Clean Harbors at the Facility with hazardous waste regulations in 40 Code of Federal Regulations (CFR) Subtitle C, Parts 261-265, 263, 268, 273 and 279, the regulations adopted by the California authorized program in Chapter 6.5 of Division 20 of the Health and Safety Code (HSC), and Title 22, Division 4.5, and the facility's Hazardous Waste Permit.

Upon providing introductions and credentials, the EPA inspectors explained during the in-brief meeting that this was a routine inspection to determine if the facility was in compliance with federal and state regulations concerning the proper management of hazardous wastes. The inspection would consist of a walk-through of the areas of the facility where hazardous wastes are generated and managed, followed by a record review, and a post-inspection briefing.

In addition to performing the walk-through inspection and records review, the EPA inspectors stated during the meeting at the beginning of the inspection that the EPA, as part of the inspection, would be obtaining environmental/waste samples. The EPA inspectors would determine the number, location, and type of samples during the CEI. Sample collection and processing would be performed by EPA's contractor, Booz Allen Hamilton (BAH). All samples would be collected as split or co-located duplicate samples, and half of all samples would be provided to Clean Harbors. Clean Harbors would be responsible for storing and transporting split/co-located samples to an analytical laboratory of their choosing. Sample collection and analyses would be performed in accordance with the procedures described in the Quality Assurance Project Plan (QAPP), which is included as Attachment #2 of this report.

Site Description and Process Information:

Clean Harbors, located approximately 8 miles west of the community of Buttonwillow and 36 miles west of Bakersfield, is a hazardous waste management facility that provides treatment, storage, and disposal (TSD) services for a variety of hazardous and nonhazardous wastes. Clean Harbors' RCRA permit, effective April 6, 1996, expired on April 6, 2006. A permit renewal application was submitted to DTSC on October 1, 2005, and is currently under review. Until reissuance, Clean Harbors is operating under the terms and conditions of the expired permit. A copy of the expired RCRA permit is included as Attachment #3.

Waste management operations include acceptance and fingerprint analysis of incoming waste, stabilization/treatment of wastes, disposal of treated waste and untreated waste meeting treatment standards in onsite landfills, containerized waste storage and transfer operations, and management/treatment of onsite-generated liquids (e.g., decontamination rinse water, landfill leachate, and storm water runoff).

Upon receiving a call for waste disposal service, Clean Harbors works with the customer to create waste profiles (e.g., reviewing the waste generating processes, obtaining analytical data, etc.). Once waste profiles have been created and approved, the customer is contacted to arrange for the shipment of waste to the Buttonwillow facility. Packing lists, manifests, land disposal restriction (LDR) notifications, and Waste Verification Information (WVI) forms are generated to accompany the waste.

According to the facility representatives, upon arrival at the facility, operators verify that the waste matches its accompanying paperwork (visual inspection). Fingerprint analyses are then performed per the WVI forms. Approximately 20% of all bulk waste loads from the same generator/same location/same day, and approximately 10% of all waste containers (e.g., drums) are selected for random fingerprint analyses. Fingerprint analyses include a pH screen, a physical description, a sulfide screen, and a cyanide screen for all wastes. Other analyses may be performed during the fingerprinting as applicable (specified on the WVI forms). If no discrepancies are noted during the visual inspection or fingerprint analysis, the waste is accepted and transported to the appropriate area of the facility.

Waste handling areas at the facility include a Stabilization/Treatment Unit (STU), landfills, and nonhazardous waste surface impoundments. Each of these areas is described below.

Stabilization/Treatment Unit (STU)

Federal and California LDR regulations require regulated hazardous wastes to undergo treatment prior to land disposal. The STU is designed to receive, store, and process RCRA and California hazardous wastes that cannot be directly disposed into a landfill. The STU treatment processes modify chemical and physical characteristics of the wastes to meet applicable LDRs.

The STU area consists of a concrete-floored, roofed complex near the center of the facility. A Drum Storage and Handling Area (DSHA) occupies the majority of this complex.

The DSHA is divided into six compartments, with a permitted storage capacity of 84,480 gallons (1,536 x 55-gallon containers).

Within this area, drummed or otherwise containerized waste can be stored for transport to an

Olympus Stylus 8000, Photo #2; View of the drum storage area in the Stabilization/Treatment Unit (STU) area, facing northeast.

offsite TSD facility; unpackaged and repackaged for transport to an offsite TSD facility; or unpackaged and consolidated for direct landfilling, treatment in the STU prior to landfilling, or offsite disposal.

Four bulk waste unloading bays are located in the STU area, as seen in the photo to the right. These concrete bays are used for temporary storage of bulk hazardous waste prior to treatment in the STU.

Olympus Stylus 8000, Photo #5; View of the bulk unloading bays at the STU, facing southeast.

The STU unit treats hazardous wastes (which may contain varying amounts of free liquids, sludge, and solids), by converting the waste into a treated, non-reactive solid which is introduced into the STU at a controlled rate through an auger shredder system. The wastes are mixed with various process additives, such as emulsion breakers to aid oil separation, acids or caustics for pH adjustment, and various mixtures of pozzolanic and cementitious materials (e.g., Portland cement, kiln dust, fly ash, lime, carbon polymers, etc.) for stabilization.

Sony Digital DSC-S75, Photo #13; View of the treated waste staging piles atop WMU 34 (under plastic tarping). View is from the southwest corner of WMU 34, facing east.

The STU can process up to 100 tons of waste per hour. Treated waste from the STU is discharged to a hauling truck. When the hauling truck is full, the batch is transported to a temporary staging area atop Waste Management Unit (WMU) 34 as seen in the photo to the right.

The treated waste remains in the temporary staging area WMU 34, until post-treatment verification analysis is performed. A sample is collected and sent to an offsite laboratory (Accutest) for analysis. If the post-treatment verification analysis shows that the waste meets land disposal criteria, it is transported from the temporary staging area and landfilled in WMU 35, Cell #3. If the treated waste does not meet land disposal criteria, it is transported back to the STU for re-treatment.

Waste Management Units

The RCRA permit for the Clean Harbors facility identifies several WMUs that were closed or in the process of closure at the time of permit issuance. These include WMU T-1, 1 through 20, 24, and 25. At the time of the CEI, these units had all been closed. The existing WMUs at Clean Harbors are shown on the below diagram (Site Plan, 2005) and aerial photograph. The differences between the 2005 Site Plan diagram and the current layout of the facility are included in the WMU-specific discussions below and on the following page. A diagram of the facility is included as Attachment #19.

WMUs 21, 22, 23, and 27 (northwest corner of the facility) were operated as nonhazardous waste solidification ponds, and are currently going through closure activities.

Olympus Stylus 8000, Photo #63; View of the most current aerial photo of the facility. Orientation: North to the right.

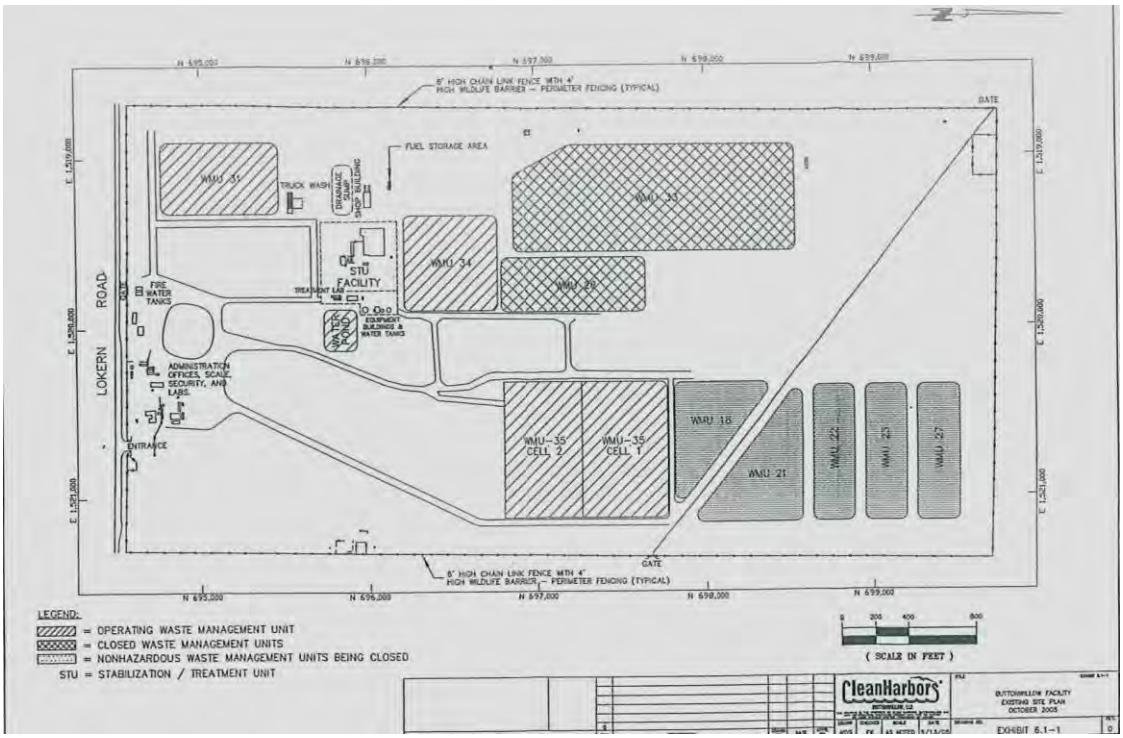


Figure of the Clean Harbors Buttonwillow facility, with WMUs labeled.

WMU 28 (center of the facility) and WMU 33 (west-center of the facility) are capped and closed hazardous waste landfill units. The units were constructed in 1987 and 1990, respectively, with respective capacities of approximately 340,000 and 1,850,000 cubic yards. F039 listed hazardous waste leachate is generated from WMUs 28 and 33.

The Leachate Collection and Removal System (LCRS) from the single-celled WMU 28 discharges to a 20,000-gallon "frac tank" for storage, which can be viewed in the photos below.

Olympus Stylus 8000, Photo #76; View of the leachate collection system at WMU 28 from the top of the leachate collection frac tank (Frac Tank 3)

Olympus Stylus 8000, Photo #73; View of the leachate collection frac tank (Frac Tank 3) at WMU 28.

Leachate from the four WMU 33 cells is collected in 55-gallon containers in separate, 90-day hazardous waste container storage areas as seen in the photos below.

Olympus Stylus 8000, Photo #81; View of the leachate collection system at WMU 33 Cell #3B.

Olympus Stylus 8000, Photo #82; View of the leachate collection system and less-than-90-day storage area at WMU 33 Cell #3B.

WMU 31 (southeast corner of the facility) is currently operating as a nonhazardous liquid waste pond. Its construction date and capacity were not determined during the CEI.

WMU 34 (center of the facility) is an active hazardous waste management unit with a capacity of approximately 360,000 cubic yards. F039 leachate from the single-celled WMU 34 is discharged to an adjacent, 20,000-gallon frac tank for storage. Photos of the leachate collection ports and frac tank for WMU 34 are shown in the photos below.

Panasonic Lumix DMC-TZ5, Photo #17; WMU 34 leachate collection ports, facing northeast.

Panasonic Lumix DMC-TZ5, Photo #30; WMU 34 leachate collection frac tank, facing southeast.

WMU 35 (east-center of the facility) is an active hazardous waste management unit that is/will be constructed in phases. Cell #1 is capped and closed (in 2009). Cell #2 is filled (no longer accepting waste) but has not yet been closed. Cell #3 (not shown on the 2005 Site Plan shown above) is the currently-active WMU 35 landfill cell. F039 leachate is generated from the primary (top) LCRSs at all three cells, and is discharged to three, 20,000-gallon frac tanks. The photos below show the leachate collection system and the frac tank for WMU 35-1.

Olympus Stylus 8000, Photo #95; leachate collection system at WMU 35 Cell #1

Olympus stylus 8000, Photo #96; leachate collection frac tank (Tank 80) at WMU 35 Cell #1.

In addition, leachate from the secondary (bottom) LCRS of Cell #3 is generated and discharged to an adjacent, 5,000-gallon plastic tank for storage, as presented in the photograph to the right.

Sony DSC-S75, Photo #11; View of a 5,000-gallon, white plastic, leachate collection tank at WMU 35 Cell #3, facing west.

Each of the above-described WMU cells is designed with a primary LCRS (which collects leachate from the waste) and a backup, secondary (bottom) LCRS. The bottom LCRS is designed such that if any leachate should permeate the primary liner system, the leachate would be intercepted by the bottom LCRS. Generally, leachate is only generated from the primary LCRSs at WMUs 28, 33, and 34. Leachate is generated from the primary and secondary LCRSs at all three WMU 35 cells.

Clean Harbors uses a combination of generator knowledge and analytical testing results (from an offsite laboratory) to characterize the leachate generated at each WMU. Samples of the leachate from each leachate-generating LCRS are collected annually for

characterization. The samples are not analyzed for all F039 constituents of concern (determined by the constituents of the wastes deposited in the landfill cells). The results are compared to the treatment standards in CCR, Title 22 §66268.40 (40 CFR §268.40) to determine how the leachate from each LCRS can be managed over the next year.

Since 2007, three subsets of leachate have been generated and managed at Clean Harbors. The majority of the leachate is determined to meet the F039 treatment standards and is managed by solidification/landfill disposal. The second subset is leachate that fails to meet the treatment standards for one or more organic constituents. This leachate is transported offsite for treatment (incineration). The third subset is leachate that meets all treatment standards except the standard for nickel. This leachate is transferred to the STU for nickel stabilization prior to landfill disposal.

Other Site Operations:

GC-FID Lab

In addition to the fingerprint laboratory described above, Clean Harbors operates a second, onsite laboratory dedicated to headspace volatile organic compounds (VOC) analysis with a gas chromatograph-flame ionization detector (GC-FID). This analysis is performed on any incoming wastes where VOCs have not been previously profiled. The headspace analysis is an in-house, modified method and is used to satisfy a condition of their San Joaquin Valley Air Pollution Control District Air Permit.

Shop Building

Vehicle maintenance is performed at the Shop Building west of the STU area. Used oil generated from maintenance activities is stored in an approximately 500-gallon aboveground used oil tank, presented in the photo to the right. The used oil is picked up and transported to other Clean Harbors facilities for disposal. Used oil is regulated as a hazardous waste in California. The inspectors did not verify if the tank was in compliance with the tank requirements during this inspection.

Olympus Stylus 8000, Photo # 50; View of the used oil storage tank at the maintenance building.

Truck Wash

A truck wash station is located at the STU area for washing tank trucks, haul trucks, and earthmoving equipment; a photo of truck wash station is presented below. Wash water is collected in bay sumps and pumped to an adjacent, 10,000-gallon dirty water tank for temporary storage prior to STU treatment, which can be viewed below. The dirty water tank also receives potentially-contaminated water pumped from the STU DSHA sumps.

Olympus Stylus 8000, Photo #4; View of the truck wash area at the STU.

Olympus Stylus 8000, Photo #6; View of the RCRA-permitted water (left) and dirty water (right) storage tanks, facing southeast

Site Investigation:

The following buildings or areas were visually inspected and/or sampled during the CEI:

- Onsite Fingerprint and VOC Laboratories
- Stabilization and Treatment Unit (STU)
    - Drum Unloading Bay
    - Truck Wash Area
    - Process Water and Wastewater Tank Area
    - Drum Unloading Area
    - DSHA
- Maintenance Area
    - Heavy Equipment Storage Area
    - Used oil Storage Tank Area
- Bulk Unloading Bays at the STU
- WMU 28 and associated LCRS
- WMU 33 and associated LCRS
- WMU 35 and associated LCRS
- WMU 34 and associated LCRS
- WMU 34 Treated Waste Staging Area

During the CEI, inspectors performed a visual inspection of the fingerprint and VOC

labs, and discussed laboratory operations with the Clean Harbors Laboratory Manager, Mr. Jim Etherton. The physical and chemical testing procedures performed at the labs were discussed, and laboratory SOPs were reviewed.

Clean Harbors ships samples to Accutest (San Jose, CA) for analyses that are not performed in-house (e.g., toxic characteristic leaching procedure [TCLP] RCRA metals, total RCRA metals, etc.). EPA inquired if Clean Harbors ever sends quality control (QC) samples to Accutest (e.g., blind duplicates, spiked samples, etc.) to verify the accuracy/precision of their analyses. Mr. Etherton stated that Clean Harbors relies on the fact that Accutest is a California Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for assurance of quality, and does not independently submit QC samples to the lab.

Stabilization and Treatment Unit (STU)

During the CEI, inspectors performed a visual inspection of the STU, the Bulk Unloading Bays, and the DSHA. Furthermore, inspectors discussed waste receiving, storage, and processing procedures with Mr. David Nielsen. The STU and its associated areas discussed below, were inspected to verify compliance with RCRA regulations and the Permit, to determine types of wastes and materials handled, to confirm process operations, and to identify potential locations for anticipated PCB sampling efforts. Primary operations conducted at the STU include the storage, characterization, stabilization, and treatment of hazardous wastes and materials.

Drum Unloading Bay

The Drum Unloading Bay is located in the southwestern portion of the STU Area, and is comprised of a single truck unloading bay which is constructed with a descending grade terminating at the Drum Unloading Area.

Truck Wash Area

The Truck Wash Area is located within the Drum Unloading Bay in the southwestern portion of the STU Area. The Truck Wash Area consists of both truck washing and truck vacuuming facilities. Waste wash water is used in the STU to assist in the treatment and stabilization of wastes.

Olympus Stylus 8000, Photo #4; View of the truck wash area at the STU.

Process Water and Wastewater Tank Area

The Process Water and Wastewater Tank Area is located to the east of the Truck Unloading Bays and to the south of the Main STU Structure. This area consists of a RCRA- permitted, Above Ground Storage Tank (AST) and a tank that was historically used for dirty water but is no longer in use.

Olympus Stylus 8000, Photo #6; View of the RCRA-permitted water (left) and dirty water (right) storage tanks, facing southeast.

Drum Unloading Area

The Drum Unloading Area is located directly north of and adjacent to the Drum Unloading Bay. The Drum Unloading Area is constructed of concrete, and an overhead roof is present. During the CEI, inspectors identified a flammable materials storage cabinet with various aerosol canisters. Inspectors further noted that a nozzle on one of the aerosol cans was broken.

Olympus Stylus 8000, Photo #47; View of a flammable storage cabinet at the STU, holding aerosol products.

Olympus Stylus 8000, Photo #48; View of a flammable storage cabinet at the STU, holding aerosol products.

STU, Drum Storage and Handling Area (DSHA)

The DSHA is located to the north of the Drum Unloading Bay, and west of the Main STU Structure. The DSHA consists of six (6) sub-areas which enable facility personnel to characterize and separate incompatible materials. The DSHA has a total container capacity of 15,000 containers and underlying sumps which are covered by grates are present beneath the DSHA. The following is a description of each sub-area, and any potential issues identified during the CEI:

Olympus Stylus 8000, Photo #9; View of the drum storage area at the STU area, facing southwest.

DSHA Area 1

DSHA Area 1 is located in the southwestern portion of the DSHA. At the time of the CEI, DSHA Area 1 contained two (2) rows of single stacked 55 gallon drums, as well as a single row of single stacked totes (total of approximately 60 containers). Wastes observed in this area included D011 hazardous silver waste, F039 hazardous leachate from the onsite WMU 33 Cell 3, and California hazardous wastes (e.g., mop water, ethylene glycol oil, debris w/ oil, mop oil, and sodium tripolyphosphate). Photos of select labels on these containers are included to the right and below. The D011 silver waste and F039 leachate were the only RCRA hazardous waste noted in this area.

Olympus Stylus 8000, Photo # 14; Close-up view of a label with profile CH454001 (D011 toxic silver waste) on a container at the DHSA 1.

Olympus Stylus 8000, Photo # 12; Close-up view of a label with profile CH455100 (mop water) on a 55-gallon container in the drum storage area at DSHA Area 1. This waste is regulated as a California hazardous waste.

Olympus Stylus 8000, Photo # 13; Close-up view of a label with profile LAP01-9001A (debris with oil) on a 55-gallon container in the drum storage area at DSHA Area 1. This waste is regulated as a California hazardous waste.

DSHA Area 2

DSHA Area 2 is located in the northwestern portion of the DSHA, north of DSHA Area 1 and west of DSHA Area 3. At the time of the CEI, DSHA Area 2 contained several rows of double stacked, 55-gallon containers and pallets. In this area, inspectors observed a container holding hazardous waste hydrofluoric and sulfuric acids. Liquid was observed on the sump grate beneath this container. However, the liquid was determined to be rainwater by the facility representatives.

Olympus Stylus 8000, Photo # 16; View of the grate beneath the waste hydrofluoric and sulfuric acid container shown in Photo 15. The liquid on the grate was determined to be rainwater.

DSHA Area 3

DSHA 3 is located east of DSHA Area 1 and south of DSHA Area 4. At the time of the CEI, DSHA Area 3 contained several rows of single stacked 55-gallon containers as well as other various-sized containers. Several RCRA and California hazardous wastes were identified in this area during the CEI.

DSHA Area 4

DSHA Area 4 is located east of DSHA Area 2 and north of DSHA Area 3. At the time of the CEI, DSHA Area 4 held two rows of 55-gallon containers, some of which were double stacked (approximately 20 total containers). The only potential concern observed by inspectors was a 55-gallon container of hazardous waste paint chips with a slightly-dented lid. However, the container still appeared to be closed and structurally sound.

Olympus Stylus 8000, Photo # 16; View of a 55-gallon container in DSHA Area 4, holding waste lead paint chips, dated 9/21/10. The lid is dented, but no evidence of leaks or releases.

DSHA Area 5

DSHA Area 5 is located east of DSHA Area 3 and west of DSHA Area 6. At the time of the CEI, DSHA Area 5 contained two rows of 55-gallon containers (total of approximately 31 containers). The inspectors identified a label on a container of hazardous waste potassium hydroxide that was affixed, but was starting to peel (photo to the right). Inspectors also observed another container of hazardous waste potassium hydroxide that had an oily liquid on its top. Both of these observations were relayed to Mr. Nielsen as concerns.

Olympus Stylus 8000, Photo # 25; Drum storage area at the STU, Area 5. View of a peeling label on a drum of potassium hydroxide waste, dated 10/12/10.

Olympus Stylus 8000, Photo # 26; Drum storage area at the STU, DHSA 5. View of a container of potassium hydroxide waste, received 10/12/10, with oily liquid on top of the lid. No visible leaks or releases.

Olympus Stylus 8000, Photo # 21; Drum storage area at DSHA Area 6, facing southeast.

DSHA Area 6

DSHA Area 6 is located north of DSHA Area 5 and east of DSHA Area 4. At the time of the CEI, the inspectors observed at least 18, 55-gallon containers, and 8 super-sacks on pallets in this area.

DSHA Staging Area

The Staging Area is located east of DSHA Areas 5 and 6, and west of the STU control room. At the time of the CEI, the Staging Area contained several 55 gallon containers, poly-tanks on pallets, and pallets of fertilizer. During the inspection, several items of note were identified including:

- A dented 55-gallon container of California hazardous waste. However, no visible leaks were observed (refer to Olympus Stylus 8000, Photo #27);

Olympus Stylus 8000, Photo #27; DSHA Staging Area. View of a dented container of a California hazardous waste. No visible leaks or releases.

- Liquid on the floor (presumed to be rainwater) (refer to Olympus Stylus 8000, Photo #28);

Olympus Stylus 8000, Photo #28; DHSA Staging Area. View of liquid on the floor. The liquid is presumed to be rainwater.

- An incorrect accumulation start date on a California hazardous waste container (refer to Olympus Stylus 8000, Photo #29);

Olympus Stylus 8000, Photo #29; DSHA Staging Area. View of a cardboard container of crushed containers with an incorrect accumulation start date (pickup date) of 11/21/10.

- A plastic and metal container containing California hazardous waste latex paint (refer to Olympus Stylus 8000, Photos #31 and #34 which was in poor condition and had a crack on top);

Olympus Stylus 8000, Photo #34; Close-up view of the top of the plastic container of latex paint shown in Photo #31.

Olympus Stylus 8000, Photo #31; DSHA Staging Area. View of a plastic container of latex paint (California hazardous waste), facing northwest.

The container of latex paint was repaired during the CEI by Clean Harbors personnel (refer to Canon EOS Rebel XSi, Photo #2);

Canon EOS Rebel XSi, Photo #2 Return to compliance verification – container of latex paint in the STU repaired.

- Two pallets which contained California hazardous waste fertilizer. Both were shrink- wrapped and one of the pallets was loosely covered with cardboard (refer to Olympus Stylus 8000, Photo #35 below). The bags were observed to be releasing small amounts of fertilizer to the surrounding area (refer to Olympus Stylus 8000, Photo #36 and #40 below);

Olympus Stylus 8000, Photo #35; DSHA Staging Area. Shrink-wrapped bags of waste fertilizer.

Olympus Stylus 8000, Photo #36: DSHA at the STU, area near the control room. Shrink-wrapped bags of waste fertilizer. Cardboard was loosely covering the top, and bags underneath are torn. A release of a small amount of fertilizer (California hazardous waste) was observed.

Olympus Stylus 8000, Photo #40; Another view of the waste fertilizer bags (California hazardous waste) shown in Photo 36. Minor rips are present in the bags and the top of pallet is not covered or wrapped. Photo to the left.

- A pallet of unidentified Excludable Recyclable Material (ERM) under which significant staining was noted (refer to Olympus Stylus 8000, Photo #43 below). The ERM was later determined to be ferrous sulfate, which is used as a product at the STU. The staining beneath the ERM, which was later determined to be ferrous sulfate, was cleaned up during the CEI (refer to Canon EOS Rebel XSi, Photo #4 below).

Olympus Stylus 8000, Photo #43; Stains on concrete floor of STU near a supersack of Excluded Recyclable Material (ERM). ERM later reported to be ferrous sulfate, which is purchased for use as a product.

Canon EOS Rebel XSi, Photo #4; Return to compliance verification – cleanup of ferrous sulfate spill/leak in STU.

During the records review portion of the CEI, the inspectors reviewed a material safety data sheet (MSDS) for the ferrous sulfate. According to the MSDS, ferrous sulfate oxidizes upon exposure to moisture, forming a brown coating of extremely corrosive ferric sulfate. Though the ferrous sulfate is an ERM, a spill or release from contact with water would be a waste (potentially a D002 characteristic RCRA hazardous waste).

Maintenance Area

The Maintenance Area is located west of and across a road from the STU. The Maintenance Area consists of a garage, a covered area used for equipment storage and a shipping container which is used for storage.

Heavy Equipment Storage Area

The Heavy Equipment Storage Area is located directly west of and attached to the Maintenance Area Garage. Heavy equipment including a front end loader fitted with a pallet attachment, along with a trailer which is outfitted with a tank containing a solution that is occasionally used to control dust were located in this area. Staining of the ground surface was visible in the Heavy Equipment Storage Area.

Used oil Storage Tank Area

The Used Oil Storage Tank Area is located west of the Heavy Equipment Storage Area and the Maintenance Area. The used oil AST is located within secondary containment, the base of which was covered in liquid (refer to Olympus Stylus 8000, Photo #50 below). At the time of the CEI, the accumulation start date noted on the used oil storage tank label indicated that the 90 day accumulation date would be reached on July 22, 2010 (refer to Olympus Stylus 8000, Photo #51 below). Staining was identified in the area surrounding the used oil storage tank.

Olympus Stylus 8000, Photo #50; View of the used oil storage tank at the maintenance building.

Olympus Stylus 8000, Photo #51; View of the label on the waste oil storage tank at the maintenance building. Accumulation start date is 7/22/10.

Clean Harbors shipped the used oil offsite on October 22, 2010. A copy of the manifest for the used oil shipment is included as Attachment #4.

Bulk Waste Unloading Bays

The bulk waste unloading bays are located to the east of the Drum Unloading Bay and west of the Main STU Structure. The bulk waste unloading bays consist of four (4) identical bays which contain dividing walls that increase in height as they approach the foot of the bays.

Olympus Stylus 8000, Photo #5; View of the bulk unloading bays at the STU, facing southeast.

At the time of the inspection the westernmost bay contained approximately two (2) cubic yards (yds^3) of gray soil, the bay directly to the east was empty, the next bay to the east contained a small amount of brownish/gray soil, and the easternmost bay nearest the Main STU Structure was empty.

The bulk waste unloading bays at the STU were inspected during the CEI. The floors and walls of the four bays are structurally sound, with no obvious cracks or other physical defects. No evidence of waste migration from the bays was noted.

The bulk waste unloading bays were selected for polychlorinated biphenyls (PCB) wipe sampling. Sampling was performed by BAH personnel on October 21, 2010, per the EPA-approved QAPP for the project (Attachment #2). The only deviation from the QAPP involved the collection of split samples (requested by Clean Harbors personnel). PCB wipe sampling is performed by methodically wiping a measured surface area within a pre-cut template (in this case, 100 cm^2) and analyzing the wipe. BAH determined that the best way to provide split samples to Clean Harbors was to cut two, adjacent, 100 cm^2 areas out of cardstock and perform two wipes per sampling area (sample A and B);

The two samples (Sample A and Sample B) are technically co-located duplicates instead of a split primary sample. The collection of co-located wipe samples however, fulfills the intent of "normal" split sampling (which is to provide EPA and Clean Harbors with identical samples from a single area for comparison purposes).

Canon EOS Rebel XSi, Photo #6; View of the PCB wipe templates (two, 10cm x 10cm squares cut in each template).

Wipe sampling templates were taped to three sampling locations in the bulk unloading bays (CH-1935-WP-01 through 03). Another location (CH-1935-WP-04) was selected immediately adjacent to a sampling location to serve as a co-located duplicate. The CH-1935-WP-05 location is the same as CH-1935-WP-04 and serves as a second wipe sample from the same area (QC sample to determine if the PCB wipe sampling method removes all PCBs). Sample CH-1935-WP-06 is not a new location, but is an equipment blank. Descriptions of the samples described above are included in the following table.

Sample ID	Date/Time	Description	Matrix	Latitude	Longitude
CH-1935-WP-01	10/21/2010; 1239	South wall of the Bulk Unloading Bays, Bay #3 (3rd from the west), 79'6" from north edge, 4' from floor, 6' from east wall	Wipe	Not Measured*	Not Measured*
CH-1935-WP-02	10/21/2010; 1249	Mid-wall between Bay 2 and 3 (east side of wall), 35'10" from north edge, 2.5" from top, 11.5" from floor	Wipe	Not Measured*	Not Measured*
CH-1935-WP-03	10/21/2010; 1257	Bay 1, 8'3" from north edge along east wall, 1.5" from top; 28.5" from floor	Wipe	Not Measured*	Not Measured*
CH-1935-WP-04	10/21/2010; 1305	Same as WP-03, but 9'2" from north edge (sample was immediately adjacent, serving as a co-located duplicate)	Wipe	Not Measured*	Not Measured*
CH-1935-WP-05	10/21/2010; 1309	Same as WP-04; re-wipe of WP-04 (QC sample)	Wipe	--	--
CH-1935-WP-06	10/21/2010; 1321	Equipment blank	Wipe	--	--

* = Global Positioning System (GPS) latitude/longitude coordinates could not be obtained, as overhead structures interfered with the hand-held units ability to locate enough satellites to accurately determine its positioning.

For each of the samples listed above, BAH wiped the left side of the dual template (identified as the "A" sample). After the "A" sample was collected and labeled, BAH performed another wipe sample of the right side of the template (identified as the "B" sample). Following the collection of all PCB wipe samples, all "B" samples were transferred to Mr. Nielsen.

Figure 1 Canon EOS Rebel XSi, Photo #20; PCB wipe sampling at location CH-1935-WP-04, facing east-southeast

PCB wipe samples were also collected from the floor of a drum offload area at the STU (CH-1935-WP-07) and from the floor of the DSHA, Area 5 (CH-1935-WP-08).

These samples are described in the following table.

Sample ID	Date/Time	Description	Matrix	Latitude	Longitude
CH-1935-WP-07	10/21/2010; 1340	Drum Offload area, 13'10" from east wall, 19'2" from eastern edge of west wall; 17'4" from south edge	Wipe	Not Measured*	Not Measured*
CH-1935-WP-08	10/21/2010; 1354	Storage Bay, Area 5; 8'1" from western edge of east wall; 20'8" from east edge of west wall; 17'7" from north side of south grate; 4'3" from south side of north grate	Wipe	Not Measured*	Not Measured*

* = Global Positioning System (GPS) latitude/longitude coordinates could not be obtained, as overhead structures interfered with the hand-held units ability to locate enough satellites to accurately determine its positioning.

All wipe samples were shipped to the EPA Region 9 Laboratory (Richmond, CA) via Federal Express on October 21, 2010. The laboratory analyzed for PCB aroclors using

EPA Method 8082A. Copies of the analytical reports are included in Attachment #5. The analytical results are summarized below.

PCB Aroclor	CH-1935-WP-01A	CH-1935-WP-02A	CH-1935-WP-03A	CH-1935-WP-04A	CH-1935-WP-05A	CH-1935-WP-06A	CH-1935-WP-07A	CH-1935-WP-08A
Aroclor 1016	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1221	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Aroclor 1232	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1242	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1248	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1254	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1260	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1262	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Aroclor 1268	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

U = Analyte not detected at or above reporting limit; numerical value shown is the reporting limit.
Note: Results in micrograms per 100 square centimeters (µg/100 cm^2)

As shown in the table above, no PCBs were detected at any of the wipe sampling locations.

PCB Soil Sampling Outside of the STU

Two soil sampling locations were selected outside of the STU, near the drum offload ramp. These locations (CH-1935-SO-01 and CH-1935-SO-03) were selected to determine if PCBs were present in the soil. A field duplicate sample at CH-1935-SO-01 was also collected for QC purposes (identified as CH-1935-SO-02). Soil was collected, homogenized, and sampled as described in the EPA-approved QAPP for the project (Attachment #2); the following two photos show soil sampling.

Sony DSC-S75, Photo #22; PCB soil sampling adjacent to the STU access ramp, facing east.

Sony DSC-S75, Photo #24; PCB soil sampling. Homogenization of soil and filling the sample container, facing north.

Split samples (identified as "A" and "B" were collected, and the "B" samples were provided to Clean Harbors personnel. Sample locations are described below.

Sample ID	Date/Time	Description	Matrix	Latitude	Longitude
CH-1935-SO-01	10/21/2010; 1421	27'4" west of STU, 7'11" south of access ramp; 10'11" east of roadway	Soil	+35° 24'06.319279476"	-119° 36'49.236562800"
CH-1935-SO-02	10/21/2010; 1428	Same as SO-01A (duplicate sample)	Soil	--	--
CH-1935-SO-03	10/21/2010; 1437	West of STU, across roadway. 13'2" west of roadway; 40'9" east of shop building; 33'2" north of the shop building asphalt driveway	Soil	+35° 24'06.823647258"	-119° 36'49.897075720"

All PCB soil samples were shipped to the EPA Region 9 Laboratory (Richmond, CA) via Federal Express on October 21, 2010. The laboratory analyzed for PCB aroclors using EPA Method 8082A. Copies of the analytical reports are included in Attachment #5. The analytical results are summarized below.

PCB Aroclor	CH-1935-SO-01A	CH-1935-SO-02A	CH-1935-SO-03A
Aroclor 1016	0.2 U	0.2 U	0.2 U
Aroclor 1221	0.4 U	0.4 U	0.4 U
Aroclor 1232	0.2 U	0.2 U	0.2 U
Aroclor 1242	0.2 U	0.2 U	0.2 U
Aroclor 1248	0.2 U	0.2 U	0.2 U
Aroclor 1254	41	38	11
Aroclor 1260	0.2 U	0.2 U	0.2 U,J,Q6
Aroclor 1262	0.2 U	0.2 U	0.2 U
Aroclor 1268	0.2 U	0.2 U	0.2 U

U = Analyte not detected at or above reporting limit; numerical value shown is the reporting limit.
J = The reported result for this analyte should be considered an estimated value.
Q6 = Matrix spike/matrix spike duplicate precision criteria were not met for this analyte.
Note: Results in µg/kg dry weight.

As shown in the table above, no PCBs were detected at any of the soil sampling locations above 1,000 µg/kg (or 1 part per million).

Copies of the TSCA-PCB inspection forms given to the facility by EPA during the inspection are included in Attachment #16.

WMU 28

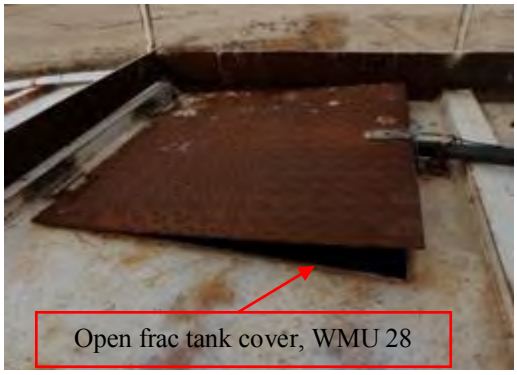
WMU 28 is a capped, closed, single-cell hazardous waste landfill unit. F039 listed hazardous waste leachate is generated from the primary LCRS, and discharged to a 20,000-gallon frac tank for storage (identified as Tank 3). The following two photos present the leachate collection system and frac tank for WMU 28.

Olympus Stylus 8000, Photo #76; View of the leachate collection system at WMU 28 from the top of the leachate collection frac tank (Frac Tank 3).

Olympus Stylus 8000, Photo #73; View of the leachate collection frac tank (Frac Tank 3) at WMU 28.

At the time of the CEI, the frac tank was structurally sound, labeled as hazardous waste and dated 9/14/2010. The inspectors observed that the ports on top of the frac tank were not closed. Photos of these open ports can be viewed below.

Olympus Stylus 8000, Photo #74; View of top of the leachate collection frac tank (Frac Tank 3) at WMU 28. Note the open ports.



Olympus Stylus 8000, Photo #75; View of top of the leachate collection frac tank (Frac Tank 3) at WMU 28. Note the open cover.

22 CCR §66260.10 [40 CFR §260.10] defines treatment as any method or process that changes the physical or chemical character of a hazardous waste to make it less hazardous, safer to manage, reduced in volume, etc. The open ports on the WMU frac tank would allow rainwater to enter the container and dilute the F039 hazardous waste. The open ports would also allow evaporation of the F039 hazardous waste (reduction in volume). Clean Harbors' RCRA permit does not authorize evaporation or dilution as hazardous waste treatment methods.

During the inspection, the inspectors informed the facility representatives that, due to the rain which fell on the weekend prior to the inspection and has been falling periodically

during the inspection, that dilution of the contents of the open frac tanks could be occurring.

WMU 33

WMU 33 is a capped, closed, four-celled hazardous waste landfill unit. F039 listed hazardous waste leachate is generated from each of the primary LCRSs and collected in cell-specific storage areas. Clean Harbors initially identified the leachate storage areas as satellite accumulation areas. However, because the volume of F039 hazardous waste stored in three of the four storage areas was greater than 55-gallons (limit of a satellite accumulation area), the leachate storage areas were inspected as less-than-90-day hazardous waste container storage areas.

Olympus Stylus 8000, Photo #91; View of the leachate collection system at WMU 33 Cell #1. There are four full and one partially-full 55-gallon containers of F039 leachate in the less-than-90-day storage area.

The inspectors observed five, 55-gallon containers (four full, one partially filled) of F039 leachate in the storage area associated with WMU 33, Cell #1, shown to the right. The hazardous waste containers were labeled as hazardous waste, closed, and dated (dates ranging from 10/8/2010 through 10/18/2010).

At WMU 33, Cell #2, the inspectors observed several empty containers and one, full, 55-gallon container of F039 hazardous waste leachate, as shown to the right. The container was labeled as hazardous waste, closed, and dated 10/13/2010.

Olympus Stylus 8000, Photo #90; View of the leachate collection system at WMU 33, Cell #2. One, full 55-gallon container of F039 leachate, dated 10/13/10 to the left.

The inspectors observed 13, full, 55-gallon containers of F039 leachate in the storage area associated with WMU 33, Cell #3, shown below in Olympus Stylus 8000, Photo #82.

Olympus Stylus 8000, Photo #82; View of the leachate collection system and the less-than-90-day storage area at WMU 33, Cell #3.

Olympus Stylus 8000, Photo #83; View of the label on a 55-gallon container of F039 leachate (naphthalene) from WMU 33, Cell #3, stored in the less-than-90-day storage area.

The hazardous waste storage containers were labeled as hazardous waste, closed, and dated (dates ranging from 9/22/2010 through 10/19/2010). Two of the hazardous waste labels indicated the leachate management method as incineration (for naphthalene contamination); an example of the hazardous waste label is presented in Olympus Stylus 8000, Photo #83 above.

Mr. Nielsen explained that all leachate from WMU 33, Cell #3 is disposed via incineration.

At WMU 33, Cell #4, the inspectors observed several empty containers and three, full, 55-gallon hazardous waste containers holding F039 leachate, shown in Olympus Stylus 8000, Photo #87.

Olympus Stylus 8000, Photo #87; View of the leachate collection system and less-than-90-day storage area at WMU 33, Cell #4.

Olympus Stylus 8000, Photo #86; View of the label on a 55-gallon container of F039 leachate from WMU 33, Cell #4, stored in the adjacent less-than-90-day storage area.

The hazardous waste storage containers were labeled as hazardous waste, closed, and dated (dates ranging from 10/8/2010 through 10/19/2010); an example label is shown above in Olympus Photo #86.

During the inspection of the leachate storage areas as less-than-90-day hazardous waste container storage areas, the inspectors did not observe any spill response or emergency communication equipment required by 22 CCR §66264 Article 3 [40 CFR §264 Subpart C]. Following the CEI, EPA issued a 3007(a) Request for Information letter to Clean Harbors (dated November 8, 2010). A copy of this letter is included as Attachment #6. Clean Harbors submitted their response to the 3007(a) letter on January 6, 2011 (Attachment #7, without appendices). In the response, Clean Harbors stated all required spill response and emergency equipment is available throughout the facility, as described in its Contingency Plan. Specifically, emergency response assistance can be obtained through the facility phones, mobile phones, or two-way radios. Spill control and emergency response equipment is located throughout the facility and in company vehicles.

<u>WMU 35</u>

WMU 35 is an active, three-celled hazardous waste landfill unit. F039 listed hazardous waste leachate is generated from the primary and secondary LCRSs of each cell and collected in cell-specific frac tanks.

WMU 25, Cell #1

At WMU 35, Cell #1, the inspectors observed that the primary and secondary LCRSs discharge to a 20,000-gallon frac tank (known as Tank 80). The frac tank was structurally sound, labeled as hazardous waste, and dated 9/14/2010. However, the inspectors observed that the ports on top of the frac tank were open, as well as the pumping port on the side of the tank, as shown in the following four photos.

Olympus Stylus 8000, Photo #96; View of the leachate collection frac tank (Tank 80) at WMU 35, Cell #1.

Olympus Stylus 8000, Photo #99; View of the open pumping port at the rear of the leachate collection frac tank (Tank 80) at WMU 35, Cell #1.

Olympus Stylus 8000, Photo #97; View of the leachate collection frac tank (Tank 80) at WMU 35, Cell #1. Note the top of the container is open.

Olympus Stylus 8000, Photo #98; View of the leachate collection frac tank (Tank 80) at WMU 35, Cell #1, shown in Photo 96. Note the top of the container is open.

22 CCR §66260.10 [40 CFR §260.10] defines treatment as any method or process that changes the physical or chemical character of a hazardous waste to make it less hazardous, safer to manage, reduced in volume, etc. The open ports on the WMU frac

tank would allow rainwater to enter the container and dilute the F039 hazardous waste. The open ports would also allow evaporation of the F039 hazardous waste (reduction in volume). Clean Harbors' RCRA permit does not authorize evaporation or dilution as hazardous waste treatment methods.

A 5,000-gallon plastic tank was located adjacent to the Cell #1 frac tank, but was empty and not connected to either LCRS at the time of the CEI. It was noted that the hazardous waste storage tank is not equipped with a leak detection system. The ancillary equipment associated with the tank is not provided with the required secondary containment (e.g., trench, jacketing, double walled piping). Additionally, the inspectors noted that the tank system was not equipped with controls to prevent spills (e.g., check valves, dry disconnect coupling, etc.).

WMU 35, Cell #2

At WMU 35, Cell #2, the inspectors observed that the primary and secondary LCRSs discharge to a 20,000-gallon frac tank (known as Tank 70), shown in the photo to the right.

The frac tank was structurally sound, labeled as hazardous waste, and dated 9/14/2010. As with the frac tank at Cell #1, the leachate frac tank at WMU 35, Cell #2 is not closed (no photo taken during the CEI).

22 CCR §66260.10 [40 CFR §260.10] defines treatment as any method or process that changes the physical or chemical character of a hazardous waste to make it less hazardous, safer to manage, reduced in volume, etc. The open ports on the WMU frac tank would allow rainwater to enter the container and dilute the F039 hazardous waste. The open ports would also allow evaporation of the F039 hazardous waste (reduction in volume). Clean Harbors' RCRA permit does not authorize evaporation or dilution as hazardous waste treatment methods.

A 5,000-gallon plastic tank is located adjacent to the Cell #2 frac tank, but was empty and not connected to either LCRS at the time of the CEI. It was noted that the hazardous waste storage tank is not equipped with a leak detection system. The ancillary equipment associated with the tank is not provided with the required secondary containment (e.g., trench, jacketing, double walled piping). Additionally, the inspectors noted that the tank system was not equipped with controls to prevent spills (e.g., check valves, dry disconnect coupling, etc.).

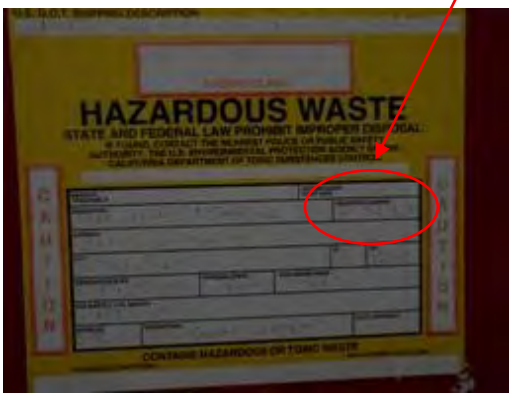
WMU 35, Cell #3

At WMU 35, Cell #3, the inspectors observed that the primary LCRS discharges to a 20,000-gallon frac tank (known as Tank 8), shown to the photo to the right.

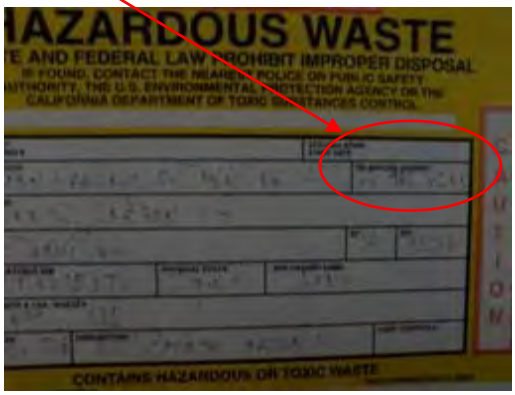
The frac tank was structurally sound, labeled as hazardous waste, and dated 9/4/2010. However, the labels were extremely faded and the accumulation start dates were only barely legible; the following two photos show examples of the labels.

Olympus Stylus 8000, Photo #105; View of the red, leachate collection frac tank at WMU 35, Cell #3.

Dates not clearly visible



Olympus Stylus 8000, Photo #104; Label on the red, leachate collection frac tank at WMU 35, Cell #3. Note that the accumulation start date is not clearly visible.



Olympus Stylus 8000, Photo #106; Label on the red, leachate collection frac tank at WMU 35, Cell #3. Note that the accumulation start date is not clearly visible.

22 CCR §66262.34(a)(2) [40 CFR §262.34(a)(2)] requires the date of accumulation to be clearly marked and visible on each hazardous waste storage container.

The inspectors observed that the secondary LCRS at WMU 35, Cell #3 discharges to a 5,000-gallon plastic tank adjacent to the frac tank.

Sony DSC-S75, Photo #11; View of a 5,000-gallon, plastic, leachate collection tank at WMU 35, Cell #3, facing west.

Sony DSC-S75, Photo #9; View of a 5,000-gallon, plastic, leachate collection tank at WMU 35, Cell #3; close-up of the hazardous waste label on the east side of the tank, facing west.

The plastic tank is double-walled, structurally sound, labeled as hazardous waste, and dated 9/1/2010, shown above. However, the tank is not equipped with a leak detection system.

No evidence of leaks or spills was observed near the plastic tank. However, the inspectors noted that the ancillary equipment (i.e., outlet pipe) was not within secondary containment or fitted with a locking cap, shown in the photo to the right.

Sony DSC-S75, Photo #12; View of the piping and valve for draining the 5,000-gallon, plastic, leachate collection tank at WMU 35, Cell #3, facing northwest. Note: no secondary containment or cap/plug.

The ancillary equipment associated with the tank is not provided with secondary containment (e.g., trench, jacketing, double walled piping). The ancillary equipment associated with the tank is not provided with the required secondary containment (e.g., trench, jacketing, double walled piping). Additionally, the inspectors noted that the tank system was not equipped with controls to prevent spills (e.g., check valves, dry disconnect coupling, etc.).

During the exit debriefing on October 22, 2010, Mr. Nielsen explained that a cam lock had been placed on the drain piping as a spill prevention control.

WMU 34

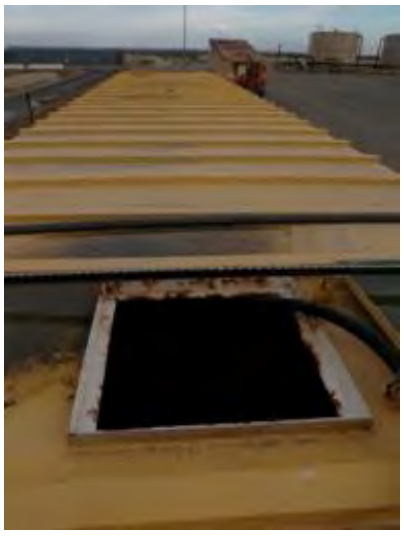
WMU 34 is an active, single-celled hazardous waste landfill unit. F039 listed hazardous waste leachate is generated from the primary LCRS, and discharged to a 20,000-gallon frac tank for storage (known as Tank 60).

Olympus Stylus 8000, Photo #55; View of the leachate collection frac tank at WMU 34, facing northeast.

Olympus Stylus 8000, Photo #54; View of the label on the leachate collection frac tank at WMU 34. Accumulation start date is 10/2/10.

At the time of the CEI, the frac tank was structurally sound, labeled as hazardous waste and dated 10/2/2010, as shown in Olympus Stylus 8000 Photo #54.

However, the inspectors observed that the two, approximately 2-foot by 2-foot ports on top of the frac tank were not closed, shown below.



Olympus Stylus 8000, Photo #93; Leachate collection frac tank at WMU 34, near STU. View of the top of the frac tank (open), facing east.

22 CCR §66260.10 [40 CFR §260.10] defines treatment as any method or process that changes the physical or chemical character of a hazardous waste to make it less hazardous, safer to manage, reduced in volume, etc. The open ports on the WMU frac tank would allow rainwater to enter the container and dilute the F039 hazardous waste. The open ports would also allow evaporation of the F039 hazardous waste (reduction in volume). Clean Harbors' RCRA permit does not authorize evaporation or dilution as hazardous waste treatment methods.

The inspectors also observed staining on the ground and on a lower valve port at the frac tank, indicative of leachate spills/drippage, as shown in the following three photos.

Olympus Stylus 8000, Photo #56; View of the leachate collection frac tank at WMU 34, facing east. Note the stains around the valve area and on the ground.

Olympus Stylus 8000, Photo #57; Close-up view of the ground near the valve of the leachate collection frac tank at WMU 34. Note the visible staining.

Olympus Stylus 8000, Photo #59; Close-up view of the valve port on the lower northeast corner of the leachate collection frac tank at WMU 34. Note the visible staining below the port.

22 CCR §66270.14(b)(5) [40 CFR §270.14(b)(5)] requires a general inspection schedule to be submitted with the Permit Part B submittal. Clean Harbors submitted Chapter 5.0, Procedures to Prevent Hazards with its Part B application. Permit Part II.E.2 incorporated the Procedures to Prevent Hazards into the permit and requires its implementation. Section 5.2.10 of this document mirrors 22 CCR §66264.15(c),[40 CFR §264.15(c)] and Permit Part II.E.3; stating that the Permittee shall remedy any deterioration or malfunction of equipment or structures that are revealed during an inspection and where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

On October 21, 2010, the inspectors asked Clean Harbors to demonstrate leachate sampling procedures by collecting leachate samples from WMU 34. Samples were collected directly from the flexible line exiting the pump (as opposed to sampling the frac tank). During sample collection, drippage from the pump lines was noted on the ground, shown in the following two photos.

Panasonic Lumix DMC-TZ5, Photo #19; F039 leachate drippage observed on the ground at WMU 34.

Panasonic Lumix DMC-TZ5, Photo #28; WMU 34; F039 leachate dripping on the ground.

Sample processing (i.e., placement into containers, labeling) occurred on the tailgate of a Clean Harbors truck, shown below. After the samples were collected, the inspectors noted some leachate spillage on the ground beneath the tailgate, shown below.

Panasonic Lumix DMC-TZ5, Photo #35; WMU 34 leachate sampling –transferring samples into containers and labeling.

Panasonic Lumix DMC-TZ5, Photo #45; Leachate drippage on the ground from sample transfer into containers.

22 CCR §66264.15(b)(4) [40 CFR §264.15(b)(4)] require daily inspections of areas subject to spills. Based on the drippage observed during Clean Harbors' leachate sampling, the leachate risers, pump hoses, and sample collection/ processing areas qualify as areas subject to spills.

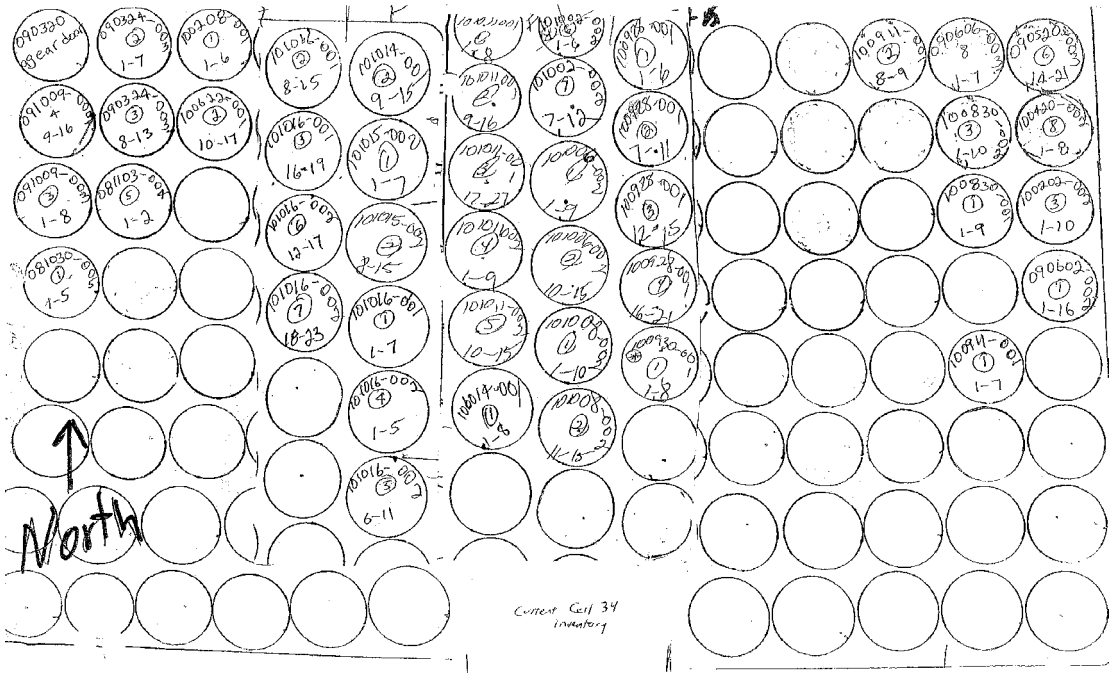
Treated Waste Staging Area Atop WMU 34

Treated waste from the STU is temporarily staged in piles atop WMU 34. The treated waste piles are placed on plastic and covered with plastic.

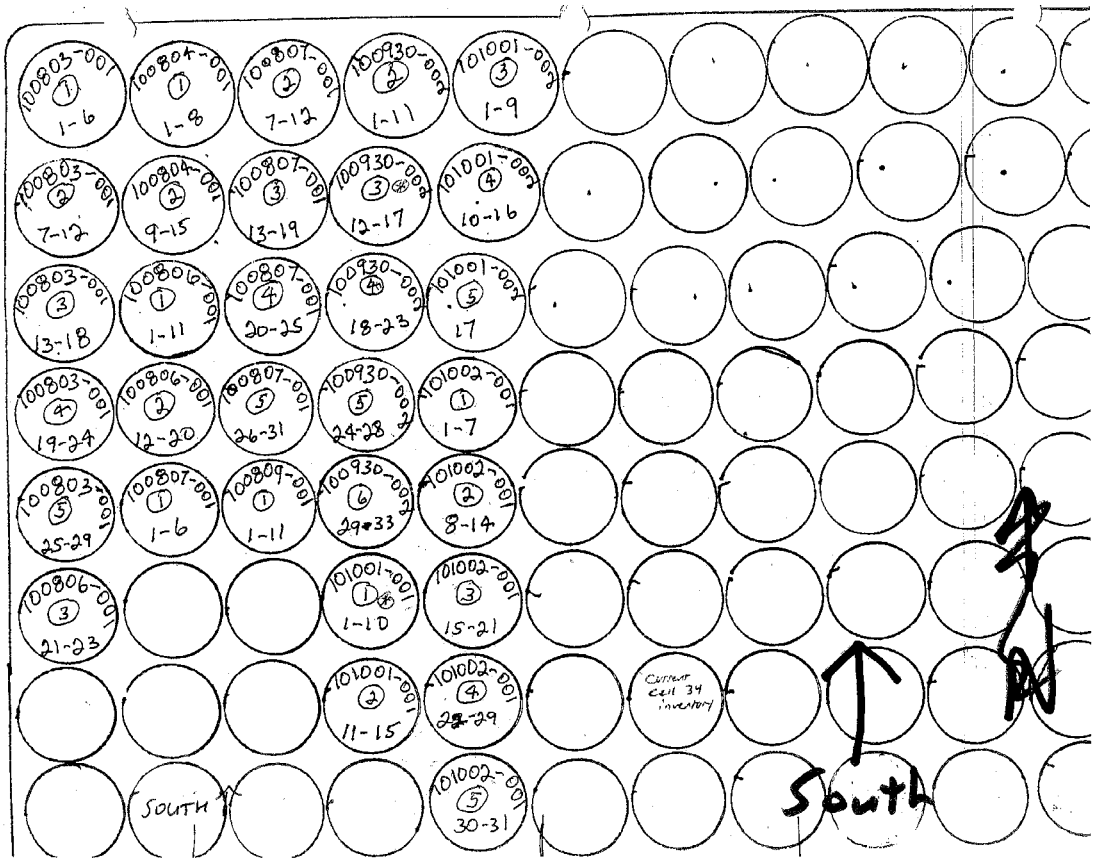
Mr. Almberg explained that the piles remain in the staging area until treatment verification sampling (a single grab sample from each batch) is performed. If the verification sampling shows the waste meets treatment standards, the waste is disposed in a landfill. If the verification sampling shows that one or more treatment standards are not met, the waste is transported back to the STU for re-treatment.

Sony Digital DSC-S75, Photo #13; View of the treated waste staging piles atop WMU 34 (under plastic tarping). View is from the southwest corner of WMU 34 facing east.

The temporary staging areas is managed as two areas, the North side and the South side. During the CEI, Clean Harbors provided maps showing the current inventory atop WMU 34. Copies of these maps are included in Attachment #8.



Current map/inventory of the North side of WMU 34 obtained during the CEI showing temporary staging area for treated waste piles.



Current map/inventory of the South side of WMU 34 obtained during the CEI showing temporary staging area for treated waste piles

Mr. Almberg explained the treated waste pile identification system. Each pile is an individual truckload from the STU. The top number of each pile on the map is the batch number. The batch number reflects the date (first six numbers) and treatment run (last three numbers). For example, a batch number of 100803-001 translates to batch number 001, treated on 08/03/2010. The lower number of each pile on the map is the STU dumps placed in the truck. For example, a lower number of 1-8 indicates that the pile contains STU dumps number 1 through number 8, and that these eight dumps filled a single truck.

The inspectors noted 10 treated waste piles on the North side of WMU 34 that have been staged for longer than one year at the time of the CEI. From the batch numbers, the treatment dates for the batches in storage for longer than one year are 10/30/2008, 11/3/2008, 03/20/2009, 3/24/2009 (2 piles), 5/20/2009, 6/2/2009, 6/6/2009, and 10/9/2009 (2 piles).

Additionally, the inspectors noted that two of these piles (specifically batch identification numbers 090606-003 and 081103-004) were wastes that were already previously processed and did not meet universal treatment standards.

Mr. Almberg verified that these 10 waste piles have been in the staging area for longer than one year, based on their identification numbers. He stated that Clean Harbors usually samples and transfers the waste piles out of the staging area well before one year. However, these 10 waste piles represent wastes that have failed their initial post-treatment verification analyses and have not yet been re-treated. This practice conflicted with the Supplemental Landfill Operations Plan: Staging of Treated Wastes Processed From the Stabilization Treatment Unit (STU), dated September 20, 1990 (see Attachment #21).

Following the CEI, EPA issued a 3007(a) Request for Information letter to Clean Harbors (dated November 8, 2010). A copy of this letter is included as Attachment #6. Included in this letter was a request for verification treatment results (pre-CEI and post-CEI) for the 10 waste piles that were in the WMU 34 staging area for longer than one year. Clean Harbors submitted their response to the 3007(a) letter on January 6, 2011 (Attachment #7, without appendices). In the response, Clean Harbors submitted initial post-treatment analytical results for the 10 waste piles in storage for longer than one year. These results are summarized in the following table. One pile (090606-003, 1-7), initially treated on 1/26/09 (see Attachment #9), is highlighted in red and referenced in the following three tables. The Accutest analytical results for the 6/6/09 re-treatment of the pile (090606-003, 1-7) are included in Attachment #10.

Batch ID	Treatment Date	Post-Treatment Verification Date	Constituents Failed for TCLP	Results	Comments
090320AUGER DOOR	03/20/2009	03/26/2009 (3/27/2009 for Mercury)	Cadmium	0.14 mg/L TCLP,	--
091009-003, 9-16	10/09/2009	10/16/2009	Nickel	44.8 mg/L TCLP	--
091009-003, 1-8	10/09/2009	10/16/2009	Nickel	44.8 mg/L TCLP	--
090324-003, 1-7	03/24/2009	04/03/2009 (04/07/2009 for Mercury)	Mercury, Nickel	0.057 mg/L TCLP, 11.1 mg/L TCLP	--
090324-003, 8-13	03/24/2009	04/03/2009 (04/07/2009 for Mercury)	Mercury, Nickel	0.057 mg/L TCLP, 11.1 mg/L TCLP	--
090520-003, 14-21	05/20/2009	06/01/2009	Lead	1.3 mg/L TCLP	--
090602-002, 1-16	06/02/2009	06/12/2009	Cadmium	3.3 mg/L TCLP	--
090606-003, 1-7	06/06/2009 (re-treat #1)	06/11/2009	Cadmium, Lead	0.69 mg/L TCLP, 0.81 mg/L TCLP	Re-treat; original treatment date 01/26/2009; post-treatment verification failed for cadmium (1.6 mg/L) and lead (2.6 mg/L)
081103-004, 1-2	11/03/2008 (re-treat #1)	11/12/2008	Vanadium	30 mg/L TCLP	Non-RCRA hazardous waste; re-treat; original treatment date 10/07/08; failed for vanadium
081030-005, 1-5	10/30/2008	11/6/2008	Lead	0.91 mg/L TCLP	--

When asked by the inspectors during the inspection, Mr. Almberg stated that he knew of no reason for not re-treating these 10 waste piles after the initial post-treatment results showed that they failed to meet treatment standards. 22 CCR §66268.50(b) [40 CFR §268.50(b)] allows a TSD facility to store restricted hazardous waste for up to one year, provided that the storage is necessary to facilitate proper recovery, treatment, or disposal.

In Clean Harbors' 3007(a) response, Clean Harbors stated that verification samples were collected from 2 of the 10 waste piles immediately after the CEI. The Accutest analytical results for these two samples are included in Attachment #13, and are summarized below.

Batch ID	Date Sampled	Accutest ID	Constituents	Results	Meets Treatment Standards?
090520-003, 14-21	10/27/2010	C13122-5T	Lead	<0.25 mg/L TCLP	Yes
090606-003, 1-7	10/27/2010	C13122-4T	Lead, Cadmium	<0.25 mg/L TCLP <0.10 mg/L TCLP	Yes

After re-treatment, verification samples were collected for each of the 10 re-treated waste piles. The Accutest analytical results for these verification samples are summarized below. The Accutest analytical results for the 11/1/10 and 12/30/10 re-treatments of a pile (090606-003, 1-7) are included in Attachment #17 and #18, respectively.

Batch ID	Date Re-treated	Accutest ID	Constituents	Results	Meets Treatment Standards?	Date Landfilled
090320AUGER DOOR	10/25/2010	C13121-6T	Cadmium	<0.10 mg/L TCLP	Yes	12/4/2010
091009-003, 9-16	10/23/2010	C13121-3T	Nickel	1.3 mg/L TCLP	Yes	12/4/2010
091009-003, 1-8	10/23/2010	C13121-3T	Nickel	1.3 mg/L TCLP	Yes	12/13/2010
090324-003, 1-7	10/23/2010, 10/25/2010	C13121-2T, C13121-5T	Mercury, Nickel	0.0052 mg/L TCLP, 0.41 mg/L TCLP	Yes Yes	12/4/2010
090324-003, 8-13	10/23/2010, 10/25/2010	C13121-2T, C13121-5T	Mercury, Nickel	0.0052 mg/L TCLP, 0.41 mg/L TCLP	Yes Yes	12/4/2010
090520-003, 14-21	10/30/2010	C13192-1T	Lead	<0.5 mg/L TCLP	Yes	12/13/2010
090602-002, 1-16	10/26/2010	C13121-8T	Cadmium	<0.10 mg/L TCLP	Yes	12/13/2010
090606-003, 1-7	11/1/2010 (re-treat #2)	C13192-7T	**Cadmium, Lead**	**0.71 mg/L TCLP 2.6 mg/L TCLP**	**No No**	**
081103-004, 1-2	10/23/2010	C13121-4W	Vanadium (Wet)	4.0 mg/L	Yes	12/13/2010
081030-005, 1-5	10/23/2010	C13121-1T	Lead	<0.25 mg/L TCLP	Yes	12/13/2010

** = This waste pile failed verification sampling. Per the 3007(a) Response Letter, the waste was re-treated again on 12/14/2010 (re-treat #3) and land disposed on 12/30/2010. [Treatment history: initial treatment on 1/26/09; re-treatment on 6/6/09, 11/1/10 and 12/14/10]

Waste pile 090606-003, 1-7 failed to meet treatment standards for cadmium and lead after its 11/1/2010 re-treatment. The verification analysis showed that the waste pile was still a land disposal restricted hazardous waste after more than one year of storage.

Additionally, there is an Issue of Concern identified for this waste pile (090606-003, 1-7). The post-treatment verification sampling procedure (i.e., one grab sample per batch) is based on the assumption that the STU process results in a thoroughly-homogenized batch of treated waste. However, the grab sample of 090606-003, 1-7 taken before re-treatment

(collected on 10/27/2010) showed lead and cadmium TCLP results as non-detects (below reporting limits). The grab sample of 090606-003, 1-7 taken after re-treatment (collected on 11/1/2010) showed lead and cadmium TCLP results at least 7-10 times higher. The sample collected before re-treatment is well below the treatment standards, and the sample collected after re-treatment exceeds treatment standards for both constituents of concern. Based on these sample results, a single grab sample for treatment verification purposes may not adequately characterize the entire waste batch.

During the in-brief, EPA informed Clean Harbors personnel that treated waste sampling would be performed during the CEI. Since the goal of the treated waste sampling was to verify Clean Harbors' post-treatment verification sampling, EPA and BAH decided to focus the sampling on treated waste piles where verification samples had already been collected, and to compare the CEI sampling results with the verification sampling results.

Mr. Almberg provided an analytical data set for treated waste piles that had recently been verified as meeting treatment standards (but were still in the WMU 34 staging area). BAH selected waste piles 100930-001, 1-8; 100930-002, 12-17; 101001-001, 1-10; and 101002-002, 1-6 for sampling. Mr. Almberg also identified treated waste piles where verification samples had been collected, but the results had not yet been received. BAH selected waste piles 101011-002, 1-9; 101015-002, 8-15; 101016-001, 16-19; and 101016-002, 6-11 for sampling.

Treated waste sampling was performed by BAH on October 20, 2010, as described in the EPA-approved QAPP for the project (Attachment #2). Of the eight waste piles for sampling, seven were sampled. Waste pile 101002-002, 1-6 could not be sampled, as the pile was too hard to penetrate with the stainless steel spoon. Field QC sampling included the collection of triplicate volumes at 101015-002, 8-15 for matrix spike/matrix spike duplicate analyses, as well as the collection of a duplicate sample of 101011-002, 1-9.

Sony DSC-S75, Photo#14; View of the treated waste staging piles atop Landfill 34 (under plastic tarping). View is from the southwest corner of Landfill 34, facing north.

All waste samples were collected with a single-use, stainless steel spoon and homogenized in a new, plastic Zip-Lock bag.

After thorough homogenization, split samples (identified as the "A" and "B" samples) were collected. Following the collection of all treated waste samples, Mr. Almberg selected the "B" samples for Clean Harbors. All "B" samples were then transferred to Mr. Almberg.

Sony DSC-S75, Photo #15; Treated waste pile sampling at Landfill 34. View of homogenization of sample prior to collection in sample containers, facing north.

The treated waste pile sampling locations are described in the following table.

BAH Sample ID	Batch ID	Date/Time	Comments	Latitude	Longitude
CH-1935-WA-01A	101016-002 6-11	10/20/2010; 1418	Dark brown, loam-like consistency	+35° 24'11.780979080"	-119° 36'46.952199090"
CH-1935-WA-02A	101015-002 8-15	10/20/2010; 1435	Gray, sandy/crumbly	+35° 24'12.285494034"	-119° 36'46.889149860"
CH-1935-WA-03A	101011-002 1-9	10/20/2010; 1441	Dark brown and grayish, loam-like consistency	+35° 24'12.303640885"	-119° 36'46.599001930"
CH-1935-WA-04A	101011-002 1-9	10/20/2010; 1441	Duplicate of WA-03A	+35° 24'12.303640885"	-119° 36'46.599001930"
CH-1935-WA-05A	101016-001 16-19	10/20/2010; 1502	Small-grained, grayish, powdery	+35° 24'12.477707687"	-119° 36'47.066939950"
CH-1935-WA-06A	100930-001 1-8	10/20/2010; 1520	Gray to light brown, moderately sandy	+35° 24'11.813181449"	-119° 36'46.187790000"
CH-1935-WA-07A	101001-001 1-10	10/20/2010; 1532	Gray, medium-grained, moderately hard	+35° 24'11.426436895"	-119° 36'45.687648630"
CH-1935-WA-08A	100930-002 12-17	10/20/2010; 1546	Gray, medium grained, moderately hard	+35° 24'10.915291659"	-119° 36'45.671265050"

All treated waste samples were shipped to the EPA Region 9 Laboratory (Richmond, CA) via Federal Express on October 21, 2010. The laboratory analyzed for TCLP RCRA metals by EPA Method 1311/6010C. Copies of the analytical reports are included in Attachment #11. The analytical results are summarized below.

Analyte	CH-1935-WA-01A	CH-1935-WA-02A	CH-1935-WA-03A	CH-1935-WA-04A	CH-1935-WA-05A	CH-1935-WA-06A	CH-1935-WA-07A	CH-1935-WA-08A
Antimony	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.021	0.040 U	0.040 U
Arsenic	0.056	0.056	0.065	0.061	0.064	0.092	0.045	0.055
Barium	0.27 B1,J	0.16 B1,J	0.33 B1,J	0.35 B1,J	0.39 B1,J	0.25 B1,J	0.20 B1,J	0.49 B1,J
Beryllium	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cadmium	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Chromium	0.48	0.020 U	0.23	0.21	0.020 U	0.020 U	0.020 U	0.24
Cobalt	0.040 U	0.023 C1,J	0.024 CI,J	0.040 U	0.021 C1,J	0.033 C1,J	0.040 U	0.040 U
Copper	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U	0.49	0.080 U	0.080 U
Lead	0.060 U	0.060 U	0.060 U	0.060 U	**1.4**	0.060 U	0.060 U	0.060 U
Manganese	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.24	0.079 C1,J	0.10 U
Mercury	0.00030 U	0.00030 U	0.00030 U	0.00030 U	0.00030 U	0.00030 U	0.00030 U	0.00030 U
Nickel	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.054 C1,J	0.10 U	0.10 U
Selenium	0.085	0.12	0.11	0.11	0.14	0.13	0.18	0.084
Silver	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Thallium	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Vanadium	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.027 C1,J	0.085	0.040 U
Zinc	0.16 U	0.16 U	0.16 U	0.16 U	1.3	0.16 U	0.16 U	0.16 U

Bold = Detection above land disposal treatment standards
U = Analyte not detected at or above reporting limit; numerical value shown is the reporting limit
J = The reported result for this analyte should be considered an estimated value.
B1 = The concentration of this analyte found in this sample was less than five times the concentration found in the associated method blank
Note: Results in mg/L for the TCLP extract

As shown in the previous table, all results were below the treatment standards except for lead from waste pile 101016-001, 16-19, which showed a value of 1.4 mg/L. The lead treatment standard is 0.75 mg/L TCLP.

In Clean Harbors' 3007 Information Request letter response, they submitted the Accutest sample results for the split samples collected on October 20, 2010. The analytical report is included as Attachment #12. In summary, the results confirmed the EPA results. The only exceedance of the treatment standards was lead from waste pile 101016-001, 16-19 (Accutest detected lead in the TCLP extract at 3.5 mg/L).

Clean Harbors also submitted manifest and verification testing results for each of the waste piles sampled on October 20, 2010. As previously discussed, verification sampling had been performed on each of the waste piles selected for sampling. In summary, all verification sampling results were below the treatment standards for all constituents of concern. Of particular note is the verification sampling of waste pile 101016-001, 16-19 (sample collected on 10/16/2010). In this sample, lead was not detected at or above the 0.25 mg/L TCLP reporting limit. A copy of the analytical report that includes this analysis is included as Attachment #13.

The analytical results for waste pile 101016-001, 16-19 are another example of the Issue of Concern with the verification sampling methodology. The verification sample was collected on 10/16/2010 after treatment, and showed lead as non-detect. However, four days later, BAH collected split samples from this waste pile. The results from the EPA Laboratory and from Accutest both showed lead concentrations in excess of the treatment standards. If the EPA sampling had not been performed, the only post-treatment analytical results would have been the verification sampling showing that the waste met the treatment standards and could be land disposed. Based on the discrepancies in the post-treatment sample results, a single grab sample for treatment verification purposes, as required by the permit, may not adequately characterize the entire waste batch.

Storage of Hazardous Waste Longer Than One Year

Following the CEI, EPA issued a 3007(a) Request for Information letter to Clean Harbors (dated November 8, 2010; see Attachment #6). EPA requested copies of the manifests, profiles, and all other waste documentation associated with the waste piles stored atop WMU 34 for longer than one year. In the 3007(a) response, Clean Harbors submitted this information (Appendix 7 of the response). During the subsequent review of this documentation, the following was noted.

The manifests for the hazardous wastes associated with waste pile 090520-003, 14-21 include the following:

- Manifest 004614066 JJK; 05/19/2009; includes 17,840 pounds of R.Q. Hazardous Waste, Solid, N.O.S (chromium); Profile #23212-BTR-1001 (EPA waste codes D007 and F006). The attached LDR notification lists the EPA waste codes as D007 and F006.

- Manifest 002325741 FLE; 05/13/2009; 20 cubic yards of Hazardous Waste, Solid, N.O.S; Profile #BL-CCSF (EPA waste codes D004, D005, and D006). The attached LDR notification lists the EPA waste codes as D004, D005, D006, D007, D008, D009, D010, D011, F006, and F019.
- Manifest 004614063 JJK; 05/13/2009; 32,260 pounds of Hazardous Waste, Solid, N.O.S; Profile #23212-BTR-1001 (EPA waste codes D007 and F006). The attached LDR notification lists the EPA waste codes as D007 and F006.

The treatment standards listed in 22 CCR §66268.40 (40 CFR §268.40) for F006 and F019 hazardous wastes include total cyanides (590 mg/kg) and amenable cyanides (30 mg/kg). The treatment standards specifically require cyanides analysis using SW-846, Method 9010C or 9012B, with a 10 gram sample size and a distillation time of one hour and 15 minutes. The waste acceptance fingerprint analyses for each of these manifested wastestreams [also included in Clean Harbors' 3007(a) response, Appendix 7] includes a cyanide screening. Per the Waste Analysis Plan, the screening is an ATM D5049 Method to determine the presence/absence of cyanides. Each of the wastestreams listed above were marked as "negative" for the cyanide screening on the Weighmaster Certificate, indicating that no test was performed.

Following STU treatment, post-treatment verification analyses are performed for RCRA metals prior to landfill disposal. Cyanide analyses (total or amenable) are not performed.

Record Review:

2009 Biennial Report:

Facility personnel provided a copy of their 2009 Biennial Report for review.

Weekly Inspections:

Weekly inspection records were not reviewed during the CEI. In its 3007(a) Request for Information letter to Clean Harbors (dated November 8, 2010; see Attachment #6), EPA requested all 2010 inspection records for the less-than-90-day hazardous waste container storage areas at WMU 33. Clean Harbors submitted these records, which also document weekly inspections at all other less-than-90-day container storage areas and accumulation areas at the facility (see Attachment #7, without appendices).

Daily Inspections:

Daily Frac and Poly Tank Inspection records were reviewed for calendar year 2010 during the CEI. Inspectors note on these forms the tank number, its contents (hazardous/nonhazardous), legibility of the label, condition, verification of no leaks, and if covers are secure. During the records review, some inconsistencies were noted in the column identifying tank contents. For example, in July 2010, the contents of Tank 8 were marked as hazardous by the person performing daily inspections over the weekend.

A second person inspected Tank 8 during the work week, and marked it as nonhazardous. Similar instances were noted in other months/tanks as well, and Clean Harbors personnel were notified of the inconsistencies.

Tank 228 is identified as a hazardous waste tank. The daily inspection conducted on April 24, 2010 documented that Tank 228 had an issue. Specifically, it stated, "Tank 228 Expire Accum Date." The remedial action taken block was blank. The daily inspection conducted on May 1, 2010 identified the same issue for Tank 228. Specifically, it stated, "Tank 228 Accum. Date Expired." These records are included as Attachment #20.

An Issue of Concern was identified with the Daily Frac and Poly Tank Inspection records dated September 13 and 14, 2010 (included as Attachment #14). On these inspection forms, the facility's inspector noted that the labels on Tanks 3, 80, 70, and 08 (all hazardous waste tanks) were expired which the EPA inspectors understood to mean that the 90 day accumulation time limit was reached. The September 14, 2010 remedial action taken was identified as "new labels attached." There is no indication if the leachate tanks were pumped out on this date, or if a new label with a new accumulation start date was placed on the frac tanks. It should be noted that the accumulation start dates on these four tanks was noted to be September 14, 2010 during the visual inspection. This Issue of Concern was discussed with Ms. Buoni during the debriefing, and she stated that she would investigate.

Manifests and Land Disposal Restriction Notifications:

The inspectors spot-checked random incoming June 2010 manifests and land disposal restriction (LDR) notifications during the CEI, as well as outgoing manifests and LDR notifications for offsite leachate shipments in 2010.

Contingency Plan:

A copy of the contingency plan was provided for review. The contingency plan was reviewed against the requirements of 22 CCR §66264 Article 4 (40 CFR §264 Subpart D).

Other TSD-Required Records:

The inspectors also reviewed other TSD records during the CEI, such as financial assurance and closure cost estimate documentation, operating record inventories, etc.

Standard Operating Procedures:

One potential Issue of Concern noted during the CEI was that Clean Harbors does not have written Standard Operating Procedures (SOPs) for some significant activities, such as leachate sampling protocols. This potential Issue of Concern was relayed to Clean Harbors personnel during the CEI debriefing. In their 3007(a) response letter, Clean Harbors included a newly-developed SOP for WMU leachate sampling.

Annual Leachate Analyses

For each LCRS that produces leachate, Clean Harbors collects annual samples for F039 constituent analysis. These annual analyses are performed to determine how the leachate must be managed for disposal. During the CEI, the inspectors reviewed leachate analyses from 2007, 2008, and 2009. Several detections in excess of the 22 CCR §66268.40 treatment standards were noted during this review. In its 3007(a) Request for Information letter, EPA asked for further information about these detections above treatment standards. Specifically, EPA asked for sampling dates, analytical results, and subsequent leachate management/disposal decisions.

In its 3007(a) response letter, Clean Harbors included the information requested by EPA and offered a detailed timeline for analyses, re-analyses, management decisions, and disposal methods chosen. The following table summarizes this information.

Riser ID	Exceedance Sample Date	Constituent of Concern	Result	Treatment Standard	Re-sample Date	Re-sample Result
WMU 33-1-T	5/18/2009	bis (2-Ethylhexyl) phthalate	437 ug/L	280 ug/L	8/10/2009	22.2 ug/L
	Discussion: Clean Harbors believes the May 18, 2009 sample result is due to phthalates associated with plastics involved in either the sample event or the leachate collection process itself. In addition, phthalates are a known laboratory contaminant. Since the bis (2-ethylhexyl) phthalate detection from May 18, 2009 was not confirmed in the resample and has not re-occurred since, Clean Harbors views the May 18, 2009 as an anomaly and the leachate from WMU 33-1-T was not treated for bis (2-ethylhexyl) phthalate. The facility's response failed to identify how they determined it was a laboratory anomaly. Quality control documentation for blanks analysis before and after sampling which substantiate the facility's claim that the bis (2-ethylhexyl) phthalate was a laboratory anomaly was not included in their response.					
WMU 33-3-T	12/12/2003	2-Methylnaphthalene	ND	Not Listed	1/6/2004	1900 ug/L
		3-Methylcholanthrene	ND	5.5 ug/L		3400 ug/L
		Benzo(a)anthracene	1300 ug/L	59 ug/L		2800 ug/L
		Benzo(g,h,i)perylene	ND	5.5 ug/L		2000 ug/L
		Benzo(k)fluoranthene	ND	110 ug/L		2700 ug/L
		Benzo(a)pyrene	1100 ug/L	61 ug/L		3400 ug/L
		Dibenz(a,h)anthracene	ND	55 ug/L		910 ug/L
		Chrysene	1800 ug/L	59 ug/L		4300 ug/L
		Indeno(1,2,3-cd)pyrene	ND	5.5 ug/L		540 ug/L
		Phenanthrene	ND	59 ug/L		2500 ug/L
		Pyrene	1500 ug/L	67 ug/L		3800 ug/L
	Discussion: The WMU 33-3 riser was first determined to exceed F039 Treatment Standards for several polynuclear aromatic hydrocarbons (i.e. chrysene, pyrene, etc.) in 2003. The leachate is not sampled annually, but is sent offsite for incineration upon generation.					
WMU 35-1-B	2/27/2008	2-Butanone (methyl ethyl ketone)	670 ug/L	280 ug/L	11/12/2008	Not Detected
	Discussion: Because MEK was not detected in the primary LCRS of WMU 35-1, MEK is a known lab contaminant, and MEK was not detected in the lower LCRS confirmation sample, Clean Harbors does not believe the initial MEK detection to be a valid result. Upon review of this data, it was concluded that the detection of MEK was an anomaly. The leachate is not treated for MEK.					

Riser ID	Exceedance Sample Date	Constituent of Concern	Result	Treatment Standard	Re-sample Date	Re-sample Result
	The facility identified that the MEK is a known laboratory contaminant. However, the facility's response failed to identify how they determined that the result was due to a laboratory anomaly.					
WMU 34-T	11/28/2007	2,4-Dimethylphenol	0.039 mg/L	0.036 mg/L	2/11/2008; 2/27/2008; 11/12/2008	Not Detected <0.010mg/L
	Discussion: Clean Harbors determined that the November 28, 2007 analysis was an anomaly. The facility's response failed to identify whether this was a laboratory anomaly or a sampling anomaly. In addition, the facility's response failed to identify how this determination was made.					
WMU 35-2-T	2/27/2008	Nickel	4300 ug/L	3980 ug/L	11/12/2008	12,000 ug/L
	Discussion: The reanalysis demonstrated that the waste continued to require treatment for nickel. Treated for nickel in the STU. However, the May 18, 2009 sampling event determined this leachate now met the F039 standards for nickel (result was 195 µg/L). Based on this information, Clean Harbors ceased treating the leachate from this cell for nickel.					

During the review of the annual leachate analyses, it was noted that some of the F039 constituents identified in 22 CCR §66268.40 (40 CFR §268.40) are not analyzed (e.g., dioxins and furans). Clean Harbors personnel explained that some constituents are not analyzed because Clean Harbors does not accept wastes with these constituents. In its 3007(a) response letter, Clean Harbors reiterated that the leachate is characterized annually based on generator knowledge and analytical results. Additionally, certain constituents (e.g., dioxins, furans, pesticides) have not been detected in historic testing.

Following the CEI, the list of constituents analyzed annually during leachate characterization was compared to the list of F039 constituents in 22 CCR §66268.40 (40 CFR §268.40). The following F039 constituents were not included in the 2009 leachate characterization:

F039 constituent	CAS No.	F039 constituent	CAS No.	F039 constituent	CAS No.
1,4-Dinitrobenzene	100-25-4	Dibenz(a,e)pyrene	192-65-4	o,p' - DDT	789-02-6
4,4-Methylene bis(2-chloroaniline)	101-14-4	1,2,3,4,6,7,8,9 – Octachlorodibenzo-p-dioxin	3268-87-9	Methyl methacrylate	80-62-6
3-Chloropropylene	107-05-1	o,p' - DDE	3424-82-6	Sulfide	8496-25-8
Ethyl cyanide (Propanenitrile)	107-12-0	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	Phthalic anhydride	85-44-9
2,4-Dimethylaniline (2,4-xylidine)	108-45-2	1,2,3,4,6,7,8,9 – Octachlorobenzofuran	39001-02-0	Diphenylnitrosamine	86-30-6
p-Cresidine	120-71-8	o,p' - DDD	53-19-0	2,4-Dimethylaniline (2,4-xylidine)	95-68-1
1,4-Dioxane	123-91-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	Ethyl methacrylate	97-63-2
tris (2,3-Dibromopropyl) phophate	126-72-7	Parathion	56-38-2	All Hexachlorodibenzofurans	N/A
Methacylonitrile	126-98-7	Cyanides (amenable)	57-12-5	All Pentachlorodibenzofurans	N/A
2-Chloro-1,3-butadiene	126-99-8	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	All Pentachlorodibenzo-p-dioxins	N/A

F039 constituent	CAS No.	F039 constituent	CAS No.	F039 constituent	CAS No.
Ethyl acetate	141-78-6	Ethylene oxide	75-21-8	All Tetrachlorodibenzofurans	N/A
Fluoride	16984-48-8	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	All Tetrachlorodibenzo-p-dioxins	N/A

CAS No. = Chemical Abstract Services number.

A full F039 characterization of the leachate is not being performed during the annual testing.

Post Inspection:

On November 8, 2010, a 3007(a) Request for Information letter was issued by the EPA to Clean Harbors (Attachment #6). On January 11, 2011, Clean Harbors submitted a response to EPA's letter (Attachment #7, without appendices). Information contained in Clean Harbors' response to the referenced 3007(a) Request for Information letter has been incorporated into this inspection report.

POTENTIAL VIOLATIONS (PV)
of
California Code of Regulations (CCR), Title 22, Division 4.5, RCRA 40 CFR Subtitle C, and the Hazardous Waste Facility Permit

PV #1: Open Containers (Leachate Frac Tanks)

22 CCR §66264.173(a) *[40 CFR 264.173(a) and Permit Part III.A.3]*

(a) A container holding hazardous waste shall always be closed during transfer and storage, except when it is necessary to add or remove waste.

Permit Part III.A.3: A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste. [22 CCR §66264.173(a)]

Findings: The inspectors observed four F039 listed hazardous waste leachate containers (frac tanks) with open ports (WMU 28, WMU 34, WMU-35-1, and WMU 35-2)

Facility Response: The facility representatives stated that they will look into the issue and determine the best way to address it.

PV #2: Impermissible Treatment (Leachate Frac Tanks)

Hazardous Waste Facility Permit

The Permittee is permitted to treat, transfer, store and dispose of hazardous waste in accordance with the conditions of this permit. Any management of hazardous waste not authorized by this Permit is prohibited.

Findings: The inspectors observed that it rained during the weekend prior to the inspection and periodically during the inspection. The inspectors observed four F039 listed hazardous waste leachate containers (frac tanks) with open ports (WMU 28, WMU 34, WMU 35-1, and WMU 35-2). The open ports allow evaporation and/or rainfall dilution of hazardous waste, which is treatment. The facility is not permitted for this type of treatment.

Facility Response: The facility representatives stated that they will look into the issue and determine the best way to address it.

Findings: During the record review, the inspectors identified facility daily inspection which showed that Tank 228, an unpermitted hazardous waste storage tank, was storing waste for greater than 90-days from April 24, 2010 to May 1, 2010.

PV #3: Container Accumulation Date

22 CCR §66262.34(a)(2)) *[40 CFR 262.34(a)(2)]*

(a) Except as provided in subsections (c) and (d) of this section and section 66262.35, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or grant of interim status, provided that:

(2) the date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

Findings: The inspectors observed that accumulation start dates were not visible on the F039 listed hazardous waste leachate container (frac tank) at WMU 35-3.

Facility Response: None at the time of the CEI.

PV #4: Minimum Controls

22 CCR §66264.194(b)(1) *[40 CFR 264.194(b)(1) and Permit Part III.C.5]*

(b) The owner or operator shall use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

(1) spill prevention controls (e.g., check valves, dry disconnect couplings).

Permit Part III.C.5: The Permittee shall use appropriate controls and practices to prevent spills and overflows of the tank or containment system. These include at a minimum:

a. Spill prevention controls (e.g., check valves, dry discount couplings); [22 CCR §66264.194(b)(1)]

Findings: The inspectors observed three plastic, hazardous waste leachate storage tanks at WMU 35 that were not equipped with spill prevention controls. One of these tanks contained F039 leachate at the time of the inspection.

Facility Response: The facility representatives stated at the CEI outbriefing that a cam lock had been placed on the outlet pipe.

PV #5: Containment and Detection of Releases

22 CCR §66264.193(e)(3)(C)) *[40 CFR 264.193(e)(3)(iii)]*

(e) In addition to the requirements of subsections (b), (c) and (d) of this section, secondary containment systems shall satisfy the following requirements:

(3) Double-walled tanks shall be:

(C) provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Department, and the Department concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

Findings: The inspectors observed three plastic, hazardous waste leachate storage tanks at WMU 35 that were not equipped with continuous leak detection systems. One of these tanks contained F039 leachate at the time of the inspection.

Facility Response: No action taken at the time of the CEI.

PV #6: Containment and Detection of Releases

22 CCR §66264.193(f) *[40 CFR 264.193(f)]*

(f) Ancillary equipment shall be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of subsections (b) and (c) of this section

Findings: The inspectors observed ancillary equipment (outlet pipes) on three plastic, hazardous waste leachate storage tanks at WMU 35 that were not provided with secondary containment.

Facility Response: No action taken at the time of the CEI.

PV #7: Spill Response

22 CCR §66264.15(c) *[40 CFR 264.15(c) and Permit Part II.E.3]*

(c) The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

Permit Part II.E.3: The Permittee shall remedy any deterioration or malfunction of equipment or structures that are revealed during the course of an inspection. The remediation shall follow a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred remedial action shall be taken immediately. [22 CCR §66264.15(c)]

Findings: The inspectors observed evidence of drippage and/or leakage at the F039 listed hazardous waste storage container (frac tank) at WMU 34, as well as drippage on the ground after the facility sampled the leachate at WMU 34.

Facility Response: No action was taken by the facility representatives during the CEI for staining associated with the WMU 34 frac tank.

Findings: The inspectors also observed staining and release beneath a ferrous sulfate container at the STU. The MSDS for ferrous sulfate states that it is extremely corrosive when mixed with water.

Facility Response: The facility cleaned up the release beneath the ferrous sulfate container during the CEI.

PV #8: Hazardous Waste Determination

22 CCR §66262.11 *[40 CFR 262.11]*

A person who generates a waste, as defined in section 66261.2, shall determine if that waste is a hazardous waste using the following method:

(a) the generator shall first determine if the waste is excluded from regulation under section 66261.4 or section 25143.2 of the Health and Safety Code;

(b) the generator shall then determine if the waste is listed as a hazardous waste in articles 4 or 4.1 of chapter 11 or in Appendix X of chapter 11 of this division. If the waste is listed in Appendix X and is not listed in articles 4 or 4.1 of chapter 11, the generator may determine that the waste from his particular facility or operation is not a hazardous waste by either:

(1) testing the waste according to the methods set forth in article 3 of chapter 11 of this division, or according to an equivalent method approved by the Department pursuant to section 66260.21; or

(2) applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used and the characteristics set forth in article 3 of chapter 11 of this division.

(c) For purposes of compliance with chapter 18 of this division (commencing with section 66268.1), or if the waste is not listed as a hazardous waste in article 4 (commencing with section 66261.30), in article 4.1 (commencing with section 66261.50), or in Appendix X of chapter 11 of this division, the generator shall determine whether the waste exhibits any of the characteristics set forth in article 3 of chapter 11 of this division by either:

(1) testing the waste according to the methods set forth in article 3 (commencing with section 66261.20) of chapter 11 of this division, or according to an equivalent method approved by the Department under section 66260.21; or

(2) applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(d) If the waste is determined to be hazardous, the generator shall refer to chapters 14, 15, 18, and 23 of this division for possible exclusions or restrictions pertaining to management of the specific waste.

Findings: The inspectors observed an aerosol can with a broken nozzle (inherently waste-like) in a flammables cabinet at the STU, stored as a product.

Facility Response: None at the time of the CEI.

PV #9: Storage of Restricted Waste

22 CCR §66268.40(a) *[40 CFR § 268.40(a)]*

A prohibited waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of three types of treatment standard requirements:

(1) All hazardous constituents in the waste or in the treatment residue shall be at or below the values found in the table for that waste ("total waste standards"); or,

(2) The hazardous constituents in the extract of the waste or in the extract of the treatment residue shall be at or below the values found in the table ("waste extract standards"); or,

(3) The waste shall be treated using the technology specified in the table ("technology standard"), which are described in detail in section 66268.42, Table 1 - Technology Codes and Description of Technology-Based Standards.

22 CCR §66268.50(a)-(c) *[40 CFR 268.50(a)-(c)]*

(a) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under article 3 of this chapter or RCRA section 3004 (42 U.S.C. section 6924) is prohibited, unless the following conditions are met.

(1) A generator stores such wastes in tanks, containers, or containment buildings on site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in section 66262.34 and Chapters 14 and 15 of this division. (A generator who is in existence on July 1, 1991 and who must store hazardous wastes for longer than the applicable accumulation period specified in subsection (a) or (d) of section 66262.34 of this chapter, due to the regulations under this chapter becomes an owner/operator of a storage facility and shall obtain a Hazardous Waste Facility Permit. Such a facility may qualify for interim status upon compliance with the regulations governing interim status under section 66270.70 of chapter 20).

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes in tanks, containers, or containment buildings solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

(A) each container is clearly marked to identify its contents and the date each period of accumulation begins;

(B) each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator shall comply with the operating record requirements specified in section 66264.73 or section 66265.73.

(3) A transporter stores manifested shipments of such wastes at a transfer facility for six days or less, or 10 days or less for transfer facilities in areas zoned industrial by the local planning authority.

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to one year unless the Department can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(c) An owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

Findings: The inspectors observed the storage of 9 waste piles (restricted RCRA hazardous waste, per post-treatment analyses) that have been in storage atop WMU 34 for longer than one year. The waste piles were not stored for the sole purpose of accumulation of such quantities to facilitate proper recovery, treatment, or disposal. One of the waste piles (batch identification number 090606-003, 1-7) was stored since January 26, 2009.

Facility Response: The 9 waste piles were re-treated in October-December 2010 and land disposed in December 2010.

PV #10: Staging of Treated Waste

Permit Part II.R.1

The Permittee submitted a waste staging plan for wastes treated in the Stabilization Treatment Unit entitled "Supplemental Landfill Operations Plan; Staging of Treated Wastes Processed for[sic] the Stabilization Treatment Unit (STU)", dated September 20, 1990, which is incorporated by reference into this permit…

Supplemental Landfill Operations Plan: Staging of Treated Waste Processed from the Stabilization Treatment Unit (STU), Section II.7:

Management of Treated Waste
There are three options considered for managing the treated waste once the mechanical mixing process is completed. They are as follows:
…2. Place the treated waste in a box/container and temporarily stage the box/container in the landfill….

Option 2 consists of placing the treated waste into a waste hauling truck or container/box and transporting it to the landfill where the container/box would be off-loaded, or if not transferred in a container/box, the waste would then be off-loaded into a sturdy box or container. The box/container would be designed to contain the treated waste. The boxes/containers may be constructed of materials such as metal, wood, plastic, or cardboard, etc, or any combination thereof. The boxes/containers may also be disposable or reusable depending on thier[sic] nature.

Once the post-treatment verification testing has determined that the waste has been successfully treated, the waste and possibly the box/container may be moved to its final location in the landfill or left in place for final disposal. In the event the treated waste does not meet the applicable treatment standards, the waste and possibly the container, if the container is disposable, would be removed from the landfill and transported back to the STU for reprocessing.

Supplemental Landfill Operations Plan: Staging of Treated Waste Processed from the Stabilization Treatment Unit (STU), Section V.4

After the treated waste has been placed in boxes/containers, it will be allowed to cure for 2 to 3 days. When the curing process is complete, the waste will be tested to verify that if [sic] meets the appropriate treatment standard. If the treated waste meets the treatment criteria, it will be landfilled. Should the [sic] it be determined that the processed waste did not meet the treatment standard, the waste will have to be retrieved from the staging area and reprocessed through the STU.

Findings: The inspectors observed the storage of 9 waste piles (restricted RCRA hazardous waste, per post-treatment analyses) that were staged atop WMU 34 for longer than one year after the verification

testing determined that the treated waste failed to meet the appropriate treatment standards.

Facility Response: The 9 waste piles were re-treated in October-December 2010 and land disposed in December 2010.

PV #11: Treatment Standards

Permit Part II.B.3: The Permittee shall require each generator to submit a Profile describing their waste. The Permittee shall rely on generator knowledge of the waste and conduct the appropriate supplemental analysis to ensure that waste received at a hazardous waste management unit meets the acceptance criteria for that unit and any other criteria specified in the operation plan for the unit. Waste that does not meet any acceptance criteria for a unit may be accepted at the unit on a case-by-case basis provided that: the Permittee conduct all the supplemental analyses applicable to the unit, the results of the analyses indicate that the waste may be accepted at the unit without violating any other condition of the Permit, and the results of the analyses and the decision to accept the waste at the unit are documented in the operating record. [22 CCR 66264.13(a)]

Part B Permit Application Part 3.2.4: Pre-receipt Evaluation

The pre-receipt Evaluation (PE) process provides for prescreening of all waste to be treated or disposed on-site prior to acceptance at the Facility (including on-site generated waste)...The PE form provides initial information about the generator identification, waste generating process/activity, volume and waste characteristics, handling procedures, and shipping information.

Part B Permit Application Part 3.2.4.4: Acceptance or Rejection of Wastes

The Waste Acceptance Manager will follow the logic path shown in Figure 3.2-3(Pre-receipt Evaluation) to evaluate the acceptability of each waste type. This decision will be based upon the PE and PA [Pre-receipt Analytical Report] as follows:

- *Waste Classification Information – ...The generator is responsible for determining whether a waste is restricted from land disposal under 40 CFR 268 and 22 CCR 66900 and 67740, whether the waste requires treatment to meet 40 CFR 268 and 22 CCR 66900 and 67740…*

22 CCR § 66264.13 [40 CFR § 264.13]

(a)(1) Before an owner or operator transfers, treats, stores, or disposes of any hazardous waste, or nonhazardous waste if applicable under section 66264.113(d), the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis shall contain all the information which must be known to transfer, treat, store, or dispose of the waste in accordance with the requirements of this chapter

and chapter 18 [land disposal restrictions] *of this division and with the conditions of a permit issued under chapter 20 and chapter 21 of this division.*

22 CCR §66268.40(a) *[40 CFR 268.40(a)]*

(a) A prohibited waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of three types of treatment standard requirements:

(1) All hazardous constituents in the waste or in the treatment residue shall be at or below the values found in the table for that waste ("total waste standards"); or,

(2) The hazardous constituents in the extract of the waste or in the extract of the treatment residue shall be at or below the values found in the table ("waste extract standards"); or,

(3) The waste shall be treated using the technology specified in the table ("technology standard"), which are described in detail in section 66268.42, Table 1 - Technology Codes and Description of Technology-Based Standards.

Findings: F006 and F019 listed hazardous wastes are being treated in the STU with no pre-treatment or post-treatment verification (per the required Methods) that the total and amenable cyanides treatment standards are being met.

Facility Response: None at the time of the CEI.

Findings: Clean Harbors uses a combination of generator knowledge and analytical testing results (from an offsite laboratory) to characterize the leachate generated at each WMU. However, the leachate samples are not analyzed to verify that all hazardous constituents for F039 constituents are at or below the values found in the table prior to disposal.

Facility Response: None at the time of the CEI.

CALIFORNIA-ONLY POTENTIAL VIOLATIONS (CPV)
of
California Code of Regulations, Title 22, Division 4.5, and the Hazardous Waste Facility Permit

CPV #1: Storage of Restricted Waste

22 CCR §66268.50(a)-(c)

(a) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under article 3 of this chapter or RCRA section 3004 (42 U.S.C. section 6924) is prohibited, unless the following conditions are met.

(1) A generator stores such wastes in tanks, containers, or containment buildings on site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in section 66262.34 and Chapters 14 and 15 of this division. (A generator who is in existence on July 1, 1991 and who must store hazardous wastes for longer than the applicable accumulation period specified in subsection (a) or (d) of section 66262.34 of this chapter, due to the regulations under this chapter becomes an owner/operator of a storage facility and shall obtain a Hazardous Waste Facility Permit. Such a facility may qualify for interim status upon compliance with the regulations governing interim status under section 66270.70 of chapter 20).

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes in tanks, containers, or containment buildings solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

(A) each container is clearly marked to identify its contents and the date each period of accumulation begins;

(B) each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator shall comply with the operating record requirements specified in section 66264.73 or section 66265.73.

(3) A transporter stores manifested shipments of such wastes at a transfer facility for six days or less, or 10 days or less for transfer facilities in areas zoned industrial by the local planning authority.

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to one year unless the Department can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(c) An owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

Findings: The inspectors observed the storage of a waste pile (restricted non-RCRA hazardous waste, per post-treatment analyses; batch identification number 081103-004, 1-2) that had been in storage atop WMU 34 for longer than one year. The waste pile was not stored for the sole purpose of accumulation of such quantities to facilitate proper recovery, treatment, or disposal.

Facility Response: The waste pile was re-treated in October-December 2010 and land disposed in December 2010.

Issue of Concern #1: Accuracy and Precision of Post-Treated Waste Verification Sampling Methodology

The post-treatment verification sampling procedure (one grab sample per batch) is based on the assumption that the STU process results in a thoroughly-homogenized batch of treated waste. However, during the CEI, two instances arose that raise questions about the accuracy (conformity to the true value) and precision (reproducibility) of the sampling methodology.

Two grab samples were taken from the 10 waste piles stored atop WMU 34 for longer than one year prior to re-treatment. Both of these samples (from 090520-003, 14-21 and 090606-003, 1-7) were collected on 10/27/2010 and showed lead and/or chromium TCLP results below detection limits. The waste piles were re-treated on 10/30/2010 and 11/1/2010, respectively. A second, grab sample from each batch was taken for post-treatment verification. However, the post-treatment sample for 090606-003, 1-7 showed lead and cadmium TCLP results at least 7-10 times higher that the sample collected prior to re-treatment. The 090606-003, 1-7 sample collected before re-treatment is well below the treatment standards, while the sample collected after re-treatment exceeds treatment standards for both constituents of concern.

The analytical results for waste pile 101016-001, 16-19 are another example of the Issue of Concern with the verification sampling methodology. The verification sample was collected on 10/16/2010 after treatment, and showed lead as non-detect. However, four days later, BAH collected split samples from this waste pile. The results from the EPA Laboratory and from Accutest both showed lead concentrations in excess of the treatment standards. Seven waste piles were sampled during the CEI. The lead detections in excess of the treatment standards represent a 14% failure rate.

In both cases, if Clean Harbors had relied on its first sample results, the waste piles would have been determined to be below treatment standards and acceptable for land disposal. Based on the discrepancies in the post-treatment sample results, a single grab sample for treatment verification purposes may not adequately characterize the entire waste batch.

Issue of Concern #2: Management of Leachate Determined via Laboratory Analysis to Exceed Treatment Standards

Sampling and analysis of leachate collected from the risers of the landfill cells is used to determine the regulatory status of the leachate (i.e. determine if the F039 leachate exceeds one or more treatment standards) collected into containers (i.e., 55-gallon or 20,000 gallon capacity) or tanks (5,000 gallon capacity). However, as documented in this inspection report, Clean Harbors used analytical results from subsequent sampling events of newly collected leachate to determine the regulatory status of stored leachate determined to exceed treatment standards from its analytical results. As a result, the leachate from both collection events was stabilized and land disposed on-site.

This practice brings up several concerns:

- The constituents and the concentrations of the constituents found in the leachate will vary. A constituent may exceed a treatment standard during one collection event and not the next.

- Clean Harbors' sampling methodology, as documented in this inspection report, may contribute to the loss of volatile organics during the collection process, resulting in artificially low results.

As a result, F039 leachate which may exceed a treatment standard could inadvertently be land disposed on-site.

ATTACHMENTS

1. DTSC Inspection Report of December 2009 Inspection at Clean Harbors Environmental Services, dated February 3, 2010

2. Quality Assurance Project Plan, dated October 11, 2010

3. RCRA Permit for Clean Harbors Buttonwillow, LLC facility, dated March 7, 1996

4. Used oil Manifest 003394603 FLE, dated October 22, 2010

5. EPA Region 9 Laboratory Report for PCB Sampling, dated November 8, 2010

6. 3007(a) Request for Information, U. S. Environmental Protection Agency, Region 9, dated November 8, 2010

7. Response to EPA's November 8, 2010 3007(a) Request for Information, Clean Harbors Buttonwillow, LLC., dated January 11, 2011 (without Appendices)

8. WMU 34 Waste Pile Inventory Maps (at time of the CEI), undated

9. Accutest Laboratory Report and Supporting Data for Waste Pile (ID number 090606-003, 1-7) on WMU 34 from January 26, 2009 Treatment

10. Accutest Laboratory Report and Supporting Data for Waste Pile (ID number 090606-003, 1-7) on WMU 34 from June 6, 2009 Re-Treatment

11. EPA Laboratory Report for Waste Pile Sampling, dated November 10, 2010

12. Accutest Laboratory Report (Waste Pile Split Sampling Results), dated November 8, 2010

13. Accutest Laboratory Report (Waste Pile Treatment Verification Results), dated October 27, 2010

14. Daily Frac and Poly Tank Inspection Records, dated September 13 and 14, 2010

15. Photographs and Photograph Logs

16. TSCA-PCB Inspection Forms

17. Accutest Laboratory Report and Supporting Data for Waste Pile (ID number 090606-003, 1-7) on WMU 34 from November 1, 2010 Re-treatment

18. Accutest Laboratory Report and Supporting Data for Waste Pile (ID number 090606-003, 1-7) on WMU 34 from December 14, 2010 Re-treatment

19. Diagram of Facility

20. Daily Frac and Poly Tank Inspection Records, dated April 24, 2010 and May 1, 2010

21. Supplemental Landfill Operations Plan: Staging of Treated Wastes Processed From the Stabilization Treatment Unit (STU), dated September 20, 1990