



California Environmental Protection Agency Department of Toxic Substances Control

DRAFT HAZARDOUS WASTE FACILITY PERMIT

Facility Name: Lawrence Livermore National
Laboratory - Site 300
Corral Hollow Road
Near Tracy, California

Owner Name: United States Department of Energy
National Nuclear Security Administration
Livermore Site Office
P.O. Box 808, L-293
Livermore, California 94551-0808

EPA ID Number: CA2890020002

Effective Date:

DRAFT

Expiration Date:

Operator Name: Lawrence Livermore National Security, LLC,
Lawrence Livermore National Laboratory, and
the United States Department of Energy,
National Nuclear Security Administration
P.O. Box 808, L-871
Livermore, California 94551

Pursuant to California Health and Safety Code section 25200, this Resource Conservation and Recovery Act (RCRA)-equivalent Hazardous Waste Facility Permit is hereby issued to: Lawrence Livermore National Security, LLC/Lawrence Livermore National Laboratory and the United States Department of Energy.

The Issuance of this Permit is subject to the terms and conditions set forth in Attachment A and the Part "B" Application (Operation Plan) dated October 2007. The Attachment A consists of 39 pages.

Raymond Leclerc, Team Leader
Permit Renewal Team
Department of Toxic Substances Control

Date: _____

DRAFT HAZARDOUS WASTE FACILITY PERMIT

ATTACHMENT "A"

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PART I. DEFINITIONS

All terms used in this Permit shall have the same meaning as those terms have in the California Health and Safety Code, division 20, chapter 6.5 and California Code of Regulations, title 22, division 4.5, unless expressly provided otherwise by this Permit.

1. **“DTSC”** as used in this Permit means the California Department of Toxic Substances Control.
2. **“Explosives waste”** as used in this permit means reactive hazardous waste as defined in California Code of Regulations, title 22, section 66261.23(a) (6) and (7), including explosives-containing process waste sludge, explosives-contaminated packaging, and explosives-contaminated laboratory waste.
3. **“Facility”** as used in this Permit means all contiguous land and structures, other appurtenances, and improvements on the land used for the treatment, transfer, storage resource recovery, disposal or recycling of hazardous waste. A hazardous waste facility may consist of one or more treatment, transfer, storage, resource recovery, disposal or recycling operational units or combinations of these units.

For the purpose of implementing corrective action under California Code of Regulations, title 22, division 4.5, a hazardous waste facility includes all contiguous property under the control of the owner or operator required to implement corrective action.

4. **“Permittee”** as used in this Permit means the Owner and Operator.
5. **“RCRA”** as used in this Permit means the Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.).

PART II. DESCRIPTION OF THE FACILITY AND OWNERSHIP

1. **Owner of Facility:** The owner of the Lawrence Livermore National Laboratory (LLNL) Site 300 (Facility) is the United States Department of Energy, National Nuclear Security Administration, Livermore Site Office, P.O. Box 808, L-293 Livermore, California 94551-0808.
2. **Owner of Real Property:** The owner of the real property where the Facility is located is the United States Department of Energy, National Nuclear Security Administration, Livermore Site Office, P.O. Box 808, L-293 Livermore, California 94551-0808.
3. **Operator of Facility:** The Facility operators are the Lawrence Livermore National Security, LLC, Lawrence Livermore National Laboratory (LLNL); and the United States Department of Energy, National Nuclear Security Administration, Livermore Site Office, P.O. Box 808, L-293, Livermore, California 94551-0808.
4. **Location:** The Facility is located 15 miles southeast of the LLNL Main Site and two miles northeast of the City of Tracy, California (Figure 1). Latitude: 37° 39' 30", Longitude 121° 32' 30". The Facility comprises approximately 7,000 acres. About one-sixth of the Facility lies in Alameda County; the remainder, including all units covered by this Permit is located in San Joaquin County. The nearest urban area is the City of Tracy, California. The Facility is located outside the Tracy city limits.
5. **Description of Facility Operations:** The Facility is primarily an explosives test facility that supports the LLNL weapons program in research, development, and testing associated with non-nuclear weapons components. The Facility's operations include chemical formulation of explosives; machining explosive charges; and assembling machined charges before they are sent to the on-site test firing facilities. Hazardous waste generated from these activities is sent to the onsite waste management facilities for treatment, packaging, or storage, and eventual shipment to an off-site disposal facility. In addition to accepting on-site generated hazardous waste, the Facility also accepts explosives waste from the LLNL Main Site (EPA Identification Number CA2890012584) for storage, treatment, and offsite final disposal.
6. **Facility History:** The Facility was established by the Department of Energy and the University of California in 1955 as an experimental test site for explosives testing. Prior to 1992, the Facility operated the B829 High Explosives Burn Pits (B829) and B883 Container Storage Area (B883) under Interim Status granted by the United States Environmental Protection Agency (USEPA). In 1993, DTSC issued an order requiring the closure of B829 and the submittal of a RCRA Hazardous Waste Facility Permit (HWFP) application for the Explosive Waste Treatment Facility (EWTF). Closure of B829 was completed in 1998; and DTSC accepted the closure certification report and called in a post-closure permit

application in 1999. A post-closure permit for B829 was issued by DTSC in 2003. In 1996, DTSC issued a HWFP for the operation of the Explosive Waste Storage Facility (EWSF) and B883. In 1997, DTSC issued a second HWFP for the operation of the EWTF. In 2005, the Facility submitted a consolidated permit renewal application for B883, EWSF and EWTF.

7. Facility Size and Type for Fee Purposes

The Facility is categorized as a small treatment and storage facility pursuant to Health and Safety Code section 25205.1 and for purposes of Health and Safety Code sections 25205.2 and 25205.19.

PART III. GENERAL CONDITIONS

1. PERMIT APPLICATION DOCUMENTS

The Part "A" Application dated October 2007 and the Part "B" Application titled, "Part B Permit Application for Hazardous Waste Treatment and Storage Facilities LLNL Site 300," dated October 2007 (Operation Plan), are hereby made a part of this Permit by reference.

2. EFFECT OF PERMIT

- (a) The Permittee shall comply with the terms and conditions of this Permit and the provisions of the Health and Safety Code and California Code of Regulations (Cal. Code Regs.), title 22, division 4.5. The issuance of this Permit by DTSC does not release the Permittee from any liability or duty imposed by federal or state statutes or regulations or local ordinances, except the obligation to obtain this Permit. The Permittee shall obtain the permits required by other governmental agencies, including but not limited to, those required by the applicable land use planning, zoning, hazardous waste, air quality, water quality, and solid waste management laws for the construction and/or operation of the Facility.
- (b) The Permittee is permitted to treat and store hazardous wastes in accordance with the terms and conditions of this Permit. Any management of hazardous wastes not specifically authorized in this Permit is strictly prohibited.
- (c) Compliance with the terms and conditions of this Permit does not constitute a defense to any action brought under any other law governing protection of public health or the environment, including, but not limited to, one brought for any imminent and substantial endangerment to human health or the environment.
- (d) DTSC's issuance of this Permit does not prevent DTSC from adopting or amending regulations that impose additional or more stringent requirements than those in existence at the time this Permit is issued and does not prevent the enforcement of these requirements against the Permittee.
- (e) Failure to comply with any term or condition set forth in this Permit in the time or manner specified herein is grounds for revocation of this Permit (Cal. Code Regs., tit. 22, §66270.43), and will subject the Permittee to enforcement action and penalties pursuant to Health and Safety Code sections 25187 and 25189.2(b).

- (f) Failure to submit any information or document required in connection with the Permit, or falsification or misrepresentation of any submitted information or document is grounds for revocation of this Permit (Cal. Code Regs., tit. 22, §66270.43), and will subject the Permittee to enforcement action and penalties pursuant to Health and Safety Code sections 25187 and 25189.2(a).
- (g) In case of conflicts between the Operation Plan and the Permit, the Permit conditions take precedence.
- (h) This Permit includes and incorporates by reference any conditions of waste discharge requirements issued to the Facility by the State Water Resources Control Board or any of the California Regional Water Quality Control Boards and any conditions imposed pursuant to section 13227 of the Water Code.

3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

A draft Negative Declaration has been prepared in accordance with the requirements of Public Resources Code section 21000 et seq. and the CEQA Guidelines, section 15070 et seq. of California Code of Regulations, title 14.

4. ACCESS

- (a) DTSC, its contractors, employees, agents, and/or any United States Environmental Protection Agency representatives are authorized to enter and freely move about the Facility for the purposes of interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts relating to the Facility; reviewing progress of the Permittee in carrying out the terms of Part VI of the Permit; conducting such testing, sampling, or monitoring as DTSC deems necessary; using a camera, sound recording, or other documentary-type equipment; verifying the reports and data submitted to DTSC by the Permittee; or confirming any other aspect of compliance with this Permit, Health and Safety Code, division 20, chapter 6.5, and California Code of Regulations, title 22, division 4.5. The Permittee shall provide DTSC and its representatives access at all reasonable times to the Facility and any other property to which access is required for implementation of any provision of this Permit, Health and Safety Code, division 20, chapter 6.5, and California Code of Regulations, title 22, division 4.5, and shall allow such persons to inspect and copy all records, files, photographs, documents, including all sampling and monitoring data, that pertain to work undertaken pursuant the entire Permit or undertake any other activity necessary to determine compliance with applicable requirements.

- (b) Nothing in this Permit shall limit or otherwise affect DTSC's right to access and entry pursuant to any applicable State or federal laws and regulations.

PART IV. PERMITTED UNITS AND ACTIVITIES

This Permit authorizes operation only of the facility units and activities listed below. The Permittee shall not treat, store or otherwise manage hazardous waste in any unit other than those specified in this Part IV. Any modifications to a unit or activity authorized by this Permit require the written approval of DTSC in accordance with the permit modification procedures set forth in California Code of Regulations, title 22, division 4.5.

UNIT #1

UNIT NAME:

Open Burn Cage

LOCATION:

The Open Burn Cage is located within the Explosives Waste Treatment Facility in the central portion of the Facility (Figures 2 and 3).

ACTIVITY TYPE:

Thermal treatment of explosives waste by open burning

ACTIVITY DESCRIPTION:

Explosives-contaminated debris (e.g., explosives-containing process waste sludge, explosives-contaminated packaging, and explosives-contaminated laboratory waste including personal protective equipment) are placed inside the Open Burn Cage. When ready for treatment, the unit operator closes access door in order to secure the waste inside the cage, and then starts the burning process by igniting the propane burners from a remote location (Building 845A). Upon completion of the treatment and after 24 hours of cooling time, the treatment residue (ash) is collected and removed for storage prior to disposal. If any explosives residual is left, a re-burn will be done before any collection of treatment residue.

PHYSICAL DESCRIPTION:

This Unit consists of a ventilated metal enclosure that is eight feet in diameter and eight feet high, with a refractory liner. This unit is installed on an elevated metal base on a concrete pad. Propane fuel from a protected supply tank is piped to the Unit and is used to aid in the combustion process.

MAXIMUM CAPACITY:

The maximum permitted treatment capacity for this Unit is 260 pounds (118 kilogram (kg)) of total waste or 50 pounds (23 kg) of net explosive waste per day/event.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and from the LLNL Main Site.

WASTE TYPES:

Explosive Waste identified as Form 3 and Form 4 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, F002, F003, F005, K044, K045, K046, K047

CALIFORNIA HAZARDOUS WASTE CODES:

352, 405, 491

UNIT-SPECIFIC SPECIAL CONDITIONS:

1. The Permittee shall not store hazardous waste in this Unit.
2. The Permittee shall not conduct more than 100 open burn events per year.
3. Open burning in this Unit shall be conducted in accordance with all the requirements issued by San Joaquin Valley Air Pollution Control District.
4. Open burning in this Unit shall not commence before sunrise or after sunset.
5. The Permittee shall wait at least 24 hours following a burn event to remove any treatment residue.

UNIT #2

UNIT NAME:

Open Burn Pan

LOCATION:

The Open Burn Pan is located within the Explosives Waste Treatment Facility adjacent to the Open Burn Cage in the central portion of the Facility (Figures 2 and 3).

ACTIVITY TYPE:

Thermal treatment of explosives waste by open burning

ACTIVITY DESCRIPTION:

Pieces, powders, pastes, absorbed liquids, and small assemblies of explosives waste

derived from pure materials or formulated products (generally containing 80 to 100% explosive material) that will not detonate during the open burning are placed on the pan on a layer of straw or paper to facilitate burning of the waste. Combustible material (e.g., Kerosene) may be used to facilitate the ignition and burning of the explosives waste. When ready for treatment, the unit operator starts the burning process by remotely igniting the waste from Building 845A. The pan cover is then placed over the burn pan after the treatment has been completed. Upon completion of the treatment and after 24 hours of cooling time, the treatment residue is collected and removed for storage prior to disposal. If any explosives residue is left, a re-burn will be completed before any residue is collected. In addition to treatment of explosives waste, an area between the Open Burn Pan and Open Burn Cage has been set up for decontaminating process equipment that may contain some explosives residue. The area is equipped with a steel plate foundation upon which process equipment is placed. The decontamination is accomplished by flashing the equipment with a torch.

PHYSICAL DESCRIPTION:

This Unit consists of a rectangular welded steel, water tight metal burn pan measuring four feet by eight feet and six inches deep, mounted on steel legs. The pan is equipped with a remotely controlled steel cover.

MAXIMUM CAPACITY:

The maximum permitted treatment capacity for this Unit is 100 pounds (45 kg) of explosives waste per day/event.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and from the LLNL Main Site.

WASTE TYPES:

Explosives Waste identified as Form 2 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

331, 352, 405, 491, 551

UNIT-SPECIFIC SPECIAL CONDITIONS:

1. The Permittee shall not store hazardous waste in this unit.

2. The Permittee shall not conduct more than 100 open burn events per year.
3. Open burning in this unit shall be conducted in accordance with all the requirements issued by San Joaquin Valley Air Pollution Control District.
4. Open burning in this Unit shall not commence before sunrise or after sunset.
5. The Permittee shall wait at least 24 hours following a burn event to remove any treatment residue.

UNIT #3

UNIT NAME:

Open Detonation Pad

LOCATION:

The Open Detonation Pad is located within the Explosives Waste Treatment Facility in the central portion of the Facility (Figures 2 and 3).

ACTIVITY TYPE:

Thermal treatment of explosives waste by open detonation

ACTIVITY DESCRIPTION:

This Unit is used for treatment of explosives waste that generally contains 90 to 100% explosive material which can not be safely treated by open burning. Small amounts of explosives waste are staged on the Detonation Pad, and then remotely detonated from Building 845A bunker, using detonators or other initiating devices.

PHYSICAL DESCRIPTION:

This Unit consists of a level gravel pad, measuring 30 feet by 30 feet by eight feet deep gravel pack.

MAXIMUM CAPACITY:

The maximum permitted treatment capacity is 350 pounds per day/event.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and the LLNL Main Site.

WASTE TYPES:

Explosives Waste identified as Form 1 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

331, 352

UNIT-SPECIFIC SPECIAL CONDITIONS:

1. The Permittee shall not store hazardous waste in this Unit.
2. The Permittee shall not conduct more than 100 open detonation events per year.
3. Open detonation in this Unit shall be conducted in accordance with all the requirements issued by San Joaquin Valley Air Pollution Control District.
4. Open detonation in this Unit shall not commence before sunrise or after sunset.
5. The Permittee shall wait at least 24 hours following a burn event to remove any treatment residue.

UNIT #4

UNIT NAME:

Explosives Waste Treatment Residue Storage Unit – Open Burn.

LOCATION:

This Unit is located adjacent to the Open Burn Cage and Open Burn Pan in the southern portion of the Facility (Figures 2 and 3).

ACTIVITY TYPE:

Storage in containers

ACTIVITY DESCRIPTION:

This Unit is used for storage of treatment residue from the Open Burn Cage and Open Burn Pan.

PHYSICAL DESCRIPTION:

This Unit is a prefabricated metal chemical storage cabinet with integrated secondary containment.

MAXIMUM CAPACITY:

The maximum permitted storage capacity is 275 gallons.

WASTE SOURCES:

Treatment residue from the Open Burn Cage and Open Burn Pan.

WASTE TYPES:

Residue ash from explosives waste identified as Form 2, Form 3 and Form 4 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

352

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

1. This Unit shall be kept closed and locked except when in use.
2. Hazard signage along with emergency contact name and phone number shall be maintained on the front of the Unit and shall be visible from at least 10 feet.
3. The largest allowable container size shall not exceed 55 gallons.
4. The Permittee shall only use this unit to store treatment residue generated from the Open Burn Cage (Unit #1) and the Open Burn Pit (Unit #2).

UNIT #5

UNIT NAME:

Explosive Waste Treatment Residue Storage Unit – Open Detonation.

LOCATION:

This Unit is located adjacent to the Open Detonation Unit in the southern portion of the Facility (Figures 2 and 3).

ACTIVITY TYPE:

Storage in containers

ACTIVITY DESCRIPTION:

This Unit is used for storage of treatment residue from the Open Detonation Unit.

PHYSICAL DESCRIPTION:

This Unit is a prefabricated plastic cabinet with integrated secondary containment.

MAXIMUM CAPACITY:

The maximum permitted storage capacity is 110 gallons.

WASTE SOURCES:

Treatment residue from the Open Detonation Unit.

WASTE TYPES:

Residue ash from treated explosive waste identified as Form 1 in Table 3 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

352

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

1. This Unit shall be kept closed and locked except when in use.
2. Hazard signage along with emergency contact name and phone number shall be maintained on the front of the Unit and shall be visible from at least 10 feet.
3. The largest allowable container size shall not exceed 55 gallons.
4. The Permittee shall only use this Unit to store treatment residue generated from the Open Detonation Pad (Unit #3).

UNIT #6

UNIT NAME:

Magazine 2 (M2)

LOCATION:

This Unit is located with the Explosives Waste Storage Facility in the southern portion of the Facility (Figures 2 and 4).

ACTIVITY TYPE:

Storage in containers

ACTIVITY DESCRIPTION:

Storage of explosives waste such as damp fines from machining and processing operations, wet filters, cased explosives, fabricated parts, pastes, powders, explosive liquids and explosive liquids absorbed onto sawdust. The explosives waste is contained in plastic bags and stored in rigid plastic containers, tubs, or in United States Department of Transportation (US DOT)-compliant packaging.

PHYSICAL DESCRIPTION:

Magazines 2 is a semi-cylindrical, corrugated metal structure overlain with two feet and six inches of earth. The floor is one foot and 10 inch thick reinforced concrete and is covered with a non-conducting, non-sparking membrane. The inside floor measures 21 feet and 10 inches by 15 feet and five inches. The ceilings at the highest point measures nine feet and two inches. The storage area has a vault door constructed of two ¼ inch steel plates with four inches of fiberglass insulation between them. Inside, the magazine has two rows of steel frame plywood shelving. This magazine also has a row of freestanding plywood shelves in the center of the room. Wastes are stored on the shelves or elevated on pallets or skids. There are no floor drains.

MAXIMUM CAPACITY:

The maximum permitted storage capacity is 3209 pounds.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and from the LLNL Main Site.

WASTE TYPES:

Explosive Waste identified as Form 1, Form 2 and Form 3 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, K044, K045, K046, K047, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

331, 352, 491, 551

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

The largest allowable container size shall not exceed 55 gallons.

UNIT #7

UNIT NAME:

Magazine 3 (M3)

LOCATION:

This Unit is located within the Explosives Waste Storage Facility in the southern portion of the Facility (Figures 2 and 4).

ACTIVITY TYPE:

Storage in containers of explosives waste such as damp fines from machining and processing operations, wet filters, cased explosives, fabricated parts, pastes, powders, explosive liquids and explosive liquids absorbed onto sawdust. The explosives waste is contained in plastic bags and stored in rigid plastic containers, tubs, or in US DOT-compliant packaging.

PHYSICAL DESCRIPTION:

Magazine 3 is a rectangular steel reinforced concrete building. The floor is 10" thick reinforced concrete covered with a non-conducting, non-sparking membrane. The inside floor measures 10 feet and eight inches by nine feet and six inches. The inside

ceiling measures nine feet and nine inches above the floor. The front wall is constructed of one foot thick reinforced concrete. The remaining reinforced concrete walls and roof are 10" thick and are covered with three feet of earth. The door is constructed of two ¼ inch steel plates with four inches of fiberglass insulation between them. Two screened metal louvers in front and a 12-inch pipe at the rear provide ventilation for the magazine. Inside, the magazine has two rows of steel frame plywood shelving. Wastes are stored on the shelves or elevated on pallets or skids. This Unit has no floor drain.

MAXIMUM CAPACITY:

The maximum permitted storage capacity is 5592 pounds.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and from the LLNL Main Site.

WASTE TYPES:

Explosive Waste identified as Form 1, Form 2 and Form 3 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, K044, K045, K046, K047, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

331, 352, 491, 551

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

The largest allowable container size shall not exceed 55 gallons.

Unit #8

UNIT NAME:

Magazine 4 (M4)

LOCATION:

This Unit is located with the Explosives Waste Storage Facility in the southern portion of the Facility (Figures 2 and 4).

ACTIVITY TYPE:

Storage in containers

ACTIVITY DESCRIPTION:

Storage of explosives waste such as damp fines from machining and processing operations, wet filters, cased explosives, fabricated parts, pastes, powders, explosive liquids and explosive liquids absorbed onto sawdust. The explosives waste is contained in plastic bags and stored in rigid plastic containers and tubs or in DOT-compliant packaging.

PHYSICAL DESCRIPTION:

Magazine 4 is a rectangular steel reinforced concrete building. The floor is 10" thick reinforced concrete covered with a non-conducting, non-sparking membrane. The inside floor measures 10 feet and eight inches by nine feet and six inches. The inside ceiling measures nine feet and nine inches above the floor. The front wall is constructed of one foot thick reinforced concrete. The remaining reinforced concrete walls and roof are 10" thick and are covered with three feet of earth. The door is constructed of two ¼ inch steel plates with four inches of fiberglass insulation between them. Two screened metal louvers in front and a 12-inch pipe at the rear provide ventilation for the magazine. Inside, the magazines have two rows of steel frame plywood shelving. Wastes are stored on the shelves or elevated on pallets or skids. This Unit has no floor drain.

MAXIMUM CAPACITY:

The maximum permitted storage capacity for this Unit is 4291 pounds.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and from the LLNL Main Site.

WASTE TYPES:

Explosive Waste identified in Form 1, Form 2 and Form 3 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, K044, K045, K046, K047, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

331, 352, 491, 551

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

The largest allowable container size shall not exceed 55 gallons.

Unit #9

UNIT NAME:

Magazine 5 (M5)

LOCATION:

This Unit is located within the Explosives Waste Storage Facility in the southern portion of the Facility (Figures 2 and 4).

ACTIVITY TYPE:

Storage in container

ACTIVITY DESCRIPTION:

Storage of explosives waste such as damp fines from machining and processing operations, wet filters, cased explosives, fabricated parts, pastes, powders, explosive liquids and explosive liquids absorbed onto sawdust. The explosives waste is contained in plastic bags and stored in rigid plastic containers and tubs or in DOT-compliant packaging.

PHYSICAL DESCRIPTION:

Magazines 5 is a semi-cylindrical, corrugated metal structure overlain with two feet and six inches of earth. The floor is one foot and 10 inch thick reinforced concrete and is covered with a non-conducting, non-sparking membrane. The floor measures 15 feet

by 10 feet. The ceiling measures seven feet and eight inches at the highest point. The storage area has vault doors constructed of two ¼ inch steel plates with four inches of fiberglass insulation between them. Inside, the magazine has two rows of steel frame plywood shelving. Wastes are stored on the shelves or elevated on pallets or skids. There are no floor drains.

MAXIMUM CAPACITY:

The maximum permitted storage capacity for this Unit is 2744 pounds.

WASTE SOURCES:

Explosives waste from waste generator areas at the Facility and from the LLNL Main Site.

WASTE TYPES:

Explosive Waste identified as Form 1, Form 2 and Form 3 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, K044, K045, K046, K047, P081, P112, U117, U234

CALIFORNIA HAZARDOUS WASTE CODES:

331, 352, 491, 551

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

The largest allowable container size shall not exceed 55 gallons.

UNIT #10

UNIT NAME:

Magazine 816 (M816)

LOCATION:

This Unit is located with the Explosives Waste Storage Facility in the southern portion of the Facility (Figures 2 and 4).

ACTIVITY TYPE:

Storage in containers

ACTIVITY DESCRIPTION:

Storage of explosives-contaminated paper, wipes, filters, plastic, rubber, wood, cotton, tubing, personal protective equipment, wet wipes and laboratory trash. The explosives waste is contained in plastic bags and stored in 55-gallon drums.

PHYSICAL DESCRIPTION:

Magazine #816 is a prefabricated metal building measuring 27 feet by 38 feet. The floor is six inches of reinforced concrete with spread type footings around the perimeter. The ceiling ranges from seven feet to 12 feet. Two roof vents provide ventilation. Containers are elevated on pallets or skids to prevent contact with potential surface liquids. This Unit has no floor drain.

MAXIMUM CAPACITY:

The maximum permitted storage capacity for this Unit is 9240 gallons.

WASTE SOURCES:

Explosives waste from waste generator areas at this Facility and the LLNL Main Site.

WASTE TYPES:

Explosive Waste identified as Form 4 in Table 1 of this Permit.

RCRA HAZARDOUS WASTE CODES:

D003, F002, F003, F005

CALIFORNIA HAZARDOUS WASTE CODES:

352

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

The largest allowable container size shall not exceed 55 gallons.

UNIT #11

UNIT NAME:

Building 883 (B883) Container Storage Area (CSA).

LOCATION:

The Unit is located on the southeast corner of the Facility (Figures 2 and 5).

ACTIVITY TYPE:

Storage in containers

ACTIVITY DESCRIPTION:

This Unit is used for storage of hazardous waste. Ignitable waste is stored in the designated chemical storage locker.

PHYSICAL DESCRIPTION:

This Unit consists of a concrete pad surrounded by a slat fence and covered by a galvanized tin roof. The floor measures 49 feet by 34 feet. The floor consists of two six-inch thick slabs. The base slab is continuously poured. The top slab is poured in sections with a polyvinyl water stop between the sections. The concrete pad is covered with an impermeable coating. A curb with a minimum height of six inches surrounds the pad to form secondary containment. The floor is sloped towards a sump that measures two feet by three feet by 10 inches deep, and is located in the southwest corner of the storage area.

MAXIMUM CAPACITY:

The maximum permitted storage capacity for this Unit is 5500 gallons, including a maximum of six 55-gallon drums in the chemical storage locker.

WASTE SOURCES:

Hazardous waste from waste generator areas at this Facility

WASTE TYPES:

See Table 4

RCRA HAZARDOUS WASTE CODES:

D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D015, D016, D018, D019, D022, D028, D029, D030, D031, D035, D038, D039, D040, F001, F002, F003, F005, F006, F007, F008, F009, F010, F025, F028, F039, P002, P015, P105, P106, U025, U117, U144, U196, U234

CALIFORNIA HAZARDOUS WASTE CODES:

121, 122, 123, 131, 132, 134, 135, 141, 151, 171, 172, 181, 211, 212, 213, 214, 221, 223, 232, 251, 252, 261, 271, 272, 281, 291, 322, 331, 341, 342, 343, 351, 352, 372, 421, 441, 451, 461, 491, 512, 513, 521, 541, 551, 571, 611, 711, 721, 722, 723, 724, 725, 726, 727, 728, 731, 741, 751, 791, 792, 801

AIR EMISSION STANDARDS

This Unit is subject to the applicable requirements of California Code of Regulations, title 22, division 4.5, chapter 14, article 28.5.

UNIT-SPECIFIC SPECIAL CONDITIONS:

1. The largest container size stored in this Unit shall not exceed 1110 gallons.
2. None of the 55-gallon containers shall be stacked more than two containers high.
3. Incompatible hazardous wastes shall be segregated and shall be stored within separate secondary containment systems.
4. The Permittee shall not store any explosives waste in this Unit.

PART V. SPECIAL CONDITIONS

1. The Permittee shall not store, treat or manage radioactive wastes or hazardous wastes containing radioactive waste or constituents (mixed waste) at the Facility.
2. The Permittee shall not receive any hazardous waste from off-site facilities or locations, with the exception noted in Section 3 below.
3. The Permittee may receive only explosives waste from LLNL Main Site (EPA ID No. CA2890012584) by ground transportation for the purpose of storage and treatment as authorized by this Permit.
4. The Permittee shall label all hazardous waste containers in accordance with California Code of Regulations, title 22, section 66262.34(f); and the label shall clearly indicate the name and address of the waste generator, including LLNL Main Site.
5. The Permittee shall clearly mark containers of explosives waste with the compatibility group designation letter as specified in Table 2 of this Permit and shall keep the containers segregated and stored in accordance with Table 3 of this Permit.
6. The Permittee shall keep Group L waste comprising of ammunition waste as described in Table 2 of this Permit segregated and stored separately from other explosives wastes.
7. The Permittee shall maintain a minimum of 30 inches of aisle space between rows of storage containers at all times.
8. A container holding explosives waste shall not be stacked on top of any other container.
9. Within four months from the effective date of this Permit, the Permittee shall implement the Soil Sampling Plan (Soil Sampling Plan) that was submitted in support of the Human Health and Ecological Risk Assessment dated October 2007.
10. The Permittee shall submit for DTSC's approval, at least 30 days prior to implementing the Soil Sampling Plan, the laboratory Method Detection Limit and Reporting Limit for each of the chemicals of potential ecological concern identified in the Soil Sampling Plan.
11. The Permittee shall implement another soil sampling event five years from the effective date of this Permit, or as required by DTSC. The sampling event shall be conducted in accordance with the Soil Sampling Plan, or any subsequent revision approved by DTSC.

12. The Permittee shall submit for DTSC's approval, within 90 days from completing each sampling event, a summary report of the soil sampling and analysis. At a minimum, the report shall include:
 - Executive summary, including objectives and conclusions;
 - supporting laboratory report of analytical data;
 - discussion of any change in soil chemical concentrations; and;
 - comparison of soil chemical concentrations to the Ecological Soil;
 - Screening Levels identified in the HHERA, and to the referenced soil data.
13. The Permittee shall submit for DTSC's approval a revised Soil Sampling Plan within 60 days of the summary report, if variability between individual constituents of concern at sample locations downwind of the burn units and detonation pad is greater than 20%. The revision shall include a proposal for additional soil samples and rationale.
14. The Permittee is prohibited from conducting any hazardous waste transfer, storage, treatment or other management activity unless it is specifically described in this Permit or otherwise authorized by DTSC.
15. Except as otherwise specified in this Permit, the Permittee shall not store hazardous waste in excess of one calendar year from the date the hazardous waste arrives at the Facility.
16. In the event that any cracks, gaps or tears are detected in a hazardous waste management unit or a secondary containment or device, repairs shall be initiated as soon as possible and completed within one week of discovery of the problem. The Permittee shall notify DTSC within 24 hours whenever a crack, gap or tear is found. Within seven days of discovery of the problem, the Permittee shall notify DTSC in writing of the corrective measures that have been taken.
17. Containers holding hazardous wastes shall be stored only in the authorized areas designated in Part IV of this Permit. Any non-hazardous waste that is stored in a designated hazardous waste storage area as provided by this Permit shall be subject to the conditions of this Permit, including volume calculations, compatibility and inspections.
18. All rainwater and washwater accumulated at the Facility shall be collected, tested, and managed in accordance with any Waste Discharge Requirements issued by the California Regional Water Quality Control Board or managed as hazardous waste.
19. The Facility shall not be a designated Treatment, Storage, or Disposal Facility on the manifests for any exempt transfer activities conducted pursuant to California Code of Regulations, title 22, section 66263.18.

20. For the purpose of calculating the permitted maximum capacity limitations for storage and for secondary containment, all containers in the authorized units are assumed to be full, and all hazardous waste that is stored or located in an authorized unit shall be included in the calculation for that unit, including any hazardous waste that is covered by the transfer facility exemption under California Code of Regulations, title 22, section 66263.18.

PART VI - CORRECTIVE ACTION

1. The Permittee shall conduct corrective action at the Facility pursuant to Health and Safety Code sections 25187 and 25200.10. Corrective action shall be carried out pursuant to the Federal Facility Agreement (FFA) entered into by USEPA, United States Department of Energy (DOE)/LLNL, DTSC and the California Regional Water Quality Control Board on or about June 29, 1992 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 120. Section VII of the FFA provides that the parties intend to integrate the Permittee's CERCLA response obligations and RCRA corrective action obligations which relate to the releases of hazardous substances and hazardous wastes; and the parties further intend that remedial action satisfactorily implemented under the FFA shall obviate the need for further corrective action under RCRA with respect to those releases. However, DTSC reserves its right to require the Permittee to comply with additional corrective action requirements should the remedial action implemented under the FFA be deemed insufficient or inadequate for the protection of the environment or health health.
2. To the extent that work being performed pursuant to Part VI of the Permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain access agreements necessary to complete work required by this Part of the Permit from the present owner(s) of such property within 30 days of approval of any workplan for which access is required. "Best efforts" as used in this paragraph shall include, at a minimum, a certified letter from the Permittee to the present owner(s) of such property requesting access agreement(s) to allow the Permittee and DTSC and its authorized representatives access to such property and the payment of reasonable sums of money in consideration of granting access. The Permittee shall provide DTSC with a copy of any access agreement(s). In the event that agreements for the access are not obtained within 30 days of approval of any workplan for which access is required, or of the date that the need for access becomes known to the Permittee, the Permittee shall notify DTSC in writing within 14 days thereafter regarding both efforts undertaken to obtain access and its failure to obtain such agreements. In the event DTSC obtains access, the Permittee shall undertake approved work on such property. If there is any conflict between this permit condition on access and the access requirements in any agreement entered into between DTSC and the Permittee, this permit condition on access shall govern.
3. Nothing in Part VI of the Permit shall be construed to limit or otherwise affect the Permittee's liability and obligation to perform corrective action including corrective action beyond the facility boundary, notwithstanding the lack of access. DTSC may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

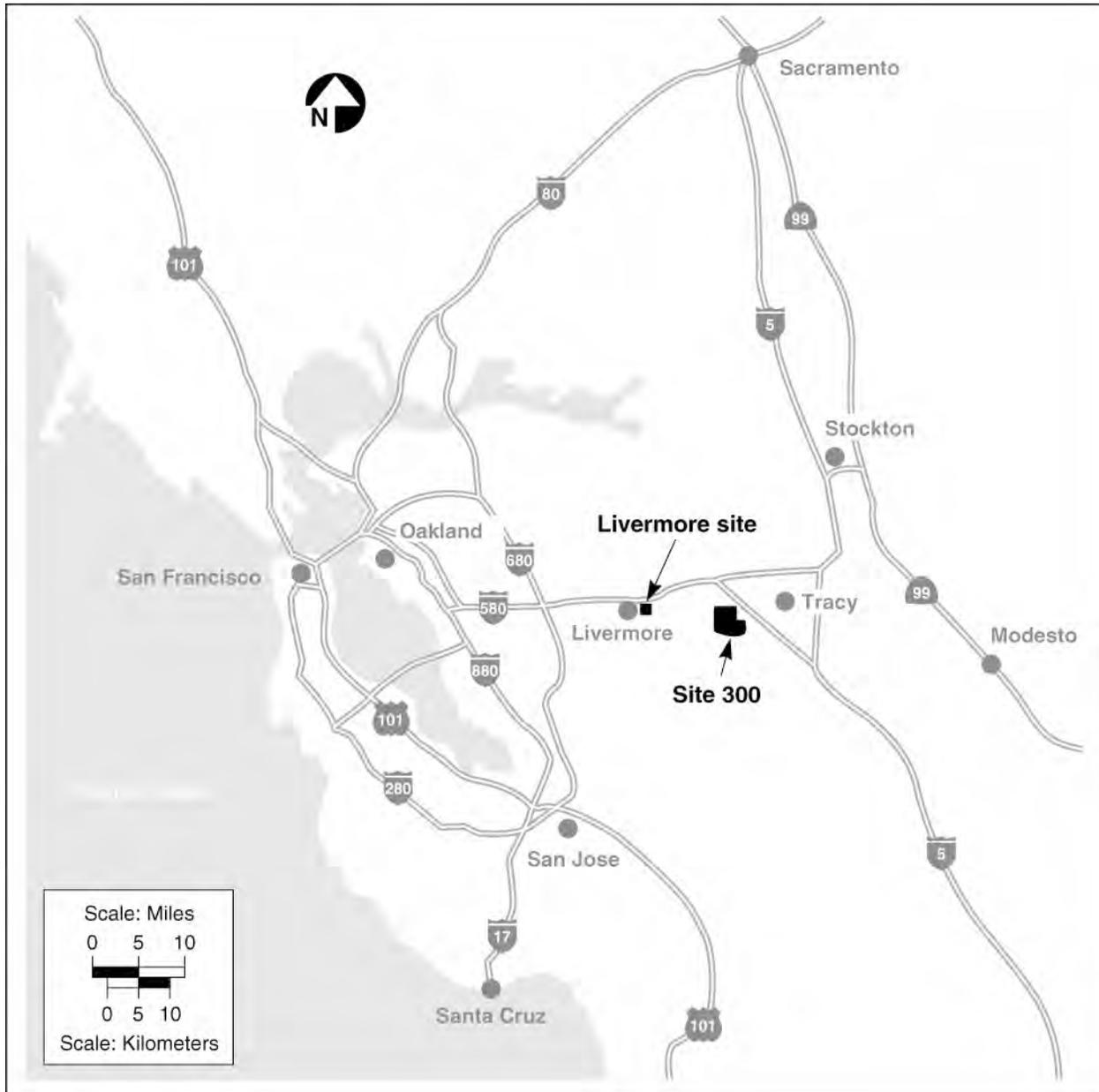


Figure 1 – Facility Location and Regional Map

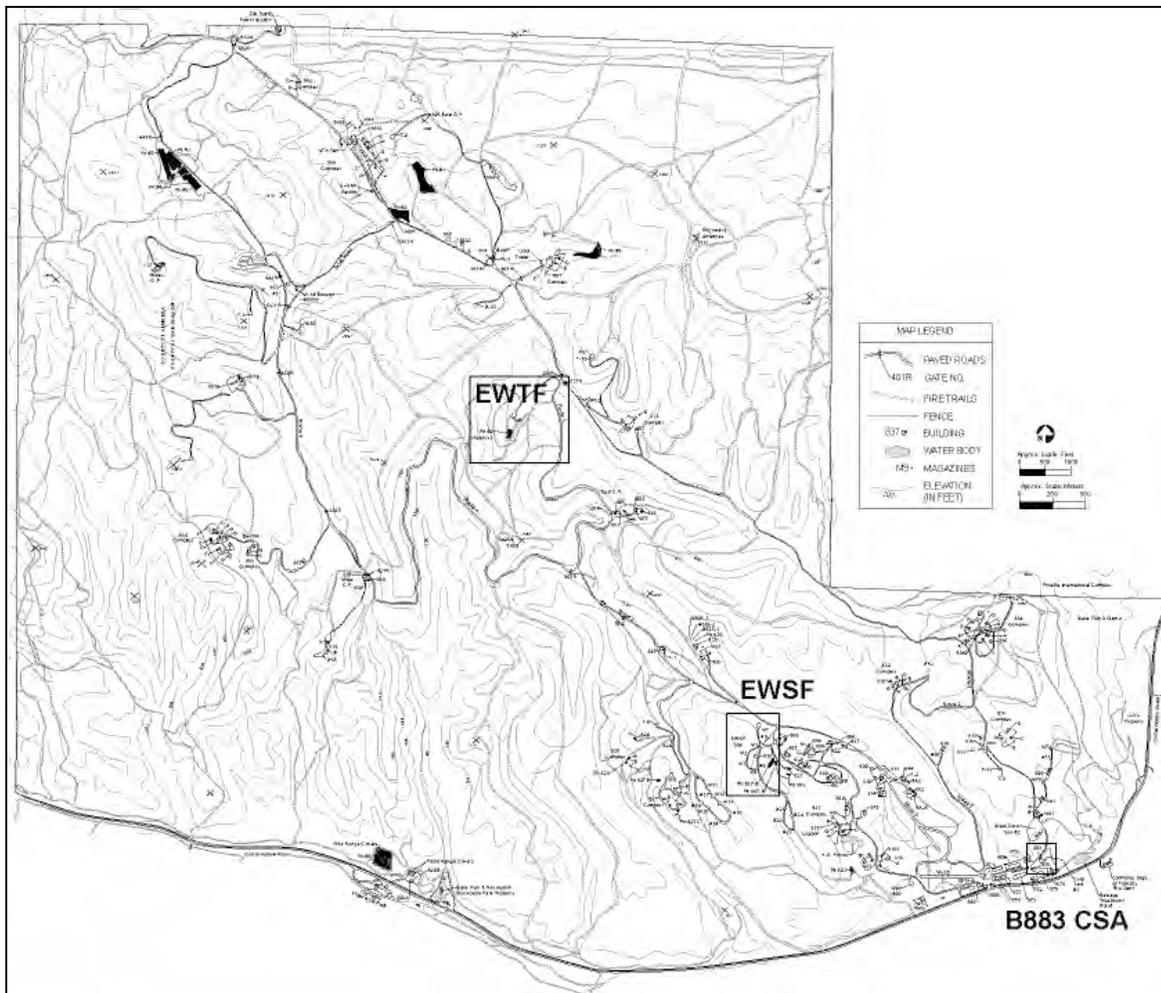


Figure 2 – Location of Hazardous Waste Management Units

B883 CSA – Building 883 Container Storage Area
EWSF – Explosive Waste Storage Facilities
EWTF – Explosive Waste Treatment Facilities

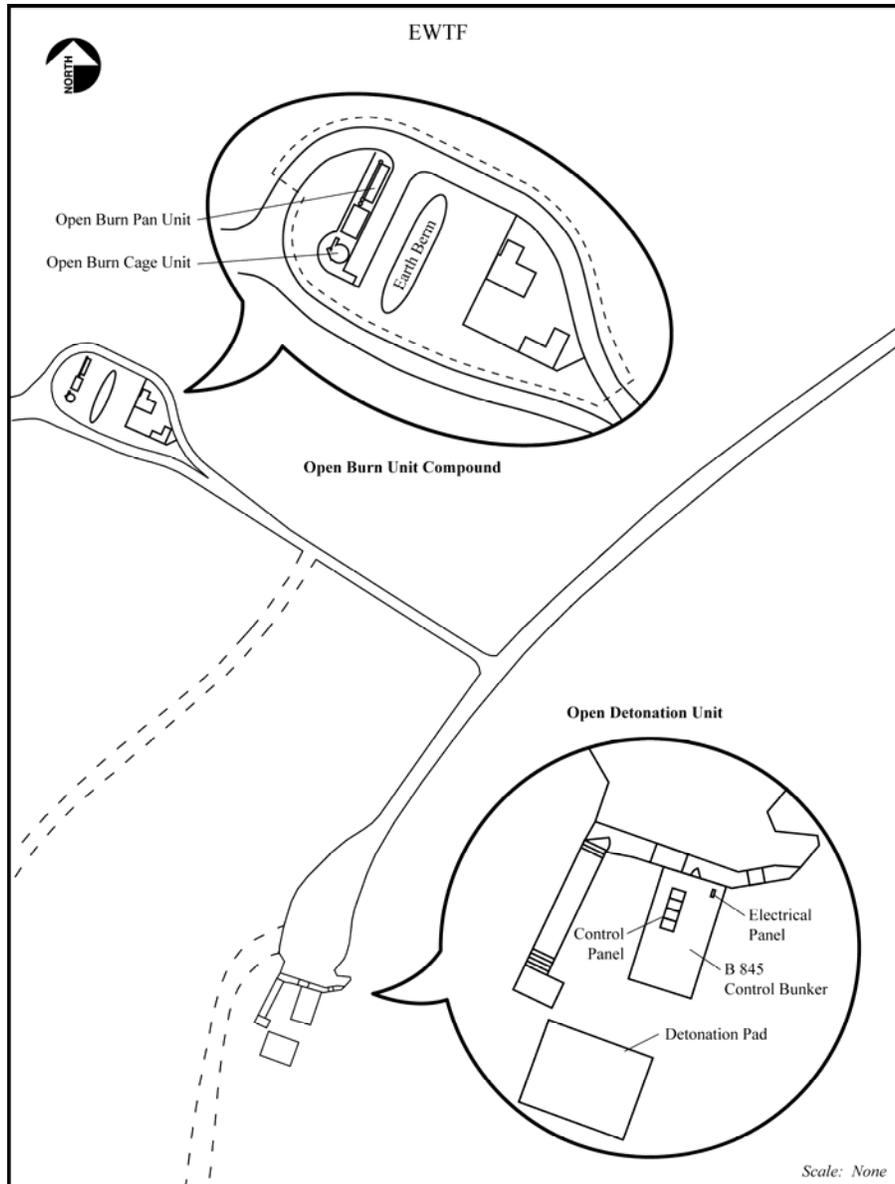
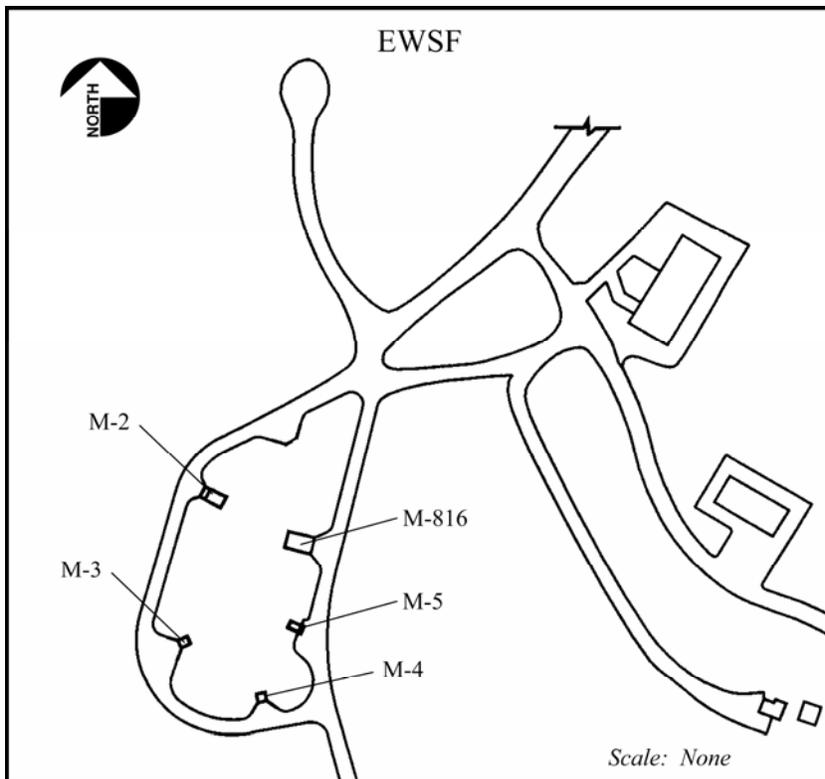


Figure 3 - Explosive Waste Treatment Units
Open-Burn Pan
Open-Burn Cage
Open-Detonation Pad



**Figure 4 – Explosive Waste Storage Units
M-2, M-3, M-4, M-5, M-816**

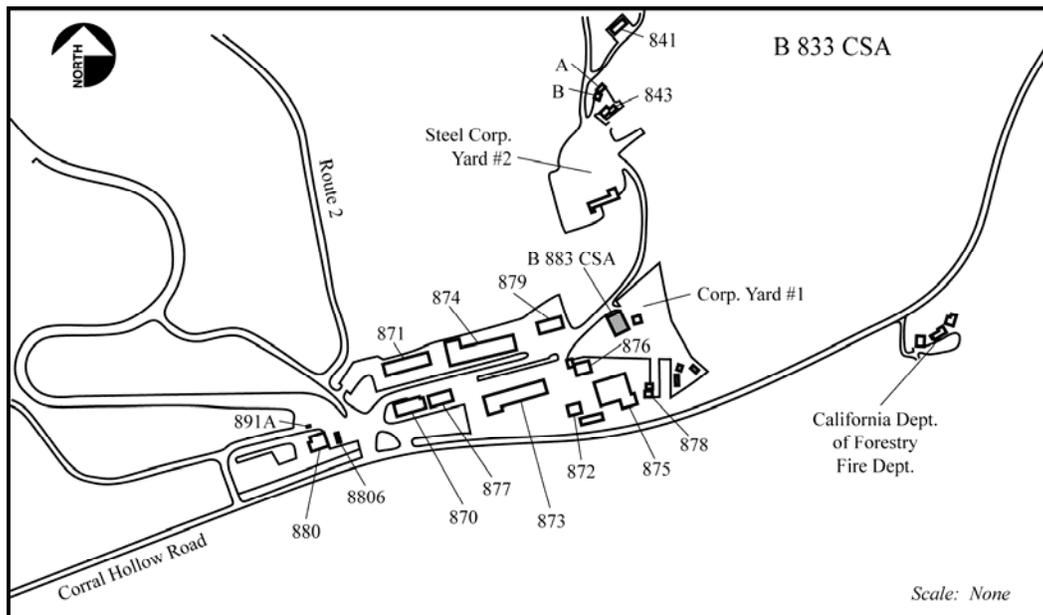


Figure 5 - Building B833 Container Storage Area

TABLE 1
WASTE STREAMS PERMITTED FOR
TREATMENT AT THE EXPLOSIVE WASTE TREATMENT FACILITY

Explosives Waste Stream Number	Waste Stream Description and Examples	U.S. EPA Waste Codes	Treatment Method/Unit
Form 1	Cased explosives or other explosives that have the potential to detonate during treatment operations.	D003, P081, P112, U117	Open Detonaton/ Detonation Pad
Form 2	Explosives pieces, powders, pastes, absorbed liquids and small assemblies that will not detonate during open burning.	D003, P081, P112, U117, U234	Open Burning/ Burn Pan
Form 3	Wet explosives machine fines, sludge from weirs and settling basins, wet waste filters.	D003, K044, K045, K046, K047	Open Burning/ Burn Cage
Form 4	Explosives contaminated personal protective equipment, paper, rags, packaging, plastic tubing, laboratory waste, dry waste filters.	D003, F002, F003, F005	Open Burning/ Burn Cage

From Part III, Table 3, Part B Permit Application for Hazardous Waste Treatment and Storage Facilities Site 300, October 2007.

TABLE 2
WASTE STREAMS PERMITTED FOR
STORAGE AT THE EXPLOSIVE WASTE STORAGE FACILITY

UNO STORAGE² COMPATIBILITY GROUP	DESCRIPTION
Group A	Initiating explosives
Group B	Detonators and similar initiating devices not containing two or more independent safety features
Group C	Bulk propellants, propellants propelling charges, and devices containing propellant with or without their means of ignition.
Group D	Black powder, high explosives (HE), ammunition/devices containing HE without its own means of initiation and without propelling charge, or a device containing an initiating explosive and containing two or more independent safety features.
Group E	Ammunition/explosives devices containing HE without its own means of initiation and with propelling charge (other than one containing a flammable or hypergolic liquid)
Group F	Ammunition containing HE with its own means of initiation and with propelling charge (other than one containing a flammable or hypergolic liquid or without propelling charge)
Group G	Fireworks, illuminating, incendiary and smoke, including hexachlorethane or tear producing munitions other than those munitions that are water activated or which contain white phosphorus (WP) or flammable liquid or gel.
Group H	Ammunition containing both explosives and WP or other pyrophoric material.
Group J	Ammunition containing both explosives and flammable liquids or gels.
Group K	Ammunition containing both explosives and toxic chemical agents.
Group L	Ammunition not included in other compatibility groups. Ammunition having characteristics that do not permit storage with other types of ammunition, or kinds of explosives, or dissimilar ammunition of this group.
Group N	Ammunition containing only extremely insensitive detonating substance.
Group S	Ammunition presenting no significant hazard.

² From Part III, Table 9, Part B Permit Application for Hazardous Waste Treatment and Storage Facilities Site 300, October 2007.

TABLE 3
STORAGE COMPATIBILITY MATRIX FOR THE
EXPLOSIVE WASTE STORAGE FACILITY

Groups ⁴	A	B	C	D	E	F	G	H	J	K	L	N	S
A	X	Z											
B	Z	X	Z	Z	Z	Z	Z						X
C		Z	X	X	X	Z	Z						X
D		Z	X	X	X	Z	Z						X
E		Z	X	X	X	Z	Z						X
F		Z	Z	Z	Z	X	Z						X
G		Z	Z	Z	Z	Z	X						X
H								X					X
J									X				X
K										Z			
L											(d)		
N			Z	Z	Z							X	X
S		X	X	X	X	X	X	X	X			X	X

⁴ Corresponds to Table 2 of this permit.

Matrix Restrictions:

- a. An "X" in the above matrix indicates that these groups may be stored in the same magazines. Otherwise, storage of these groups is prohibited or restricted according to Restriction b, below.
- b. A "Z" in the above matrix indicates that when warranted by operational considerations or magazine unavailability, and when safety is not sacrificed, limited quantities (not to exceed 1,000 pounds) of these groups may be stored in the same magazine.
- c. No mark in a block indicates that storage of these groups in the same magazine is prohibited.
- d. Group L is "ammunition not included in other groups, requiring separate storage requirements, and therefore are not compatible with other groups. Group L can be damaged or suspect ammunition of any group and will be stored separately. Types presenting similar hazards may be stored together but not mixed with other groups.

TABLE 4
WASTE STREAMS PERMITTED FOR STORAGE
AT THE BUILDING 883 (B883) CONTAINER STORAGE AREA

Waste¹ Stream Number	Waste Name	Waste¹ Stream Number	Waste Name
001	Lab packs of old chemicals only	113	Other aqueous waste with high dissolved solids
002	Lab packs of debris only	114	Other aqueous waste with low dissolved solids
003	Mixed lab packs	115	Scrubber water
004	Lab packs containing acute hazardous wastes	116	Leachate
101	Aqueous waste with low concentration of solvents	117	Waste liquid mercury
102	Aqueous waste with low concentrations of other toxic organics	119	Other inorganic liquids
103	Spent acid with metals	201	Concentrated solvent with water
104	Spent acid without metals	202	Halogenated solvent
105	Acidic aqueous waste	203	Non-halogenated solvent
106	Caustic solution with metals but no cyanide	204	Halogenated/non-halogenated solvent mixture
107	Caustic solution with metals and cyanide	205	Oil-water emulsion or mixture
108	Caustic solutions with cyanides but no metals	206	Waste oil
109	Spent caustic	207	Concentrated aqueous solution of other organics
110	Caustic aqueous waste	208	Concentrated phenolics
111	Aqueous waste with reactive sulfides	209	Organic paint, lacquer, or varnish
112	Aqueous waste with other reactives	210	Adhesives or epoxies

¹ From Part III, Table 1, Part B Permit Application for Hazardous Waste Treatment and Storage Facilities Site 300, October 2007.

TABLE 4 (Continued)
WASTE STREAMS PERMITTED FOR STORAGE
AT THE BUILDING 883 (B883) CONTAINER STORAGE AREA

Waste¹ Stream Number	Waste Name	Waste¹ Stream Number	Waste Name
211	Paint thinner or petroleum distillates	312	Metal-cyanide salts/chemicals
212	Reactive or polymerizable organic liquid	313	Reactive cyanide salts/chemicals
219	Other organic liquids	314	Reactive sulfide salts/chemicals
301	Soil contaminated with organics	315	Other reactive salts/chemicals
302	Soil contaminated with inorganics only	316	Other metal salts/chemicals
303	Ash, slag, or other residue from incineration of wastes	319	Other waste inorganic solids
304	Other "dry" ash, slag or thermal residue	401	Halogenated pesticide solid
305	"Dry" lime or metal hydroxide solids chemically fixed	402	Non-halogenated pesticide solid
306	Dry lime or metal hydroxide solids not "fixed"	403	Solid resins or polymerized organics
307	Metal scale, filings or scrap	404	Spent carbon
308	Empty or crushed metal drums or container	405	Reactive organic solid
309	Batteries, or battery parts, casings, cores	406	Empty fiber or plastic container
310	Spent solid filters or adsorbents	407	Other halogenated organic solids
311	Asbestos solids and debris	409	Other nonhalogenated solids

¹ From Part III, Table 1, Part B Permit Application for Hazardous Waste Treatment and Storage Facilities Site 300, October 2007.

TABLE 4 (Continued)

**WASTE STREAMS PERMITTED FOR STORAGE
 AT THE BUILDING 883 (B883) CONTAINER STORAGE AREA**

Waste¹ Stream Number	Waste Name	Waste¹ Stream Number	Waste Name
501	Lime sludge without metals	515	Asbestos slurry or sludge
502	Lime sludge with metals/metal hydroxide sludge	516	Chlorine or other brine sludge
503	Wastewater treatment sludge with toxic organics	519	Other organic sludges
504	Other wastewater treatment sludge	601	Still bottoms of halogenated solvents or other organic liquids
505	Untreated plating sludge without cyanides	602	Still bottoms of non-halogenated solvents or other organics liquids
506	Untreated plating sludge with cyanides	603	Oily sludge
507	Other sludge with cyanides	604	Organic paint or ink sludge
508	Sludge with reactive sulfides	605	Reactive or polymerizable organics
509	Sludge with other reactives	606	Resins, tars, or tarry sludge
510	Degreasing sludge with metal scale or filings	607	Biological treatment sludge
511	Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)	608	Sewage or other biological sludge
512	Sediment or lagoon dragout contaminated with organics	609	Other organic sludges
513	Sediment or lagoon dragout contaminated with inorganics only	701	Inorganic gases
514	Drilling mud	801	Organic gases

¹ From Part III, Table 1, Part B Permit Application for Hazardous Waste Treatment and Storage Facilities Site 300, October 2007.