



**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: UCSF Mission Bay
50 Medical Center Way
San Francisco, CA 94143

EPA ID Numbers: CAR000130948

Date of Inspection: August 11, 2009

EPA Representatives: Clint Seiter
Environmental Protection Specialist
(415) 972-3298

Jennifer Downey
Environmental Protection Specialist
(415) 972-3342

**San Francisco Department
of Public Health:**

Janine Young
Industrial Hygienist
(415) 252-3903

Facility Representative:

Marcial Aguinaldo
Assistant Supervisor
(415) 476-1300

Report Prepared By: Clint Seiter

Report Date: September 22, 2009

BACKGROUND

Facility Description

UCSF Mission Bay (“Mission Bay” or “the facility”) is a 43-acre facility currently devoted to bio-medical research with plans to eventually expand into hospital patient care as well. Four buildings on the facility grounds contain research labs (Genetech, Byers, Rock and Helen Diller Halls), with the rest of the buildings being devoted to student housing and facility administration. The four buildings with labs are contiguous to one another and thus hazardous waste management in these buildings falls under one Environmental Protection Agency (EPA) identification number (CAR000130948).

There is no record in the EPA Resource Conservation and Recovery Act (RCRA) database of this facility having previously undergone a hazardous waste inspection by either EPA or the California Department of Toxic Substances Control (DTSC).

The facility’s 2007 Biennial Report indicates that Mission Bay generates the following waste streams:

Hazardous Waste Name	Hazardous Waste Code*
Aqueous waste mixed with fixative organics from a research laboratory	F003
Photographic waste from a research laboratory	D011
Ignitable spent solvents from a research laboratory	D001/D018/F002/F003/F005
Ignitable spent corrosive solvents from a research laboratory biological extraction	D001/D002/D018/D022/ D038/F002/F003/F005
Toxic organic/inorganic solids and liquids from a research laboratory	D001/D004/D007/D008/ D022/D038/F002/F003/ F005
Organic/inorganic toxics from a research laboratory	D022/F002/F003
Ignitable corrosive solvents from a research lab DNA extraction procedure	D001/D002/D011/F003/F005/ U404
Spent batteries from a research laboratory	D003/D006
Ignitable spent solvents from a research laboratory	D001/D011
Organic/inorganic acids from a research lab	D002
Elemental mercury and mercury compounds from a research lab	D009
Aerosols – cleaning and lubricants from maintenance	D001
Organic/inorganic corrosive caustics from a research laboratory	D002
Organic/inorganic oxidizing corrosives from a research laboratory	D001/D002/D007/D009
Paint related materials from building maintenance	D001

Organic/inorganic flammable solids from a research laboratory	D001/F003/F005
Organic/inorganic “P-codes” from a research laboratory	P030/P087

INVESTIGATION

The purpose of the investigation was to determine Mission Bay’s compliance with applicable federal environmental statutes and regulations, and, in particular RCRA, as amended, the regulations provided in the Code of Federal Regulations (CFR), Chapter 40, Parts 261-265, 268, 273 and 279, and the California Code of Regulations (CCR), Title 22, Division 4.5 and the California Health and Safety Code, Division 20. On August 11, 2009, Clint Seiter and Jennifer Downey, representing the U.S. EPA, accompanied by Janine Young, from the San Francisco Department of Public Health, conducted an unannounced site investigation at Mission Bay (CAR000130948). Upon providing introductions and credentials, the inspectors contacted Marcial Aguinaldo, the facility’s assistant supervisor. The inspectors explained that this was a routine inspection to determine whether or not the facility was in compliance with federal and state regulations concerning the proper management of RCRA and non-RCRA hazardous wastes. The inspection would consist of a walkthrough of the facility, focusing on those areas where hazardous wastes were handled or stored, with photos taken, followed by a record review and a post-inspection outbriefing.

Walk-through

Mission Bay has a system where each laboratory is supervised by a “principle investigator” (PI). In turn, PIs oversee “lab managers”, who are responsible for directing the day to day activities within the lab. Among other duties, lab managers are responsible for the management of any hazardous waste generated and stored in the laboratory, including ensuring that the waste is stored in a closed container and labeled properly. Each laboratory is identified by the PI’s name.

Genetech Hall

- Ortiz Lab

The inspectors noted the following:

- The pre-printed facility hazardous waste labels lack a space for the physical state of the waste (solid or liquid?) as is required under CCR Title 22 §66262.34(f)(3)(A);
- One brown bottle under the fume hood had a hazardous waste label that was not filled out (Photo 1);

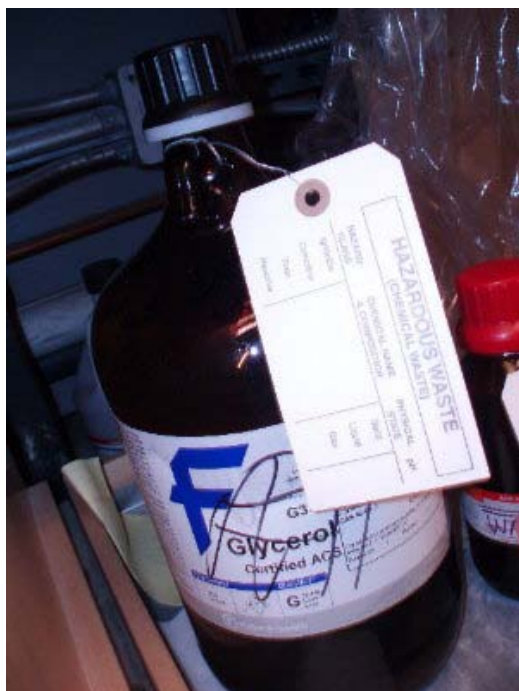


Photo 1: bottle with label not filled out

- There was an open, unlabeled container of a yellow/brown liquid under the lab fume hood (Photo 2). The lab manager could not identify the container's contents;



Photo 2: open, unlabeled, unidentified container of yellow/brown liquid under lab's fume hood

- A number of small, unlabeled bottles and vials were stored under the fume hood (Photo 3). At the time of the inspection, that lab manager could not confirm whether or not these contained hazardous wastes;



Photo 3: unlabeled containers under the fume hood

- Unlabeled discarded scintillation vials, partially filled with liquid (Photo 4). Discarded scintillation liquid is a mixed waste (both hazardous and radioactive);



Photo 4: unlabeled, discarded scintillation vials still containing scintillation liquid

- Unlabeled HPLC effluent in a gallon container (Photo 5). The lab manager did not know at the time of the inspection whether or not this waste was hazardous.



Photo 5: unlabeled, 1-gallon container of HPLC effluent

- Gartner Lab

All hazardous waste containers in this lab were closed and labeled properly. No violations were noted.

- Taunton Lab

The inspectors noted eight unlabeled 1-gallon bottles of spent solvent (Photo 6), in violation of CCR Title 22 §66262.34(e)(1)(C) and Title 22 §66262.34(e)(1)(E), (f)(3), which requires that satellite accumulation containers are labeled with the following information:

- The words “Hazardous Waste”;
- The initial date of waste accumulation is clearly marked and visible for inspection on each container used for accumulation of hazardous waste;
- Composition and physical state of the waste;
- The particular hazardous properties of the waste;
- The name and address of the person producing the waste.



Photo 6: eight unlabeled 1-gallon containers of spent solvent

- Shocat/Craik Labs

All hazardous waste containers in these labs were closed and labeled properly. No violations were noted.

- Miller Lab

The inspectors noted one 1-gallon container, approximately $\frac{1}{4}$ full of “mercury waste” without a label.

- James Lab

The inspectors noted the following:

- One unlabeled and open Styrofoam container overflowing with hazardous waste (Photo 7);



Photo 7: open, unlabeled, overflowing styrofoam hazardous waste container

- One unlabeled 1-gallon brown bottle (Photo 8);



Photo 8: unlabeled hazardous waste bottle

- Numerous discarded vials of hazardous waste (Photo 9);



Photo 9: discarded vials of hazardous waste

- Two unlabeled bags of contaminated personal protective equipment (PPE) (Photo 10);



Photo 10: unlabeled bag of contaminated PPE

- Gross Lab

All hazardous waste containers in this lab were closed and labeled properly. No violations were noted.

- Frankel Lab

The inspectors noted the following:

- One open container identified as “Phenol Waste” with no more labeling information (Photo 11);

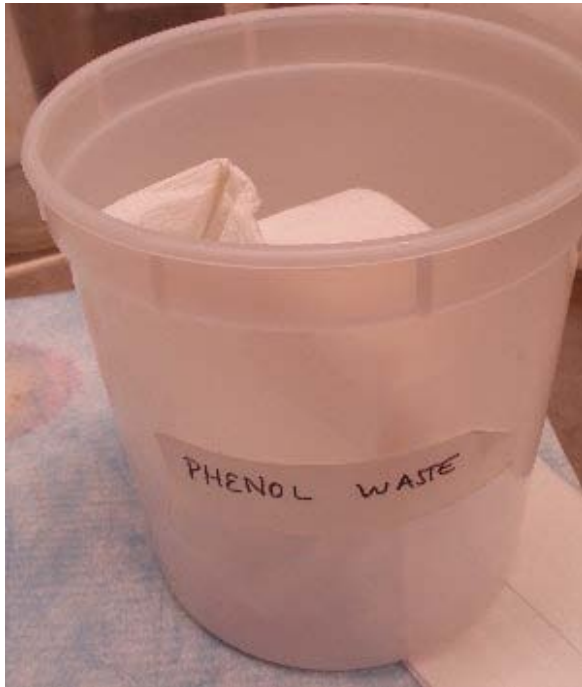


Photo 11: open, inadequately labeled container of phenol waste

- Other small, unlabeled containers (Photo 12).



Photo 12: unlabeled waste bottles

- Yamamoto/Andino/Morgan/Mullens/Vale/Walter/Guthrie/Azard/Fletterick Labs

All hazardous waste containers in these labs were closed and labeled properly. No violations were noted.

- Cook Lab

The inspectors noted one open bin containing what looked like discarded inventory. The lab manager stated that he was still in the process of making a determination of whether or not these containers were hazardous wastes (Photo 13).



Photo 13: Discarded inventory waiting for a waste determination

- Weiner Lab

All hazardous waste containers in this lab were closed and labeled properly. No violations were noted.

- Nichol Lab

The inspectors noted the following:

- One 7-gallon container of discarded ethidium bromide (Photo 14). The container was labeled properly, but was open at the time of the inspection, in violations of CCR Title 22 §66265.173 (this was corrected during the inspection).



Photo 14: open container of discarded ethidium bromide

- One unlabeled, overflowing box of contaminated PPE (Photo 15).



Photo 15: unlabeled, overflowing box of contaminated PPE

- Julius/Kirichok/Edwards/Pierce Labs

All hazardous waste containers in this lab were closed and labeled properly. No violations were noted.

- 90 Day Hazardous Waste Storage Area (Photo 16)

All hazardous waste containers in this area were closed and labeled properly. A fire extinguisher and telephone were mounted on the wall. No violations were noted.



Photo 16: Genetech hazardous waste storage area

Byers Hall

Representative labs and the facility's 90 day hazardous waste storage area were inspected throughout the building. No violations were noted.

Rock Hall

Representative labs and the facility's 90 day hazardous waste storage area were inspected throughout the building. No violations were noted.

Helen Diller Hall

- **Ruggero/Balmair/Toczyski/Akhurst/Ruggero/James labs**

All hazardous waste containers in these labs were closed and labeled properly. No violations were noted.

- **McMahon Lab**

The inspectors noted that a 1-gallon container identified as “xylene waste” and a 1-gallon container identified as “FA waste” were insufficiently labeled (Photo 17).



Photo 17: incompletely labeled containers identified as “xylene waste” and “FA waste” in the McMahon Lab.

- **Long-Cheng Li Lab**

The inspectors noted that six 1-pint containers of waste phenol chloroform were not labeled (Photo 18).



Photo 18: six unlabeled bottles of waste phenol chloroform in the Long-Cheng Li Lab

- Wiencke Lab

The inspectors noted two small unlabeled bottles of discarded potassium hydroxide in the lab waste bin (Photo 19).



Photo 19: unlabeled bottles of discarded potassium hydroxide in the Wiencke Lab

- 90 Day Hazardous Waste Storage Area

All hazardous waste containers in this area were closed and labeled properly. A fire extinguisher and telephone were mounted on the wall. No violations were noted.

Record Review

Manifests: Manifests dating from 2007 to 2009 were reviewed. No violations were noted.

Contingency Plan: no violations noted

Training Records:

- **Annual refresher training:** no violations noted
- **Job titles and descriptions:** no violations noted

Biennial Report: no violations noted

Weekly Inspections: The inspectors reviewed the facility's weekly inspection log. No violations were noted.

POTENTIAL RCRA VIOLATIONS

Satellite Accumulation Area Labeling Requirements Title 22 §66262.34(e)(1)(C); Title 22 §66262.34(e)(1)(E), (f)(3) (40 CFR §262.34(c)(1)(ii))	<p>A generator may accumulate as much as 55 gallon of hazardous waste at or near any point of generation if each container used for onsite accumulation is labeled with the words “Hazardous Waste” and with the following information:</p> <ul style="list-style-type: none">- the initial date of waste accumulation is clearly marked and visible for inspection on each container used for accumulation of hazardous waste;- composition and physical state of the waste;- the particular hazardous properties of the waste;- the name and address of the person producing the waste. <p>The following satellite accumulation area containers were either unlabeled or incompletely labeled:</p> <p><u>Genetech Building</u></p> <ul style="list-style-type: none">- Ortiz Lab: brown bottle under fume hood with label not filled out;- Ortiz Lab: discarded scintillation vials were unlabeled;- Taunton Lab: eight 1-gallon bottles of spent solvent were unlabeled;- Miller Lab: one 1-gallon bottle of mercury waste was unlabeled;- James Lab: one Styrofoam container of hazardous waste was unlabeled;- James Lab: one 1-gallon brown bottle of hazardous waste was unlabeled;
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	<ul style="list-style-type: none"> - James Lab: assorted vials of hazardous waste were unlabeled; - James Lab: two bags of contaminated PPE were unlabeled; - Frankel Lab: one container of phenol waste was unlabeled; - Frankel Lab: assorted small containers of hazardous waste were unlabeled; - Nichol Lab: one box of contaminated PPE was unlabeled. <p><u>Helen Diller Hall</u></p> <ul style="list-style-type: none"> - McMahon Lab: one 1-gallon container of xylene waste was unlabeled; - McMahon Lab: one 1-gallon container identified as “FA waste” was unlabeled; - Long-Cheng Li Lab: six 1-pint containers of discarded phenol chloroform were unlabeled; - Wiencke Lab: two bottles of discarded potassium hydroxide were unlabeled.
<p>Failure To Make A Hazardous Waste Determination</p> <p>Title 22 §66262.11 (40 CFR §262.11)</p>	<p>A person who generates a solid waste must determine if that waste is a hazardous waste.</p> <p>The facility failed to make a hazardous waste determination on the following wastes:</p> <p><u>Genetech Building</u></p> <ul style="list-style-type: none"> - Ortiz Lab: container of yellow/brown liquid under fume hood; - Ortiz Lab: assorted small bottles under fume hood; - Ortiz Lab: 1-gallon container of HPLC effluent.
Open Containers	

<p>Title 22 §66265.173(a) (Article 9) (40 CFR §265.173(a))</p>	<p>Title 22 §66262.34(a)(1)(A) states that a generator may accumulate hazardous waste on-site without a permit provided that the generator complies with the applicable requirements of article 9 of chapter 15.</p> <p>Title 22 §66265.173(a) (Article 9) states that a container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.</p> <p>The following hazardous waste containers were open:</p> <p><u>Genetech Building</u></p> <ul style="list-style-type: none"> - Ortiz Lab: container of yellow/brown liquid under fume hood was open; - James Lab: one Styrofoam container of hazardous waste was open; - Frankel Lab: one container of phenol waste was open; - Nichol Lab: one 7-gallon container of discarded ethidium bromide was open (corrected); - Nichol Lab: one box of contaminated PPE was open.
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