HAZARDOUS MATERIALS BUSINESS PLAN

March 2011

Lawrence Berkeley National Laboratory

#1 Cyclotron Road

Berkeley, CA 94720

Main Site

March 2011

Lawrence Berkeley National Laboratory

#1 Cyclotron Road

Berkeley, CA 94720

March 17, 2011
DIR-11-010

Mr. Nabil Al-Hadithy
City of Berkeley
Toxics Management Division
2118 Milvia Street
Berkeley, CA 94704

Dear Mr. Al-Hadithy:

We are enclosing our annual submittal of Lawrence Berkeley National Laboratory's (LBNL's) "Hazardous Materials Business Plan." Please note the following with respect to the enclosed documents:

LBNL is a federal facility owned by the Department of Energy (DOE). In certain areas of environmental regulation, Congress has directed federal facilities to comply with state and local requirements and pay reasonable service charges. In the area of hazardous materials planning and reporting, however, while DOE facilities must comply with federal Emergency Planning and Community Right-to-Know Act (EPCRA) requirements pursuant to an Executive Order, no waiver of federal sovereign immunity from state and local regulation has occurred. Despite the lack of a sovereign immunity waiver, LBNL voluntarily complies with state requirements for hazardous materials planning and reporting. The attached report provides the information required by the state regulations.

(1) Hazardous materials are reported if they meet or exceed state thresholds, aggregated by building.

(2) Radioactive materials reporting is consistent with state requirements. State requirements provide for reporting of radioactive materials that are handled in quantities for which an emergency plan would be required according to the Nuclear Regulatory Commission (NRC) or the State of California, Department of Heath Services (DHS) regulations. There are no radioactive materials at LBNL for which such an emergency plan would be required. All radioactive materials, including those in mixed waste, have been considered for this reporting category.

(3) Hazardous waste reporting also is consistent with state requirements. Waste quantities located at the Hazardous Waste Handling facility have been aggregated, and quantities exceeding the state threshold are reported. Volumes of mixed waste have been considered for this reporting category due to their hazardous waste component.

(4) Appendix A and Appendix B are the only two forms required by the California Code of Regulations, Title 19. Additional information included in the submittal is being presented voluntarily.

We trust that this information will assist your office in serving the needs of the community regarding hazardous material disclosure information.

Please feel free to contact Jack Salazar (510) 486-6571 directly should you have any questions or wish to discuss this matter further.

Sincerely,

Jack J. Salazar
Deputy Division Director
Environment, Health and Safety Division

JJS/CLF

Enclosures

cc: Kim Abbott, U.S. Department of Energy, Berkeley Site Office
Dan Lunsford, Berkeley Lab Emergency Management
Ron Pauer, Berkeley Lab Environmental Services Group Leader
Paul Blodgett, Berkeley Lab Health and Safety Deputy
Nancy Rothermich, Berkeley Lab Waste Management Group Leader
Gary Piermattei, Fire Prevention Program

Certification Statement

City of Berkeley, Toxics Management Division
2118 Milvia Street, Suite 300
Berkeley, CA 94704
(510) 981-7460 FAX (510) 981-7470

Hazardous Materials Business Plan (HMBP) Certification Statement

For Dept Use Only – Log In/Date Stamp

I. IDENTIFICATION

FACILITY ID #	6 2 6 9 3 4 9 9 8
BUSINESS NAME (Same as Facility Name or DBA-Doing Business As)	E.O. Lawrence Berkeley National Laboratory
BUSINESS SITE ADDRESS	One Cyclotron Road
CITY	Berkeley
ZIP CODE	CA 94720

II. CERTIFICATION STATEMENT

Check the appropriate boxes below and sign the certification statement.

☐ INITIAL SUBMITTAL: This new HMBP is being submitted for the following:
- ☐ New facility
- ☐ Change of ownership
- ☐ Change of business address

☐ ANNUAL CERTIFICATION: I have personally reviewed the HMBP currently on file with your agency, dated _____, and hereby certify, *under penalty of perjury,* that:
- The information contained in the most recent HMBP submission is complete, accurate and up to date.
- A copy of the facility's most current Business Owner/Operator Identification page is being submitted with this certification form.
- The facility has not begun handling any hazardous materials/hazardous wastes that are not currently listed on the most recently submitted Hazardous Materials Inventory forms.
- There have been no significant changes (100% increase or decrease) in the quantities of any previously reported hazardous materials/hazardous wastes as reported on the most recently submitted Hazardous Materials Inventory forms.
- The facility's annual waste amounts reported on the most recently submitted Hazardous Materials Inventory forms are accurate and expected to be the same in the next year.
- This certification is <u>not</u> being made to meet annual inventory submission requirements of EPCRA. (EPCRA requires complete annual submission of the inventory, United States Code Title 42, Section 11022).

☑ CERTIFICATION OF CHANGES/REVISIONS: This is to certify that the HMBP has been reviewed and revisions, amendments and/or additions are necessary and are being submitted with this document. The following areas of the HBMP are affected:
- ☑ Entire HMBP revision
- ☐ Business Activities page
- ☐ Business Owner/Operator Identification page
- ☐ Hazardous Materials Inventory
- ☐ Facility Site Plan/Storage Map(s)
- ☐ Emergency Response Plan/Contingency Plan
- ☐ Other (Specify): _____

I hereby certify, under penalty of perjury, that the information contained in this Hazardous Materials Business Plan is, to the best of my knowledge, true and correct. I understand that I will be required to show proof of compliance during any facility inspection conducted by City, County, State, or Federal authorities. I understand that whenever there are changes in address, ownership, business name, or operations (closure, addition of undisclosed hazardous materials or hazardous wastes, and/or contingency planning provisions), a notification of such must be made to Toxics Management Division within 30 days of the change.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE: March 17, 2011
NAME OF SIGNER (print): Jack J. Salazar	TITLE OF SIGNER: Deputy Director, EHS Division

Agency Use Only
- ☐ HMBP accepted as submitted
- ☐ HMBP requires revisions – Letter sent

HMBP ACCEPTED: ___/___/___ BY: _____

Special Hazards Registration

Planning and Development Department
Toxics Management Division

SPECIAL HAZARDS REGISTRATION

According to BMC Title 15, the following special hazards require registration and compliance with the ordinance. For copies of the compliance requirements, please contact your inspector for a copy of the ordinance.

Facility Name:	E.O. Lawrence Berkeley National Laboratory	
Facility Address:	1 Cyclotron Road, Berkeley, CA 94720	Phone: 510-486-5512

I. Etiological Agents Disclosure:

Etiological agents can be microorganisms which cause disease. The BMC defines an etiologic agent as any of the following:

1 An infectious substance, which is any viable microorganism, or its toxin, which causes or may cause disease in humans or animals, and includes those agents listed in 42 CFR Section 72.3 or the regulations of the Department of Health and Human Services, or any other agent that causes or may cause severe, disabling or fatal disease;

2 A diagnostic specimen, which is any human or animal material including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluids, being handled for purposes of diagnosis;

3 A biological product, which is any material prepared and manufactured in accordance with the provisions of 9 CFR parts 102, 103, or 104, or 21 CFR parts 312 or 600-680; and

4 A medical waste as defined in California Health and Safety Code Section 25023.2.

If your facility stores or handles an etiological agent on site, you must report the agent name, quantity and storage location to the Toxics Management Division.

Biological materials at this site are handled in multiple buildings at either Biosafety Level 1 (e.g., standard LBNL lab) or Biosafety Level 2 containment (e.g., lab with biosafety cabinet), respectively. Biosafety Level 1 is suitable for work involving well-characterized agents not known to consistently cause disease in healthy adult humans and of minimal potential hazard to laboratory personnel or the environment. Biosafety Level 2 is suitable for work involving agents of moderate potential hazard to personnel and the environment. Common biological materials include Risk Group 1 microorganisms, established human cell cultures, attenuated (e.g., replication deficient) viral vectors, and very limited samples of human tissue. Some medical waste as defined by California Health and Safety Code 25023.2 is generated. Risk Group 2 human pathogens are used in very few Biosafety Level 2 laboratories. Several select agent bacteria are used in one Biosafety Level 2 laboratory in accordance with 42 CFR 73. No agents or materials that require Biosafety Level 3 or 4 containment are used at this site.

II. Radioactive Materials:

Any quantity of Radioactive Materials must be reported on the Hazardous Materials Inventory-Chemical Description page of the Hazardous Materials Business Plan.

Radioactive materials reporting is consistent with state requirements. State requirements provide for reporting of radioactive materials that are handled in quantities for which an emergency plan would be required according to the Nuclear Regulatory Commission (NRC) or the State of California, Department of Health Services (DHS) regulations. There are no radioactive materials at LBNL for which such an emergency plan would be required. All radioactive materials, including those in mixed waste, have been considered for this reporting category

City of Berkeley, Toxics Management Division
2118 Milvia Street, Suite 300
Berkeley, CA 94704
(510) 981-7460 FAX (510) 981-7470

Hazardous Materials Business Plan (HMBP) Certification Statement

For Dept Use Only – Log In/Date Stamp

I. IDENTIFICATION

FACILITY ID # 6 2 6 9 3 4 9 9 8 1

BUSINESS NAME (Same as Facility Name or DBA-Doing Business As) 3
E.O. Lawrence Berkeley National Laboratory

BUSINESS SITE ADDRESS 103
1 Cyclotron Road

CITY 104
Berkeley

CA

ZIP CODE 105
94720

II. CERTIFICATION STATEMENT

Check the appropriate boxes below and sign the certification statement.

☐ INITIAL SUBMITTAL: This new HMBP is being submitted for the following:
- ☐ New facility
- ☐ Change of ownership
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☐ ANNUAL CERTIFICATION: I have personally reviewed the HMBP currently on file with your agency, dated _____, and hereby certify, *under penalty of perjury,* that:
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I hereby certify, under penalty of perjury, that the information contained in this Hazardous Materials Business Plan is, to the best of my knowledge, true and correct. I understand that I will be required to show proof of compliance during any facility inspection conducted by City, County, State, or Federal authorities. I understand that whenever there are changes in address, ownership, business name, or operations (closure, addition of undisclosed hazardous materials or hazardous wastes, and/or contingency planning provisions), a notification of such must be made to the Toxics Management Division within 30 days of the change.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE
	March 17, 2011
NAME OF SIGNER (print)	TITLE OF SIGNER
Jack J. Salazar	Deputy Director, EH&S Division

Agency Use Only
- ☐ HMBP accepted as submitted
- ☐ HMBP requires revisions – Letter sent

HMBP ACCEPTED: ___/___/___ BY: _____

City of Berkeley, Toxics Management Division

UNIFIED PROGRAM CONSOLIDATED FORM – FACILITY INFORMATION

BUSINESS ACTIVITIES

I. FACILITY IDENTIFICATION

FACILITY ID #	6	2		6	9	3		4	9	9	8				1	EPA ID # (Hazardous Waste Only) CA 489 000 8986

BUSINESS NAME (Same as Facility Name or DBA-Doing Business As) 3
E.O. Lawrence Berkeley National Laboratory

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility…	If Yes, please complete these pages of the UPCF….	
A. HAZARDOUS MATERIALS		
Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☑ YES ☐ NO 4	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)
B. UNDERGROUND STORAGE TANKS (USTs)		UST FACILITY (Formerly SWRCB Form A)
1. Own or operate underground storage tanks?	☑ YES ☐ NO 5	UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES ☑ NO 6	UST FACILITY UST TANK (one per tank) UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)
3. Need to report closing a UST?	☐ YES ☑ NO 7	UST TANK (closure portion –one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs)		
Own or operate ASTs above these thresholds: ---any tank capacity is greater than 1,320 gallons, or ---the total capacity for the facility is greater than 1,320 gallons?	☑ YES ☐ NO 8	NO FORM REQUIRED TO CUPAs
D. HAZARDOUS WASTE		
1. Generate hazardous waste?	☑ YES ☐ NO 9	EPA ID NUMBER – provide at the top of this page
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	☐ YES ☑ NO 10	RECYCLABLE MATERIALS REPORT (one per recycler)
3. Treat hazardous waste on site?	☑ YES ☐ NO 11	ONSITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Forms 1772) ONSITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A,B,C,D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☑ YES ☐ NO 12	CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)
5. Consolidate hazardous waste generated at a remote site?	☐ YES ☑ NO 13	REMOTE WASTE / CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned onsite?	☐ YES ☑ NO 14	HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)
E. LOCAL REQUIREMENTS		
1. Use or store hazardous materials or hazardous wastes in combined (aggregate) quantities equal to or greater than 55 gallons for liquids, 500 pounds for solids or 200 cubic feet for compressed gases?	☑ YES ☐ NO 15	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) OR SPREADSHEET
2. Use or store any quantity of etiological agents, radioactive materials or perchlorate materials?	☑ YES ☐ NO 15	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) OR SPREADSHEET
3. Below E.1. thresholds above, but generate any quantity of hazardous waste?	☑ YES ☐ NO 15	HAZARDOUS WASTE GENERATOR REPORTING PACKET
4. Generate any quantity of Universal Waste (mercury containing devices, non-empty aerosols, electronic devices, fluorescent tubes, batteries, mercury amalgam, etc.)?	☑ YES ☐ NO 15	SEE THE UNIVERSAL WASTE REPORTING REQUIREMENTS PAGE FOR INSTRUCTIONS
5. Generate any quantity of photochemical waste on-site (x-ray and photo imaging processors)?	☑ YES ☐ NO 15	IF STORED ONSITE, HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) OR SPREADSHEET

Hazardous Materials Business Plan Certification Statement Instructions

Submit the Hazardous Materials Business Plan Certification Statement each time you update the Hazardous Materials Business Plan (HMBP).

1. FACILITY ID NUMBER - This number is assigned by the CUPA or AA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
103. BUSINESS SITE ADDRESS - Enter the street address where the facility is located. No post office box numbers are allowed. This information must provide a means to geographically locate the facility.
104. CITY - Enter the city or unincorporated area in which business site is located.
105. ZIP CODE - Enter the zip code of business site. The extra 4 digit zip may also be added.

INITIAL SUBMITTAL: Check this box if you are submitting a new HMBP.
ANNUAL CERTIFICATION: Check this box if there are no changes required to your last submitted HMBP.
CERTIFICATION OF CHANGES/REVISIONS: Check this box if you are submitting changes/revisions to your HMBP.

SIGNATURE: **The Toxics Management Division will not accept any unsigned HMBPs.** Any HMBP submitted without signatures will be returned to the applicant.

Business Owner/ Operator Identification

City of Berkeley, Toxics Management Division

UNIFIED PROGRAM CONSOLIDATED FORM -- FACILITY INFORMATION

BUSINESS OWNER/OPERATOR IDENTIFICATION

Page ___ of ___

I. IDENTIFICATION

FACILITY ID# 62 693 4998 1	BEGINNING DATE 100: 01/01/2011	ENDING DATE 101: 12/31/2011	
BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3: E.O. Lawrence Berkeley National Laboratory	BUSINESS PHONE 102:		
BUSINESS SITE ADDRESS 103: One Cyclotron Road			
CITY 104: Berkeley	CA	ZIP CODE 105: 94720	
DUN & BRADSTREET 106: 62-693-4998	SIC CODE (4 digit #) 107: 8731		
COUNTY 108: Alameda			
BUSINESS OPERATOR NAME 109:	BUSINESS OPERATOR PHONE 110: 510/486-5514		

II. BUSINESS OWNER

OWNER NAME 111: US Dept. of Energy - Lawrence Berkeley National Laboratory Site Office	OWNER PHONE 112: 510/486-4353	
OWNER MAILING ADDRESS 113: One Cyclotron Road, MS 90R1023		
CITY 114: Berkeley	STATE 115: CA	ZIP CODE 116: 94720-8123

III. ENVIRONMENTAL CONTACT

CONTACT NAME 117: Ron Pauer	CONTACT PHONE 118: 510/486-7614	
CONTACT MAILING ADDRESS 119: One Cyclotron Road, MS 85B0198		
CITY 120: Berkekley	STATE 121: CA	ZIP CODE 122: 94720-8272

IV. EMERGENCY CONTACTS

-PRIMARY-	-SECONDARY-
NAME 123: Alameda County Fire Department	NAME 128: Emergency Contact Team
TITLE 124: Incident Commander	TITLE 129: LBNL 24/7 Emergency Contact Team
BUSINESS PHONE 125: Non-Emergency 925-447-4257	BUSINESS PHONE 130: 510/486-4050
24-HOUR PHONE 126: 9-911	24-HOUR PHONE 131: Emergency 510/486-6999
PAGER # 127: N/A	PAGER # 132: N/A

ADDITIONAL LOCALLY COLLECTED INFORMATION:

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE 134: March 17, 2011	NAME OF DOCUMENT PREPARER 135: Candace Flores
NAME OF SIGNER (print) 136: Jack J. Salazar	TITLE OF SIGNER 137: Deputy Director, EH&S Division	

Appendix B

And

Site-Wide Threshold Report

Appendix B
Abbreviations

COLUMNS 13 & 15

EX	Explosive
FS	Flammable solid
FL	Flammable liquid
FG	Flammable gas
C	Combustible liquid
NFG	Nonflammable gas
W	Water reactive
UR	Unstable reactive
OX	Oxidizer
OXP	Organic peroxide
PYR	Pyrophoric
CYR	Cryogenic
COR	Corrosive
RAD	Radioactive
IRR	Irritant
OHH	Other health hazard
TOX	Toxic
HTOX	Highly toxic

COLUMNS 18

A	Acute health hazard
C	Chronic health hazard
F	Fire hazard
R	Reactive hazard
P	Pressure release hazard

COLUMNS 26

AGT	Above ground tank
UGT	Underground tank
ATB	Tank in building
SD	Steel drum
PD	Plastic drum
CAN	Can
CAR	Carboy
SI	Silo
FD	Fiber drum
BAG	Bag
BOX	Box
CYL	Cylinder
GB	Glass bottle
TB	Tote bin
TW	Tank wagon
RC	Rail

TEMPERATURE/PRESSURE

1	Ambient
2	High
3	Low

		B	C	D	E	F		H	I	J	K	L	M	N	O	P		R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
7																			
8																			
9	**Building 1**																		
10	ETHANOL		64-17-5	N	N	FL	P	LIQ	F		365	15	GAL	67	67		GB	1	1
11	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	870	CFT	1740	1740		CYL	2	1
12	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	484	CFT	968	968		CYL	2	1
13	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	690	CFT	690	690		CYL	2	1
14	NITROGEN	Nitrogen	7727-37-9	N	N	CRY	P	LIQ	P		365	1250	LBS	250	250		AGT	2	4
15																			
16	**Building 2**																		
17	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	480	CFT	6848	6848		CYL	2	1
18	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	200	CFT	377	377		CYL	2	1
19	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	480	CFT	2813	2813		CYL	2	1
20	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	237	CFT	437	437		CYL	2	1
21	NITROGEN	Nitrogen	7727-37-9	N	N	CRY	P	LIQ	P		365	255	CFT	3380	3380		AGT	2	4
22	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	480	CFT	2571	2571		CYL	2	1
23	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	4000	GAL	4000	4000		UGT	1	1
24	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	1000	GAL	1000	1000		UGT	1	1
25	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	50	GAL	50	50		AGT	1	1
26	NITROGEN	Nitrogen	7727-37-9	N	N	CRY	P	LIQ	P		365	517	LBS	1034	1034		CYL	2	4
27	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	240	CFT	280	280		CYL	2	1
28	NEON	Neon	1/9/7440	N	N		P	LIQ	P		365	200	CFT	222	222		CYL	2	1
29	ETHYLENE	Ethylene	74-85-1	N	N	FG	P	GAS	F		365	240	CFT	280	280		CYL	2	1
30	ACETYLENE	Acetylene	74-86-2	N	N	FG	P	GAS	F		365	112	CFT	112	112		CYL	2	1
31																			
32	**Building 5**																		
33	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	200	CFT	200	200		CYL	2	1
34	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	200	CFT	200	200		CYL	2	1
35																			
36	**Building 6**																		
37	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	400	CFT	2204	2204		CYL	2	1
38	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	500	CFT	4300	4300		CYL	2	1
39	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	200	CFT	2200	2200		CYL	2	1
40	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	200	CFT	404	404		CYL	2	1
41	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	200	CFT	624	624		CYL	2	1
42																			
43	**Building 7**																		
44	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	200	CFT	1235	1235		CYL	2	1
45	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	200	CFT	624	624		CYL	2	1
46	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	200	CFT	1912	1912		CYL	2	1
47	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	200	CFT	1402	1402		CYL	2	1
48																			
49	**Building 10A**																		
50	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	55	GAL	55	55		AGT	1	1
51																			
52	**Building 26**																		
53	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	1250	CFT	1250	1250		CYL	2	1
54																			

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
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6		**(components)**								**Code**									
55	**Building 31**																		
56	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	160	GAL	160	160		AGT	1	1
57	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	50	GAL	50	50		AGT	1	1
58	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	195	GAL	195	195		AGT	1	1
59	PROPANE		74-38-9	N	N	FG	P	LIQ	F		365	100	GAL	100	100		CYL	2	1
60																			
61	**Building 34**																		
62	SODIUM HYDROXIDE	Sodium Hydroxide	1310-73-2	N	N	COR	P	SOL	C		365	240	GAL	240	240		PD	1	1
63	BOILER TREATMENT	Sodium Nitrate, 2-Mercatobenzothiazole)		N	N	COR	P	SOL	C		365	240	GAL	405	405		PD	1	1
64																			
65	**BUILDING 37**																		
66	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	500	GAL	500	500		AGT	1	1
67																			
68	**BUILDING 46**																		
69	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	200	CFT	400	400		CYL	2	1
70	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	200	CFT	400	400		CYL	2	1
71	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	1496	GAL	1496	1496		AGT	2	4
72	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	230	CFT	460	460		CYL	2	1
73	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	230	CFT	230	230		CYL	2	1
74																			
75	**BUILDING 48**																		
76	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	367	GAL	367	367		AGT	1	1
77																			
78	**Building 50 Complex**																		
79	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	275	GAL	275	275		AGT	1	1
80	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	853	CFT	253	253		CYL	2	1
81																			
82	**Building 51 (F)**																		
83	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	438	CFT	438	438		CYL	2	1
84	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	230	CFT	230	230		CYL	2	1
85	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	230	CFT	230	230		CYL	2	1
86	METHANE MIX	Methane	74-82-8	N	N	FG	M	GAS	F		365	260	CFT	260	260		CYL	2	1
87																			
88	**BUILDING 51 (P)**																		
89	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	160	GAL	160	160		AGT	1	1
90	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	50	GAL	50	50		AGT	1	1
91	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	195	GAL	195	195		AGT	1	1
92																			
93	**Building 53**																		
94	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	219	CFT	687	687		CYL	2	1
95	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	244	CFT	244	244		CYL	2	1
96	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	244	CFT	244	244		CYL	2	1
97	ETHYLENE	Ethylene	74-85-1	N	N	FG	P	GAS	F		365	244	CFT	244	244		CYL	2	1
98	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	P		365	244	CFT	244	244		CYL	2	1
99	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	244	CFT	387	387		CYL	2	1
100																			
101	**Building 55**																		

		B	C	D	E	F		H	I	J	K	L	M	N	O	P		R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
102	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	1000	GAL	1000	1000		UGT	1	1
103	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	1000	LBS	1000	1000		AGT	2	4
104	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	P		365	50	LBS	100	100		CYL	2	1

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
105	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	50	LBS	50	50		CYL	2	1
106	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	150	LBS	200	200		CYL	2	1
107	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	50	LBS	50	50		CYL	2	1
108	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	1250	LBS	1300	1300		CYL	2	1
109																			
110	**Building 56**																		
111	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	P		365	230	CFT	298	298		CYL	2	1
112	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	115	CFT	1150	1150		CYL	2	1
113	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	920	CFT	1610	1610		CYL	2	1
114	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	920	CFT	1840	1840		CYL	2	1
115	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	230	CFT	380	380		CYL	2	1
116	P-10 GAS	Argon (90%)	7440-37-1	N	N		P	GAS	F		365	690	CFT	690	690		CYL	2	1
117		Methane (10%)	74-82-8	N	N	FG	P	GAS	F										
118																			
119	**Building 58**																		
120	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	P		365	220	CFT	220	220		CYL	2	1
121	ACETYLENE	Acetylene	74-86-2	N	N	FG	P	GAS	F		365	220	CFT	660	660		CYL	2	1
122																			
123	**Building 058A**																		
124	TRANSFORMER OIL			N	N	IRR	P	LIQ	C		365	2000	GAL	2000	2000		AGT	1	1
125	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N	OX	P	GAS	F		365	220	CFT	440	440		CYL	2	1
126	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	GAS	C		365	220	CFT	440	440		CYL	2	1
127	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	220	CFT	440	440		CYL	2	1
128	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	220	CFT	440	440		CYL	2	1
129	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	1646	GAL	1646	1646		AGT	2	4
130	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	1646	GAL	1646	1646		CYL	2	1
131	DIALA AX OIL	Naphthenic Distillate	64742-53-6	N	N	FL	MIX	LIQ	C		365	55	GAL	55	55		SD	1	1
132		Middle Distillate	265-148-2	N	N	FL													
133		2,6-Di-Tert-Butyl-P-Cres	204-881-4	N	N	FL													
134																			
135	**Building 58B**																		
136	VACUUM PUMP OIL		000826-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	110	110		SD	1	1
137																			
138	**Building 60**																		
139	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	GAS	C		365	220	CFT	220	220		CYL	2	1
140	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	100	CFT	400	400		CYL	2	1
141	CARBON DIOXIDE	Carbon Dioxide	74-82-8	N	N	TOX	P	GAS	F		365	200	CFT	200	200		CYL	2	1
142																			
143	**Building 62**																		
144	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	660	CFT	10000	10000		CYL	2	1
145	CARBON DIOXIDE	Carbon Dioxide	74-82-8	N	N	TOX	P	GAS	F		365	200	CFT	200	200		CYL	2	1
146	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	200	CFT	204	204		CYL	2	1
147	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	220	CFT	2864	2864		CYL	2	1
148	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	500	CFT	4389	4389		CYL	2	1
149	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	220	CFT	2173	2173		CYL	2	1
150	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	220	CFT	1248	1248		CYL	2	1
151	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	CRY	P	LIQ	P		365	640	GAL	640	640		AGT	2	4
152	PHOSPHORIC ACID, TRIETHYL ESTER		122-52-1	N	N	IRR CO	P	LIQ	C		365	132	GAL	132	132		CAR	1	1

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
153	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	LIQ	C		365	100	LBS	100	100		CYL	2	1
154	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	LIQ	P		365	1346	GAL	2693	2693		CYL	2	1

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
155																			
156	**Building 62B**																		
157	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	55	GAL	55	55		AGT	1	1
158																			
159	**Building 63**																		
160	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	200	CFT	201	201		CYL	2	1
161	FREON MIX	Freons		N	N	CRY	M	GAS	P		365	200	CFT	400	400		CYL	2	1
162	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	GAS	C		365	748	CFT	2252	2252		CYL	2	1
163	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	200	CFT	200	200		CYL	2	1
164	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	200	CFT	205	205		CYL	2	1
165	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	200	CFT	600	600		CYL	2	1
166	CARBON MONOXIDE	Carbon Monoxide	630-08-0	N	N	TOX	P	GAS	A		365	200	CFT	325	325		CYL	2	1
167	NEON / KRYPTON MIX	Neon	7440-019	N	N		MIX	GAS	P		365	200	CFT	200	200		CYL	2	1
168		Krypton	7439-90-9	N	N														
169	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	LIQ	C		365	748	GAL	898	898		CYL	2	1
170	CARBON DIOXIDE / AIR MIX	Carbon Dioxide	124-38-9	N	N		MIX	LIQ	P		365	150	GAL	150	150		CYL	2	1
171																			
172	**Building 64/64C**																		
173	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	250	GAL	250	250		AGT	1	1
174	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	6000	GAL	6000	6000		AGT	1	1
175	ACETYLENE	Ethyne	74-86-2	N	N	FG	P	GAS	F		365	73	LBS	73	73		CYL	2	1
176	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	50	LBS	50	50		CYL	2	1
177	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	150	CFT	4002	4002		CYL	2	1
178	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	100	LBS	100	100		CYL	2	1
179	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	50	LBS	50	50		CYL	2	1
180	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	300	CFT	600	600		CYL	2	1
181	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	CRY	P	LIQ	P		365	28426	GAL	28426	28426		AGT	2	4
182	CARBON MONOXIDE	Carbon Monoxide	630-08-0	N	N	TOX	P	GAS	A		365	150	CFT	300	300		CYL	2	1
183																			
184	**Building 66**																		
185	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	281	CFT	2097	2097		CYL	2	1
186	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	222	CFT	527	527		CYL	2	1
187	COMPRESSED GAS N.O.S.			N	N		M	GAS	P		365	200	CFT	200	200		CYL	2	1
188	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	222	CFT	4553	4553		CYL	2	1
189	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	222	CFT	3243	3243		CYL	2	1
190	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	240	CFT	3673	3673		CYL	2	1
191	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	222	CFT	3000	3000		CYL	2	1
192	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	1496	GAL	1496	1496		AGT	2	4
193	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	63	GAL	157	157		CYL	2	4
194	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	450	GAL	450	450		AGT	1	1
195	ETHYLENE	Ethylene	74-85-1	N	N	FG	P	GAS	F		365	200	CFT	200	200		CYL	2	1
196	NEON	Neon	7440-019	N	N		P	LIQ	P		365	200	CFT	204	204		CYL	2	1
197	ETHANE	Ethane	74-84-0	N	N	FG	P	GAS	F		365	220	CFT	224	224		CYL	2	1
198	CARBON MONOXIDE	Carbon Monoxide	630-08-0	N	N	TOX	P	GAS	A		365	200	CFT	500	500		CYL	2	1
199	ACETONE	Acetone	67-64-1	N	N	FL	P	LIQ	C		365	25	GAL	113	113		GB	1	1
200	ISOPROPYL ALCOHOL	Isopropyl Alcohol	67-63-0	N	N	FL	P	LIQ	F		365	25	GAL	61	61		GB	1	1
201																			
202	**Building 67**																		
203	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	249	CFT	1417	1417		CYL	2	1

		B	C	D	E	F		H	I	J	K	L	M	N	O	P		R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
204	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	260	CFT	1500	1500		CYL	2	1
205	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	960	CFT	1750	1750		CYL	2	1
206	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	960	CFT	8000	8000		CYL	2	1
207	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	960	CFT	5300	5300		CYL	2	1
208	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	960	CFT	5000	5000		CYL	2	1
209	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	960	CFT	4800	4800		CYL	2	1
210	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	GAS	C		365	220	CFT	220	220		CYL	2	1
211	SILANE		7803-62-5	N	N	FG	P	GAS	F		365	210	CFT	210	210		CYL	2	1
212	SILICON TETRAFLUORIDE		10026-04-7	N	N	TOX CC	P	LIQ	C		365	75	GAL	75	75		GB	1	1
213	ETHANOL	Ethanol	64-17-5	N	N	FL	P	LIQ	P		365	13	GAL	73	73		GB	1	1
214																			
215	**Building 68**																		
216	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	150	GAL	150	150		AGT	1	1
217																			
218	**Building 70**																		
219	ARGON	Argon	7440-37-1	N	N		P	LIQ	P		365	66	GAL	188	188		CYL	2	4
220	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	346	CFT	8008	8008		CYL	2	1
221	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	304	CFT	4000	4000		CYL	2	1
222	CARBON MONOXIDE	Carbon Monoxide	630-08-0	N	N	TOX	P	GAS	A		365	200	CFT	810	810		CYL	2	1
223	ETHANE, 1,2-DIBROMO-1,1-DIFLUORO-		75-82-1	N	N	FG	P	GAS	F		365	238	CFT	270	270		CYL	2	1
224	FREON 12		75-71-8	N	N	CRY	P	GAS	P		365	225	CFT	582	582		CYL	2	1
225	FREON MIX	Freon 12	75-71-8	N	N	CRY	M	GAS	P		365	225	CFT	400	400		CYL	2	1
226		Freon 114	76-14-2																
227	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	244	CFT	4657	4657		CYL	2	1
228	HEXAFLUOROBENZENE	Hexafluorobenzene	392-56-3	N	N	TOX	P	GAS	C		365	225	CFT	450	450		CYL	2	1
229	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	230	CFT	2074	2074		CYL	2	1
230	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	310	CFT	8986	8986		CYL	2	1
231	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	247	CFT	3000	3000		CYL	2	1
232	PERFLUORO CARBON MIX			N	N	IRR	M	GAS	P		365	225	CFT	225	225		CYL	2	1
233	PERFLUORO(METHYLCYCLOHEXANE)		355-02-2	N	N	IRR	P	GAS	P		365	225	CFT	450	450		CYL	2	1
234	PERFLUORO-1,3-DIMETHYLCYCLOHEXANE		335-27-9	N	N	IRR	P	GAS	P		365	282	CFT	732	732		CYL	2	1
235	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	430	GAL	430	430		AGT	1	1
236	ETHYLENE	Ethylene	74-85-1	N	N	FG	P	GAS	F		365	200	CFT	200	200		CYL	2	1
237	PERFLUORODIMETHYL CYCLO BUTANE			N	N	IRR	P	GAS	P		365	200	CFT	200	200		CYL	2	1
238	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	1496	GAL	1496	1496		AGT	2	4
239	NEON	Neon		N	N		P	LIQ	P		365	1496	GAL	1496	1496		CYL	2	1
240	NEON	Neon		N	N		P	GAS	P		365	212	GAL	452	452		CYL	2	1
241	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	250	CFT	2500	2500		CYL	2	1
242	AMMONIA	Ammonia		N	N	TOX	P	GAS	C		365	200	CFT	200	200		CYL	2	1
243	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	LIQ	C		365	1496	GAL	1496	1496		CYL	2	1
244	PROPENE	Propene	115-07-1	N	N	FG	P	GAS	F		365	200	CFT	800	800		CYL	2	1
245	BATTERY ELECTROLYTE	Sulfuric Acid	7664-93-9	N	N	CORR	P	LIQ	C		365	2642	GAL	2642	2642		CAN	1	1
246	METHANOL	Methyl alcohol	67-56-1	N	N	FL	P	LIQ	F		365	2	GAL	57	57		GB	1	1
247	SULFUR DIOXIDE		9/5/7440	N	N	TO CO	P	GAS	C		365	50	LB	50	50		CYL	2	1
248	2,5,8,11,14-PENTAOXAPENTADECANE		143-24-8	N	N	FL	P	LIQ	C		365	66	GAL	66	66		GB	1	1
249	NITROGEN MONOXIDE		10102-43-9	N	N	TOX	P	GAS	A		365	150	CFT	260	260		CYL	1	1
250	SODIUM BICARBONATE		144-55-8	N	N	CORR	P	GAS	C		365	1102	LBS	1262	1262		PD	1	1
251																			
252	**Building 070A**																		

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
253	ARGON	Argon	7740-37-2	N	N		P	GAS	P		365	600	CFT	9000	9000		CYL	2	1
254	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	200	CFT	200	200		CYL	2	1
255	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	440	CFT	9405	9405		CYL	2	1
256	HYDROGEN	Hydrogen	1333-74-0	N	N	FG	P	GAS	F		365	300	CFT	4850	4850		CYL	2	1
257	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	600	CFT	12036	12036		CYL	2	1
258	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	983	GAL	983	983		AGT	1	1
259	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	50	GAL	50	50		AGT	1	1
260	GLYCOLS, POLYETHYLENE, MONO	(p-(1,1,3,3-T)	9002-93-1	N	N	IRR	P	LIQ	C		365	100	GAL	100	100		SD	1	1
261	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	F		365	230	CFT	3000	3000		CYL	2	1
262	OXYGEN	Oxygen	7782-44-7	N	N	OX	P	GAS	F		365	220	CFT	620	620		CYL	2	1
263	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	42	GAL	154	154		CYL	2	4
264	DEUTERIUM		7782-39-0	N	N	FG	P	GAS	F		365	200	CFT	400	400		CYL	2	1
265	ARGON	Argon	7740-37-2	N	N		P	LIQ	P		365	34410	GAL	34458	34458		CYL	2	4
266	CHLOROMETHANE		74-87-3	N	N	FG	P	GAS	F		365	200	CFT	200	200		CYL	2	1
267	CARBON MONOXIDE	Carbon Monoxide	630-08-0	N	N	TOX	P	GAS	A		365	219	CFT	219	219		CYL	2	1
268	NITROUS OXIDE	Nitrous Oxide	10024-97-2	N	N	TOX	P	GAS	A		365	219	CFT	219	219		CYL	2	1
269	NEON	Neon		N	N		P	GAS	P		365	230	CFT	230	230		CYL	2	1
270	METHANE	Methane	74-82-8	N	N	FG	P	GAS	F		365	200	CFT	200	200		CYL	2	1
271																			
272	**Building 71A**																		
273	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	228	CFT	228	228		CYL	2	1
274																			
275	**Building 72**																		
276	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	1000	GAL	1000	1000		AGT	1	1
277	ARGON	Argon	7740-37-2	N	N		P	GAS	P		365	220	CFT	433	433		CYL	2	1
278	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	220	CFT	220	220		CYL	2	1
279	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	426	CFT	1306	1306		CYL	2	1
280																			
281	**Building 72C**																		
282	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	GAS	C		365	220	CFT	440	440		CYL	2	1
283	ARGON	Argon	7740-37-2	N	N		P	GAS	P		365	220	CFT	440	440		CYL	2	1
284	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	220	CFT	1100	1100		CYL	2	1
285																			
286	**Building 74**																		
287	ETHANOL	Ethanol	64-17-5	N	N	FL	P	LIQ	P		365	125	GAL	565	565		GB	1	1
288																			
289	**Building 75**																		
290	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	229	CFT	229	229		CYL	2	1
291																			
292	**Building 76**																		
293	UNLEADED GASOLINE		8006-61-9	N	N	IR/CR	P	LIQ	F		365	10000	GAL	10000	10000		UGT	1	1
294	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	10000	GAL	10000	10000		UGT	1	1
295	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	230	CFT	230	230		CYL	2	1
296	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	220	CFT	220	220		CYL	2	1
297	ETHANOL	Ethanol	64-17-5	N	N	FL	P	LIQ	P		365	4000	GAL	4000	4000		AGT	1	1
298	HELIUM	Helium	7440-59-7	N	N		P	LIQ	P		365	748	GAL	748	748		CYL	2	4
299	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	600	CFT	600	600		CYL	2	1
300	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	1870	GAL	1870	1870		CYL	2	4

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
301																			
302	**Building 77**																		
303	DTE 24-OIL		003047-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	110	110		SD	1	1
304	ZEP FORMULA-50	Sodium Hydroxide	1310-73-2	N	N	TOX	M	LIQ	C		365	55	GAL	55	55		PD	1	1
305		Sodium Carbonate	497-19-8	N	N														
306		Trithanolamine	102-71-6	N	N														
307	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	1220	CFT	2440	2440		CYL	2	1
308	HELIUM		7440-59-7	N	N		P	GAS	P		365	1220	CFT	2440	2440		CYL	2	1
309	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	300	CFT	3960	3960		CYL	2	1
310	OXYGEN	Oxygen	7782-44-7	N	N	FG	P	GAS	F		365	1280	CFT	2440	2440		CYL	2	1
311																			
312	TRIM SOL COOLANT	Petroleum Oil	8002-05-9	N	N	IRR	M	LIQ	C		365	55	GAL	165	165		SD	1	1
313		Petroleum Sulfonate	68410-99-2	N	N														
314		Chlorinated Alkane Polymer	68410-99-2	N	N														
315	VAC-2 OIL			N	N	IRR	P	LIQ	C		365	55	GAL	254	254		SD	1	1
316	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	IRR		365	200	GAL	200	200		AGT	1	1
317	909 CLEANER, TANK 1-7, 1-5	Sodium Metasilicate	6834-92-0	N	N	IRR TO	M	SOL	C		365	500	GAL	500	500		ATB	1	1
318	BN CLEANER, TANK 2-8	Sodium Hydroxide	1310-73-2	N	N	OX CO	M	LIQ	C		365	250	GAL	250	250		ATB	1	1
319		Nitrilotriacetic Acid	5064-31-3	N	N														
320	ALUMINUX 1000, TANK 2-6	Sodium Hydroxide	1310-73-2	N	N	IRR/TO	M	LIQ	C		365	250	GAL	250	250		ATB	1	1
321	HYDROCHLORIC ACID (15%), TANK	Hydrochloric Acid	7647-01-0	N	N	COR	P	LIQ	C		365	75	GAL	75	75		ATB	1	1
322	ELECTROPOLISH, TANK 1-2	Phosphoric Acid	7664-38-2	N	N	IRR CO	M	LIQ	C		365	250	GAL	250	250		ATB	1	1
323		Sulfuric Acid	7664-93-9	N	Y														
324	M.F. ACID, TANK 2-4	Ammonium Bifluoride	1341-49-7	N	N	IRR CO	P	LIQ	C		365	250	GAL	250	250		ATB	1	1
325	PONDAX, TANK 2-1	Sodium Bisulfate	7681-38-1	N	N	OR TO	M	SOL	C		365	250	GAL	250	250		ATB	1	1
326		Ammonium Fluorosilicate	1309-32-6	N	N														
327	BRITE DIP, TANK 3-4	Acetic Acid	64-19-7	N	N	TOX IRF	M	LIQ	A		365	100	GAL	100	100		ATB	1	2
328		Chromic Acid	1333-82-0	N	N														
329		Nitric Acid	7697-37-2	N	Y														
330	BRITE DIP, TANK 3-2	Sulfuric Acid	7664-93-9	N	Y	IRR CO	M	LIQ	C		365	100	GAL	100	100		ATB	1	2
331		Nitric Acid	7697-37-2	N	Y														
332	ANODIZE TANK (15% sulfuric acid)	Sulfuric Acid	7664-93-9	N	Y	IRR CO	M	LIQ	C		365	250	GAL	250	250		ATB	1	2
333	ELECTROLESS NICKEL TANK	Nickel Sulfate	7786-81-4	N	N	TOX IRF	M	LIQ	C		365	250	GAL	250	250		ATB	1	1
334		Ammonium Hydroxide	1336-21-6	N	N														
335	SULFUR HEXAFLUORIDE	Sulfur Hexafluoride	2551-62-4	N	N	OHH	P	GAS	C		365	244	CFT	244	244		CYL	2	1
336	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	732	CFT	1400	1400		CYL	2	1
337	ACETYLENE	Ethyne	74-86-2	N	N	FG	P	GAS	F		365	976	CFT	976	976		CYL	2	1
338																			
339	**Building 77J**																		
340	SODIUM METABISULFATE		7681-57-4	N	N	IRR	P	SOL	IRR		365	50	LBS	1200	600		BAG	1	1
341	CALCIUM CHLORIDE		10043-52-4	N	N	IRR	P	SOL	IRR		365	50	LBS	1000	700		BAG	1	1
342																			
343	**Building 77K**																		
344	BLUE GOLD EVERCLEAN			N	N	IRR/TO	M	LIQ	C		365	55	GAL	220	110		PD	1	1
345	FAST GOLD LN			N	N	IRR/TO	M	LIQ	C		365	55	GAL	220	110		PD	1	1
346	ELECTROLESS NICKEL TANK	Nickel Sulfate	7786-81-4	N	N	TOX IRF	M	LIQ	C		365	55	GAL	55	55		PD	1	1
347		Ammonium Hydroxide	1336-21-6	N	N														
348																			

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
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4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
349	**Building 77L**																		
350	CAUSTIC SODA, 50%	Sodium Hydroxide	1310-73-2	N	N	COR	P	SOL	C		365	55	GAL	110	55		PD	1	1
351	SODIUM HYDROXIDE	Sodium Hydroxide	1310-73-2	N	N	COR	P	SOL	C		365	55	GAL	220	110		PD	1	1
352	909 CLEANER	Sodium Metasilicate	6834-92-0	N	N	IRR TO	M	SOL	C		365	400	LBS	1200	800		PD	1	1
353																			
354	**Building 77M**																		
355	IRON CHLORIDE	Iron Chloride	7705-08-0	N	N	IRR	P	LIQ	C		365	55	GAL	560	120		PD	1	1
356	SULFURIC ACID	Sulfuric Acid	7664-93-9	N	Y	IRR CO	M	LIQ	C		365	85	GAL	440	220		PD	1	2
357																			
358	**Building 79**																		
359	OXYGEN	Oxygen	7782-44-7	N	N	FG	P	GAS	F		365	230	CFT	520	520		CYL	2	1
360	ACETYLENE	Acetylene	74-86-2	N	N	FG	P	GAS	F		365	325	CFT	485	485		CYL	2	1
361	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	230	CFT	260	260		CYL	2	1
362	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	125	CFT	250	250		CYL	2	1
363																			
364	**Building 79A**																		
365	ACETONE	Acetone	67-64-1	N	N	FL	P	LIQ	C		365	55	GAL	110	110		SD	1	1
366	ISOPROPYL ALCOHOL	Isopropyl Alcohol	67-63-0	N	N	FL	P	LIQ	F		365	55	GAL	55	55		SD	1	1
367	DELO 400, SAE 30 WT. OIL	Motor Oil	00034-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	165	165		SD	1	1
368	DTE 24-OIL		003047-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	275	275		SD	1	1
369	DTE-26 OIL		000619-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	275	275		SD	1	1
370	DTE LIGHT OIL			N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
371	DTE MEDIUM			N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
372	ISOPROPYL ALCOHOL	Isopropyl Alcohol	67-63-0	N	N	FL	P	LIQ	F		365	55	GAL	55	55		SD	1	1
373	KEROSENE	Kerosene	8008-20-6	N	N	FL	P	LIQ	F		365	55	GAL	55	55		SD	1	1
374	MPO-180 VACUUM PUMP OIL		000826-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	110	110		SD	1	1
375	SHELL MORLINA OIL 220		000034-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
376	TURBINE OIL HEAVY		000034-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
377	TURBINE OIL HEAVY/MEDIUM		000034-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
378	VELO-6 OIL		000326-00-1	N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
379	ZEP FORMULA-50	Sodium Hydroxide	1310-73-2	N	N	TOX	M	LIQ	C		365	55	GAL	160	160		PD	1	1
380		Sodium Carbonate	497-19-8	N	N														
381		Trithanolamine	102-71-6	N	N														
382	LACQUER THINNER		000407-00-0	N	N	FL	P	LIQ	F		365	55	GAL	55	55		SD	1	1
383	MINERAL OIL		64742-19-4	N	N	IRR	P	LIQ	C		365	55	GAL	55	55		SD	1	1
384																			
385	**Building 80**																		
386	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	53	GAL	87	87		CYL	2	4
387																			
388	**Building 82**																		
389	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	350	GAL	350	350		AGT	1	1
390																			
391	**Building 83**																		
392	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	4000	GAL	4000	4000		AGT	1	1
393	FERROUS SULFATE HEPTAHYDRATE		7782-63-0	N	N	IRR	P	LIQ	C		365	250	GAL	250	250		PD	1	1
394																			
395	**Building 84**																		
396	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	6000	GAL	6000	6000		AGT	1	1

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
397	NITROGEN, LIQUID	Nitrogen	7727-37-9	N	N	OHH	P	LIQ	P		365	2500	LBS	3750	3750		AGT	2	4
398	OXYGEN	Oxygen	7782-44-7	N	N	FG	P	GAS	F		365	250	LBS	250	250		CYL	2	1
399	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	230	CFT	3680	3680		CYL	2	1
400	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	250	CFT	275	275		CYL	2	1
401	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	2500	LBS	3000	3000		CYL	2	1
402	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	250	LBS	250	250		CYL	2	1
403																			
404	**Building 85**																		
405	ARGON	Argon	7440-37-1	N	N		P	LIQ	P		365	1795	GAL	179	1795		CYL	2	4
406	METHANE	Methane	74-82-9	N	N	FG	P	GAS	F		365	1100	CFT	1100	1100		CYL	2	1
407	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	2500	GAL	2500	2500		UGT	1	1
408	PHOTO FIXER	silver -<0.1%	7440-22-4	N	N	TOX	WASTE	LIQ	C	541	365	5	GAL	110	55	2000	CAR	1	1
409		Thiosulfate - 5%	1405-41-0	N	N														
410		acetic acid - 2-5%	64-19-7	N	N														
411	SLUDGES W/ METALS	copper - 0.1%	7440-50-8	N	N	TOX	WASTE	LIQ	C	491	365	30	GAL	120	120	1500	SD	1	1
412		aluminum - 0.0001%	7429-90-5	N	N														
413		nickel - 0.0001%	7440-02-0	N	N														
414		chromium - 0.0001%	7440-47-3	N	N														
415		zinc - 0.1%	7440-66-6	N	N														
416	DIESEL FUEL		000169-00-0	N	N	IRR	P	LIQ	F		365	56	GAL	56	56		AGT	1	1
417	RAGS & CLEANING DEBRIS	lead - 0.001%	7439-92-1	N	N	TOX	WASTE	SOL	C	181	365	55	GAL	400	400	3000	SD	1	1
418	WATER W/HEAVY METALS	chromium - 0.0001%	7440-47-3	N	N	TOX	WASTE	LIQ	C	132	365	55	GAL	110	110	2000	PD	1	1
419		nickel - 0.0001%	7440-02-0	N	N														
420		copper - 0.1%	7440-50-8	N	N														
421	OIL	oil - 100%	000826-00-0	N	N	C	WASTE	LIQ	F	221	365	55	GAL	350	180	3000	SD	1	1
422	MIXED SOLVENTS	acetone - 17-100%	67-64-1	N	N	FL	WASTE	LIQ	F	212	365	5	GAL	310	310	3000	CAN	1	1
423		ethyl acetate - 5%	141-78-6	N	N														
424		MEK - 1%	78-93-3	N	N														
425		methanol - 3-5%	67-56-1	N	N														
426		ethanol 1-50%	64-17-5	N	N														
427	ACIDIC SOLUTIONS	hydrochloric 0.1-2%	7674-01-0	N	N	COR	WASTE	LIQ	A	792	365	5	GAL	110	110	700	GB	1	1
428		nitric 0.1-9%	7697-37-2	N	N														
429		hydrobromic 1-2%	10035-10-6	N	N														
430		phosphoric 0-5%	7664-38-2	N	N														
431		hydrofluoric 0-5%	7664-39-3	N	N														
432	BASIC SOLUTIONS	sodium hydroxide 3-50%	1310-73-2	N	N	COR	WASTE	LIQ	A	112	365	5	GAL	110	110	1000	GB	1	1
433		potassium hydroxide 1-10%	1310-58-3	N	N														
434	WATER W/ORGANICS	chloroform >6ppm	67-66-3	N	N	TOX	WASTE	LIQ	C	551	375	55	GAL	275	275	127*	SD	1	1
435	ORGANICS W/METALS	methanol - 3-5%	67-56-1	N	N	TOX	WASTE	SOL	C	342	365	55	GAL	140	140	100**	PD	1	1
436		barium <1%	7440-39-3	N	N														
437		potassium <1%	9/7/7440	N	N														
438		vanadium <1%	7440-62-2	N	N														
439	WASTE PAINTS	Naphtha 10-25%	n/a	N	N	FL	WASTE	LIQ	F	331	365	1	GAL	30	5	400	CAN	1	1
440		MEK 0-1%	78-93-3	N	N														
441	MIXED Halogenated Solvents	tetrachloroethylene 0-50%	127-18-4	N	N	TOX	WASTE	LIQ	C	551	365	5	GAL	55	20	1000	SD	1	1
442		1,1,1-trichlroethane 0-50%	71-55-6	N	N														
443		chloroform 0-50%	67-66-3	N	N														
444		phenol 0-50%	108-95-2	N	N														
445	PYROPHORIC LIQUIDS	aluminum alkyls 0-10%		N	N	FL	WASTE	LIQ	F	331	365	0.1	GAL	4 LBS	1 LBS	10 LBS		1	1

		B	C	D	E	F		H	I	J	K	L	M	N	O	P	Q	R	S
1	**E.O. Lawrence Berkeley National Laboratory**																		
2																			
3	**9**	**8 & 30**	**10**	**11**	**12**	**13**	**14**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
4	**Name**	**Chemical**		**Trade**		**FC**	**Pure**		**Fed**	**State**		**Largest**		**Max**	**Ave**	**Ann**			
5	**Common**	**Name**	**Cas N**	**Secret**	**EHS**	**Class**	**Mix**	**State**	**Haz Cat**	**Waste**	**days**	**Cont**	**Unit**	**Daily**	**Daily**	**Waste**	**Cont**	**Press**	**Temp**
6		**(components)**								**Code**									
446		lithium alkyls, 0-10%		N	N														
447		toluene 40-50%		N	N														
448		xylene, 40-50%		N	N														
449	FLAMMABLE METALS	SODIUM 0-10%		N	N	FS	WASTE	SOL	F	155	365	0.25	GAL	20 LBS	2 LBS	50 LBS		1	1
450		LITHIUM 0-10%		N	N														
451		CALCIUM 0-1%		N	N														
452		BARIUM 0-1%																	
453		OIL, 90-100%																	
454																			
455	**Building 85A**																		
456	OIL	oil - 100%	000826-00-0	N	N	C	WASTE	LIQ	F	221	365	55	GAL	350	180	3000	SD	1	1
457	MOBILFLUID 424		000034-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	55	55		PD	1	1
458	FLAMMABLE LIQUIDS	acetone - 17-100%	67-64-1	N	N	FL	WASTE	LIQ	F	551	365	55	GAL	6600	400	1000		1	1
459		ethyl acetate - 5%	141-78-6																
460		MEK - 1%	78-93-3																
461		methanol - 3-5%	67-56-1																
462		ethanol 1-50%	64-17-5																
463		hexane 0-10%																	
464		diesel fuel/gasoline 0-10%																	
465																			
466	**Building 86**																		
467	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	50	LBS	100	100		CYL	2	1
468																			
469	**Building 88**																		
470	1, 1, 1-TCA	1, 1, 1 Trichloroethane	71-55-6	N	N	TOX	P	LIQ	C		365	55	GAL	55	55		SD	1	1
471	CARBON DIOXIDE	Carbon Dioxide	124-38-9	N	N		P	GAS	P		365	200	CFT	617	617		CYL	2	1
472	HELIUM	Helium	7440-59-7	N	N		P	GAS	P		365	344	CFT	2500	2500		CYL	2	1
473	NITROGEN	Nitrogen	7727-37-9	N	N	OHH	P	GAS	P		365	200	CFT	1800	1800		CYL	2	1
474	NITROGEN, LIQUID	Liquid Nitrogen	7727-37-9	N	N	CRY	P	LIQ	P		365	8000	GAL	8000	8000		AGT	2	4
475	COMPRESSED GAS N.O.S.			N	N		M	GAS	P		365	204	CFT	1224	1224		CYL	2	1
476	P-10 GAS	Argon (90%)	7440-37-1	N	N		P	GAS	F		365	244	CFT	1708	1708		CYL	2	1
477		Methane (10%)	74-82-8	N	N	FG	P	GAS	F										
478	VACUUM PUMP OIL		000826-00-0	N	N	IRR	P	LIQ	C		365	55	GAL	700	700		SD	1	1
479	ARGON	Argon	7440-37-1	N	N		P	GAS	P		365	217	CFT	217	217		CYL	2	4
480	SULFUR DIOXIDE	Sulfur Dioxide (7446-09-5)		N	N	TX/COR	P	GAS	C		365	217	CFT	217	217		CYL	2	1

City of Berkeley Report

Mar-11

Lawrence Berkeley National Laboratory Site-Wide Report => 500 pounds (solid), 200 cubic feet of gas, and 55 gallons (liquid)

Cas Number	Chemical Name	Phys. State	FC Class	Qty	Unit	Largest	Pressure	Temperature
143-24-8	2,5,8,11,14-PENTAOXAPENTADECANE	LIQ	FL	66	GAL	66	Ambient pressure	Ambient temperature
67-64-1	ACETONE	LIQ	FL	561	GAL	55	Ambient pressure	Ambient temperature
74-86-2	ACETYLENE	LIQ	FG	1122	GAL	1122	Greater than ambient	Ambient temperature
74-86-2	ACETYLENE	GAS	FG	3384	CFT	998	Greater than ambient	Ambient temperature
124-38-9	CO2	LIQ		450	GAL	150	Greater than ambient	Ambient temperature
1344-28-1	ALUMINUM OXIDE	SOL	IRR	560	LB	50	Ambient pressure	Ambient temperature
7664-41-7	AMMONIA	GAS	TOX	308	CFT	144	Greater than ambient	Ambient temperature
1336-21-6	AMMONIUM HYDROXIDE	LIQ	IRR	102	GAL	54	Ambient pressure	Ambient temperature
7440-37-1	ARGON	GAS		54669	CFT	2939	Greater than ambient	Ambient temperature
7440-37-1	ARGON	LIQ		64867	GAL	34410	Greater than ambient	Cryogenic temperatures
	BOILER TREATMENT (Sodium nitrite, 2-Mercatobenzothiazole)	LIQ	IRR/COR	660	GAL	55	Ambient pressure	Ambient temperature
10043-52-4	CALCIUM CHLORIDE	SOL	IRR	700	LB	50	Ambient pressure	Ambient temperature
124-38-9	CARBON DIOXIDE	GAS	OX	56547	CFT	21900	Greater than ambient	Ambient temperature
630-08-0	CARBON MONOXIDE	GAS	TOX	2484	CFT	220	Greater than ambient	Ambient temperature
67-66-3	CHLOROFORM	LIQ	TOX	103	GAL	6	Ambient pressure	Ambient temperature
74-87-3	CHLOROMETHANE	GAS	FL/TOX	200	CFT	200	Ambient pressure	Ambient temperature
	COMPRESSED GAS N.O.S.	GAS		1514	CFT	204	Greater than ambient	Ambient temperature
7758-99-8	COPPER(II) SULFATE, PENTAHYDRATE (1:1:5)	SOL	IRR	250	GAL	250	Ambient pressure	Ambient temperature
7782-39-0	DEUTERIUM	GAS	FG	608	CFT	200	Greater than ambient	Ambient temperature
000169-00-0	DIESEL FUEL	LIQ	IRR	32099	GAL	32099	Ambient pressure	Ambient temperature
67-68-5	DIMETHYL SULFOXIDE	LIQ	IRR	163	GAL	132	Ambient pressure	Ambient temperature
	ELECTROLESS NICKEL 795 (Nickel Sulfate, Ammonium Hydroxide)	LIQ	IRR/TOX	60	GAL	55	Ambient pressure	Ambient temperature
74-84-0	ETHANE	GAS	FG	237	CFT	220	Greater than ambient	Ambient temperature
75-82-1	ETHANE, 1,2-DIBROMO-1,1-DIFLUORO-	GAS	FG	238	CFT	238	Greater than ambient	Ambient temperature
64-17-5	ETHANOL	LIQ	FL	1450	GAL	22	Ambient pressure	Ambient temperature
64-17-5	ETHANOL (FOR AUTOS)	LIQ	FL	4000	GAL	4000	Ambient pressure	Ambient temperature
141-78-6	ETHYL ACETATE	LIQ	TOX/FL	115	GAL	5	Ambient pressure	Ambient temperature
74-85-1	ETHYLENE	GAS	FG	1503	CFT	244	Greater than ambient	Ambient temperature
76-13-1	FREON 113	LIQ	IRR	58	GAL	50	Ambient pressure	Ambient temperature
	FREON MIXTURE	GAS	IRR	851	CFT	230	Greater than ambient	Ambient temperature
8006-61-9	GASOLINE, UNLEADED	LIQ	IRR/COR	10000	GAL	10000	Ambient pressure	Ambient temperature
7440-59-7	HELIUM	GAS		357	LB	250	Greater than ambient	Ambient temperature
7440-59-7	HELIUM	GAS		41151	CFT	1220	Greater than ambient	Ambient temperature
392-56-3	HEXAFLUOROBENZENE	GAS	TOX	450	CFT	225	Greater than ambient	Ambient temperature
110-54-3	HEXANE	LIQ	FL	108	GAL	5	Ambient pressure	Ambient temperature
7647-01-0	HYDROCHLORIC ACID	LIQ	IRR/COR	133	GAL	6	Ambient pressure	Ambient temperature
1333-74-0	HYDROGEN	GAS	FG	42658	CFT	960	Ambient pressure	Ambient temperature
7705-08-0	IRON CHLORIDE	LIQ	IRR	171	GAL	55	Ambient pressure	Ambient temperature
67-63-0	ISOPROPYL ALCOHOL	LIQ	FL	465	GAL	55	Ambient pressure	Ambient temperature
8008-20-6	KEROSENE	LIQ	FL	80	GAL	55	Ambient pressure	Ambient temperature
	LAQUER THINNER (acetone, methanol, toluene, solvent naptha light aromatic, cyclohexane, heptane, methyl cyclohexane)	LIQ	FL	60	GAL	55	Ambient pressure	Ambient temperature
74-82-8	METHANE	GAS	FG	7278	CFT	1100	Greater than ambient	Ambient temperature
67-56-1	METHANOL	LIQ	FL	559	GAL	5	Ambient pressure	Ambient temperature
75-09-2	METHYLENE CHLORIDE	LIQ	TOX	124	GAL	5	Ambient pressure	Ambient temperature
64742-19-4	MINERAL OIL	LIQ	IRR	55	GAL	55	Ambient pressure	Ambient temperature
7440-01-9	NEON	LIQ		1496	GAL	1496	Ambient pressure	Cryogenic temperatures
7440-01-9	NEON	GAS		1657	CFT	230	Greater than ambient	Ambient temperature
7697-37-2	NITRIC ACID	LIQ	TOX/IRR	84	GAL	1	Ambient pressure	Ambient temperature
7727-37-9	NITROGEN	LIQ	OHH	36681	GAL	28426	Greater than ambient	Cryogenic temperatures
7727-37-9	NITROGEN	GAS	OHH	79970	CFT	17250	Greater than ambient	Ambient temperature
10102-43-9	NITROGEN MONOXIDE	GAS	TOX	342	CFT	150	Greater than ambient	Ambient temperature
10024-97-2	NITROUS OXIDE	GAS	TOX	220	CFT	219	Ambient pressure	Ambient temperature
	OIL, MOTOR, LUBRICATING, AND HYDRAULIC	LIQ	IRR	1476	GAL	500	Ambient pressure	Ambient temperature
7782-44-7	OIL, VACUUM PUMP	LIQ	IRR	1500	GAL	55	Ambient pressure	Ambient temperature

	P-10 GAS (argon, methane)	GAS	FG	2398	CFT	690	Greater than ambient	Ambient temperature
	PERFLUORO CARBON MIX	GAS	IRR	825	CFT	225	Greater than ambient	Ambient temperature
355-02-2	PERFLUORO-METHYLCYCLOHEXANE	GAS	IRR	450	CFT	225	Greater than ambient	Ambient temperature
335-27-3	PERFLUORO-1,3-DIMETHYLYCLOHEXANE	GAS	IRR	732	CFT	282	Greater than ambient	Ambient temperature
7664-38-2	PHOSPHORIC ACID	LIQ	IRR/COR	61	GAL	15	Ambient pressure	Ambient temperature
122-52-1	PHOSPHOROUS ACID, TRIETHYL ESTER	LIQ	IRR/COR	133	GAL	132	Ambient pressure	Ambient temperature
7757-79-1	POTASSIUM NITRATE	SOL	IRR	507	LB	453	Ambient pressure	Ambient temperature
74-98-6	PROPANE	GAS	FG	4005	CFT	200	Greater than ambient	Ambient temperature
115-07-1	PROPENE	GAS	FG	823	CFT	200	Greater than ambient	Ambient temperature
7803-62-5	SILANE	GAS	FG	210	CFT	200	Greater than ambient	Ambient temperature
14808-60-7	SILICA, CRYSTALLINE - QUARTZ	SOL		509	LB	100	Ambient pressure	Ambient temperature
144-55-8	SODIUM BICARBONATE, PURATRONIC	SOL		1570	LB	1102	Ambient pressure	Ambient temperature
7647-14-5	SODIUM CHLORIDE	SOL		1463	LB	220	Ambient pressure	Ambient temperature
1310-73-2	SODIUM HYDROXIDE	SOL	IRR/TOX	1005	LB	400	Ambient pressure	Ambient temperature
1310-73-2	SODIUM HYDROXIDE	LIQ	IRR/TOX	523	GAL	240	Ambient pressure	Ambient temperature
7681-52-9	SODIUM HYPOCHLORITE	LIQ	IRR/TOX	142	GAL	11	Ambient pressure	Ambient temperature
	SPECIALTY FAST AND BLUE GOLD LN (aluminum dye)	LIQ	IRR/TOX	220	GAL	55	Ambient pressure	Ambient temperature
7446-09-5	SULFUR DIOXIDE	GAS	TOX/COR	217	CFT	217	Greater than ambient	Ambient temperature
2551-62-4	SULFUR HEXAFLUORIDE	GAS	OHH	8000	CFT	225	Greater than ambient	Ambient temperature
7664-93-9	SULFURIC ACID	LIQ	IRR/COR	359	GAL	55	Ambient pressure	Ambient temperature
108-88-3	TOLUENE	LIQ	TOX	101	GAL	5	Ambient pressure	Ambient temperature
	TRIM SOL COOLANT (petroleum oil, petroleum sulfonate, chlorinated alkane polymer)	LIQ	IRR	235	GAL	55	Ambient pressure	Ambient temperature
	ZEP FORMULA 50 (sodium hydroxide, sodium carbonate, trithanolamine)	LIQ	IRR/TOX	110	GAL	55	Ambient pressure	Ambient temperature

Universal Waste Generator Report

UNIVERSAL WASTE GENERATOR REPORTING FORM

Facility Name: Lawrence Berkeley National Laboratory
Address: 1 Cyclotron Road, Berkeley, CA 94720

Reporting Period: calendar year 2010 (January 1 through December 31, 2010)
Report all quantities of the following Universal Wastes (UWs):
Annual UW Generation (in pounds)

1. Electronic devices (e.g. cell phones, televisions, VCRs, computer CPUs, portable DVD players):	45,616 lbs
2. Batteries (all batteries except auto, including AAA, AA, A, C, D, 9-volt, silver button cell, alkaline, nickel-cadmium, rechargeable):	6,318 lbs
3. Mercury-containing equipment (e.g. dental amalgam, mercury switches, mercury-added novelties, counterweights, thermostats):	39 lbs
4. Electric lamps (fluorescent tubes and bulbs, high-intensity discharge lamps, sodium vapor lamps). Broken lamps in pounds:	30 lbs
Fluorescent tubes and bulbs [report in linear feet]:	13,528 LF
5. CRTs [cathode ray tubes] (glass picture tubes removed from televisions, monitors):	30,921 lbs
6. CRT glass (cathode ray tube, broken or processed for recycling)	
7. Non-empty aerosol cans: 0 – All are drained and crushed.	
8. Other	
Annual Throughput - Total Pounds:	**82,924 lbs**
Annual Throughput - Total Linear Feet:	**13,528 LF**

Universal wastes represent a serious potential health hazard due to significant amounts of arsenic, beryllium, cadmium, copper, lead, mercury, nickel, zinc and other materials. For detailed requirements on Universal Waste handling and management requirements please refer to the California Department of Toxics Substances Control (DTSC) website at:
http://www.dtsc.ca.gov/HazardousWaste/UniversalWaste/upload/UW_Factsheet1.pdf

Universal Wastes may not be disposed of in the trash!

Emergency Response Plan

Emergency Response Plan/Contingency Plan

The following items are elements of a comprehensive emergency response/contingency plan that meets state requirements. If your facility has a written plan, or if you are to prepare one, make sure all the elements listed are covered by your plan. Small facilities with simple operations may complete the boxes below to be in compliance with the written emergency plan requirement. Please submit a copy of your written response plan or complete and submit this form.

I. Facility Information

Facility Name: E.O. Lawrence Berkeley National Laboratory	Phone: (510) 486-5514
Address: One Cyclotron Road	
City: Berkeley	Zip: 94720

II. Emergency Coordinators

Primary Coordinator	Secondary Coordinator
Name: ALCO Fire Department	Name: Emergency Contact Team
Title: Incident Commander	Title: LBNL 24/7 Emergency Contact Team
Work Phone: 925-447-4257	Work Phone: Non-emergency (510) 486-4050
After hours Phone: 9-911	After hours Phone: Emergency (510) 486-6999
Pager: N/A	Pager: N/A

III. Emergency Telephone Numbers and Arrangements

The emergency coordinator shall immediately notify the following whenever a release, fire, or explosion threatens human health or the environment:

Agency	Phone
Fire Department	911
State Office of Emergency Services (OES)	1-800-852-7550
City of Berkeley Toxics Management Division	(510) 981-7460 or 911
Hospital/Medical Center (if injuries)	Alta Bates Hospital (510) 204-1303
EBMUD Waste Water Treatment Facility (if to sewer)	(510) 287-1651
Hazardous Waste Contractor (if clean up needed)	Veolia Environmental Services (800) 325-2382
Bay Area Air Quality Management District	(800) 334-6367 or (415) 771-6000
Other agencies:	

Arrangements: (Please check one box)

- ☐ We have no formalized written agreements with any emergency response agency or contractor.
- ☑ We have formalized written agreements with LBNL participates in the State Mutual Aid Agreement Telephone: (510) 486-9911 for emergency response.

IV. Earthquake Response

Identify the areas and/or mechanical equipment or other systems that could require immediate inspection or isolation because of their vulnerability to earthquake related ground motion.

Areas/equipment identified to be inspected immediately after an earthquake:	Areas or equipment generally vulnerable to earthquake-related ground motion include chemical storage areas/cabinets, gas cylinders and dewars, waste collection and storage areas, cold storage and water systems.

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V. Emergency Equipment Inventory Table

EQUIPMENT CATEGORY	✓ if these are provided	Equipment	Location*	Description**
Personal Protective Equipment, Safety Equipment, First Aid Equipment	✓	Chemical Protective Boots		
	✓	Chemical Protective Gloves		
	✓	Safety Glasses/Goggles/Face shields		
	✓	Chemical Protective Clothing		
	✓	Hard Hats		
	✓	Chemical Monitoring Equipment (describe)		
	✓	First Aid Kits		
	✓	Eye Wash Stations		
	✓	Safety Showers		
	✓	Cartridge Respirators and Cartridges (describe)		
	✓	Self-Contained Breathing Apparatus (SCBA)		
		Other (describe)		
Fire Extinguishing Systems	✓	Fire Extinguishers		The Lab's Fire Dept maintains haz mat response.
	✓	Automatic Fire Systems		Equipment set forth in Alameda County Haz Mat Plan.
	✓	Fire Alarm Boxes		All buildings have extinguishers, detectors, sprinklers.
Spill Control Equipment, Decontamination Equipment	✓	Absorbents, Neutralizers (describe)		
	✓	Shovels/Brooms/Squeegees		Fire Department and Waste Accumulation Areas.
	✓	Overpack drum/Spill drum		Fire Dept & Waste Accumulation Areas (WAAs) maintain appropriate equipment.
	✓	Berms/Dikes (describe)		
	✓	Decontamination Equipment (describe)		
	✓	Gas cylinder leak repair kits (describe)		
		Other (describe)		
Communications and Alarm Systems	✓	Telephones		A site-wide communications system is maintained and connected to Fire Dpet Dispatch.
	✓	Intercoms/PA systems		Maintained and connected to the Fire Department.
	✓	Portable 2 way radios		Members of the Building Emergency Teams.
		UST leak detection monitors		
	✓	Chemical alarms (describe)		
Additional Equipment (Use additional pages if needed)	✓	Emergency Rescue Boxes containing various emergency response equipment.	Locations throughout the site	22 locations on-site + 6 locations off-site.

* If appropriate, use the location code(s) from your Hazardous Materials Business Plan.

** Describe the equipment, such as type and quantity, and its capabilities. If applicable, specify any testing/maintenance procedures/intervals.

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VI. Evacuation Information:

Evacuation Announcement	✓ Bell ✓ PA System Other Building Emergency Teams ✓ Horn ✓ Shouting
Evacuation Route	✓ Map Other Site and Building Evacuation Plans
Assembly Area	Location: Per each building plan.
Re-entry Procedures	Guidelines set forth in Master Emergency Program Plan.

VII. Emergency Procedures:

Emergency Coordinator Responsibilities:

1. Whenever there is an imminent or actual emergency situation such as a explosion, fire, or release, the emergency coordinator *(or his/her designee when the emergency coordinator is on call)* shall:
   a. Identify the character, exact source, amount, and aerial extent of any released hazardous materials.
   b. Assess possible hazards to human health or the environment that may result from the explosion, fire, or release. This assessment must consider both direct and indirect effects *(e.g. the effects of any toxic, irritating, or asphyxiating gases that are generated, the effects of any hazardous surface water run-off from water or chemical agents used to control fire, etc.).*
   c. Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
   d. Notify appropriate local authorities *(i.e., call 911).*
   e. Notify the State Office of Emergency Services at 1-800-852-7550.
   f. Monitor for leaks, pressure build-up, gas generation, or ruptures in valves, pipes, or other equipment shut down in response to the incident.
   g. Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials at the facility.

2. Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall:
   a. Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from a explosion, fire, or release at the facility.
   b. Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.
   c. Ensure that all emergency equipment is cleaned, fit for its intended use, and available for use.
   d. Notify the Cal/EPA's Department of Toxic Substances Control and the City of Berkeley Toxics Management Division that the facility is in compliance with requirements 2-a and 2-b, above.

Special site specific procedures:

Emergency	Response Action
Hazardous Material & Hazardous Waste Spills/Releases:	Procedures included in the State of California Department of Toxic Substance Control, Part B Permit, and Alameda County Hazardous Materials Plan.
Fire	" " " " " "
Explosion	" " " " " "
Earthquake	" " " " " "
Other	" " " " " "

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Employee Training Plan

Employee Training Plan

1. Scope

This plan is designed to provide employees with training on hazardous materials and hazardous waste that will satisfy the requirements of the California Health and Safety Code Chapter 6.95 and Chapter 6.5.

Facility Name:	E.O. Lawrence Berkeley National Laboratory
Address:	One Cyclotron Road, Berkeley CA 94720
Main Activity:	Scientific Research
Building or Areas where hazardous materials/wastes are found:	See Appendix B

2. Responsibilities

The following persons are responsible for ensuring that this Training Plan is implemented:

Name/Title	Training Responsibility
Don Lucas	EH&S Assurance and Training Manager

3. Employees/New Employees

New employees are trained during orientation, before starting on a job? ☑ YES ☐ NO

New employees who handle hazardous waste are trained in hazardous waste management within six months of hire date? ☑ YES ☐ NO

4. New Assignments or Changes in Operations

In the event of new assignments or of changes in operation, affected employees are trained before the new assignment or the change in operation takes place. ☑ YES ☐ NO

5. Refresher Training

Refresher training will be provided as needed (how often). The method used will be: *(check all that apply)*

☑ Outside classes ☑ In-house classes provided by contractor

☑ Safety meetings ☑ In-house classes conducted by in-house trainers

6. Training Topics

The following table indicates the training topics covered for this facility, as indicated with a ☑. Other documentation on these training topics is maintained and are available to the inspector upon request.

All employees are trained to do the following procedures, as appropriate:	
☑	1. Initiate, activate, or recognize internal alarms and other emergency announcements.
☑	2. Notify internal or on-site emergency responders listed in the emergency response/contingency plan.
☑	3. Notify agencies listed in the emergency/contingency plan.
☑	4. Locate and review contents of written emergency response/contingency plan.
☑	5. Initiate, conduct, or follow evacuation procedures as described in the emergency response/contingency plan.
Hazardous materials/waste handlers are additionally trained in the following subjects:	
☑	1. Safe methods for handling and storage of hazardous materials and hazardous waste.
☑	2. Locations and proper use of personal protective equipment.
☑	3. Locations and proper use of fire and spill control equipment.
☑	4. Specific hazards of each chemical or waste to which they may be exposed, including the pathways of exposure (i.e. skin absorption, inhalation, ingestion).
☑	5. Follow emergency procedures for chemical/waste spills, earthquake, fire, and/or medical emergencies as described in the emergency response/contingency plan.
☑	6. Hazardous waste handlers/managers are also trained in all aspects of hazardous waste management specific to their job duties (e.g. accumulation time, storage period, labels, inspection of containers and storage areas, uniform hazardous waste manifests, etc.)

7. Emergency Response Team

This facility has a formally organized Emergency Response Team. ☑ YES ☐ NO

Emergency Response Team members are additionally trained for the following activities:	
☑	1. Personnel rescue procedures.
☑	2. Shutdown of operations.
☑	3. Liaison with emergency response agencies.
☑	4. Use, maintenance, and replacement of emergency response equipment.
☑	5. Emergency response drills are conducted, at least *(specify frequency)* [One] times a year.
☑	6. Refresher training is provided, at least annually.

8. Recordkeeping

Employee training and other records are to be maintained at the facility. These include the following:

☑	1. Record of training for each employee (date and duration of training, subject matter covered, instructor, etc.).
☑	2. Training records of current and former employees. (For current employees, records are to be retained until closure of the facility. For former employees, training records are to be retained for at least 3 years after termination of employment.
☑	3. Description of introductory and continuing training programs for each employee classification.
☑	4. Current emergency response, contingency, and/or spill response plan (for underground or aboveground tanks).
☑	5. Description and documentation of emergency response drills.
☑	6. Record of reportable/recordable accidental releases of hazardous material/waste.
☑	7. Record of inspections of hazardous material/waste storage areas.
☑	8. Record of daily inspection of hazardous waste tanks.
☑	9. Inspection procedures for identified earthquake-sensitive areas and systems in the facility.

Note: *The above list does not necessarily include every type of record required to be maintained by your facility.*

Training records are maintained in the following location: Institutional computer database; contact Jack Salazar (486-6571) for more information.

UNDERGROUND STORAGE TANKS

- Permits
- UST Monitoring Plans
- UST Emergency Response Plan

UNDERGROUND STORAGE TANKS

- Permits
- UST Monitoring Plans
- UST Emergency Response Plan

City of Berkeley, Toxics Management Division

UNIFIED PROGRAM CONSOLIDATED FORM

UNDERGROUND STORAGE TANKS - FACILITY

(one page per site) Page 1 of 1

TYPE OF ACTION (Check one item only)
- ☐ 1. NEW SITE PERMIT
- ☒ 3. RENEWAL PERMIT
- ☐ 4. AMENDED PERMIT
- ☐ 5.CHANGE OF INFORMATION specify change local use only _____
- ☐ 6.TEMPORARY SITE CLOSURE
- ☐ 7.PERMANENTLY CLOSED SITE
- ☐ 8. TANK REMOVED

400

I. FACILITY / SITE INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Lawrence Berkeley National Laboratory

FACILITY ID# 1

NEAREST CROSS STREET 401
Gayley

BUSINESS TYPE ☐ 1. GAS STATION ☐ 3. FARM ☐ 5. COMMERCIAL ☐ 2. DISTRIBUTOR ☐ 4. PROCESSOR ☒ 6. OTHER 403

FACILITY OWNER TYPE
- ☐ 1. CORPORATION
- ☐ 2. INDIVIDUAL
- ☐ 3. PARTNERSHIP
- ☐ 4. LOCAL GENCY/DISTRICT*
- ☐ 5. COUNTY AGENCY*
- ☒ 6. STATE AGENCY*
- ☒ 7. FEDERAL AGENCY* 402

TOTAL NUMBER OF TANKS REMAINING AT SITE
6 404

Is facility on Indian Reservation or trustlands? ☐ Yes ☒ No 405

*If owner of UST is a public agency: name of supervisor of division, section or office which operates the UST (This is the contact person for the tank records.)
Walt Flannery (510) 486-4982 406

II. PROPERTY OWNER INFORMATION

PROPERTY OWNER NAME 407
Regents of the University of California

PHONE 408
Jim Krupnick (510) 486-6498

MAILING OR STREET ADDRESS 409
One Cyclotron Road, Mail Stop 50A-4112, Attention: Jim Krupnick

CITY 410
Berkeley

STATE 411
CA

ZIP CODE 412
94720

PROPERTY OWNER TYPE
- ☐ 1. CORPORATION
- ☐ 2. INDIVIDUAL
- ☐ 3. PARTNERSHIP
- ☐ 4. LOCAL AGENCY / DISTRICT
- ☐ 5. COUNTY AGENCY
- ☒ 6. STATE AGENCY
- ☐ 7. FEDERAL AGENCY 413

III. TANK OWNER INFORMATION

TANK OWNER NAME 414
United States Department of Energy, Berkeley Site Office

PHONE 415
Aundra Richards (510) 486-4345

MAILING OR STREET ADDRESS 416
One Cyclotron Road, Mail Stop 90-1023, Attention: Ms. Aundra Richards

CITY 417
Berkeley

STATE 418
CA

ZIP CODE 419
94720

TANK OWNER TYPE 420
- ☐ 1. CORPORATION
- ☐ 2. INDIVIDUAL
- ☐ 3. PARTNERSHIP
- ☐ 4. LOCAL AGENCY / DISTRICT
- ☐ 5. COUNTY AGENCY
- ☐ 6. STATE AGENCY
- ☒ 7. FEDERAL AGENCY

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER

TY (TK) HQ 44- Call (916) 322-9669 if questions arise 421

V. PETROLEUM UST FINANCIAL RESPONSIBILITY

INDICATE METHOD(s)
- ☐ 1. SELF-INSURED
- ☐ 2. GUARANTEE
- ☐ 3. INSURANCE
- ☐ 4. SURETY BOND
- ☐ 5. LETTER OF CREDIT
- ☒ 6. EXEMPTION
- ☐ 7. STATE FUND
- ☐ 8. STATE FUND & CFO LETTER
- ☐ 9. STATE FUND & CD
- ☐ 10. LOCAL GOVT MECHANISM
- ☐ 99. OTHER:_____

422

VI. LEGAL NOTIFICATION AND MAILING ADDRESS

Check one box to indicate which address should be used for legal notifications and mailing. Legal notifications and mailings will be sent to the tank owner unless box 1 or 2 is checked.
- ☐ 1. FACILITY
- ☒ 2. PROPERTY OWNER
- ☐ 3. TANK OWNER

423

VII. APPLICANT SIGNATURE

Certification – I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF APPLICANT Robert Fox

DATE 424
3/23/11

PHONE 425
Robert Fox (510) 486-7327

NAME OF APPLICANT (print) 426
Robert Fox

TITLE OF APPLICANT 427
Environment Specialist

STATE UST FACILITY NUMBER (For local use only) 428

1998 UPGRADE CERTIFICATE NUMBER (For local use only) 429

UST - Facility

Formerly SWRCB Form A.

Complete the UST - Facility page for all new permits, permit changes or any facility information changes. This page must be submitted within 30 days of permit or facility information changes, unless approval is required before making any changes.
Submit one UST - Facility page per facility, regardless of the number of tanks located at the site. This form is completed by either the permit applicant or the local agency underground tank inspector. As part of the application, the tank owner must submit a scaled facility plot plan to the local agency showing the location of the USTs with respect to buildings and landmarks [23 CCR ∋2711 (a)(8)], a description of the tank and piping leak detection monitoring program [23 CCR ∋2711 (a)(9)], and, for tanks containing petroleum, documentation showing compliance with state financial responsibility requirements [23 CCR ∋2711 (a)(11)].
Refer to 23 CCR ∋2711 for state UST information and permit application requirements.
(Note: the numbering of the instructions follows the data element numbers that are on the UPCF pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, Appendix C, the Business Section of the Unified Program Data Dictionary.)
Please number all pages of your submittal. This helps your CUPA or local agency identify whether the submittal is complete and if any pages are separated.

1. FACILITY ID NUMBER - Leave this blank. This number is assigned by the CUPA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
400. TYPE OF ACTION - Check the reason the page is being completed. CHECK ONE ITEM ONLY.
401. NEAREST CROSS STREET - Enter the name of the cross street nearest to the site of the tank.
402. FACILITY OWNER TYPE - Check the type of business ownership.
403. BUSINESS TYPE - Check the type of business.
404. TOTAL NUMBER OF TANKS REMAINING AT SITE - Indicate the number of tanks remaining on the site after the requested action.
405. INDIAN OR TRUST LAND - Check whether or not the facility is located on an Indian reservation or other trust lands.
406. PUBLIC AGENCY SUPERVISOR NAME - If the facility owner is a public agency, enter the name of the supervisor for the division, section or office which operates the UST. This person must have access to the tank records.
407. PROPERTY OWNER NAME -
408. PROPERTY OWNER PHONE
409. PROPERTY OWNER MAILING OR STREET ADDRESS
410. PROPERTY OWNER CITY
411. PROPERTY OWNER STATE
412. PROPERTY OWNER ZIP CODE

Complete items 407- 412 for the property owner, unless all items are the same as the Owner Information (items 111-116) on the Business Owner/Operator Identification page (OES Form 2730). If the same, write "SAME AS SITE" in this section.

413. PROPERTY OWNER TYPE - Check the type of property ownership.
414. TANK OWNER NAME -
415. TANK OWNER PHONE
416. TANK OWNER MAILING OR STREET ADDRESS
417. TANK OWNER CITY
418. TANK OWNER STATE
419. TANK OWNER ZIP CODE

Complete items 414- 419 for the tank owner,, unless all items are the same as the Owner Information (items 111-116) on the Business Owner/Operator Identification page (OES Form 2730). If the same, write "SAME AS SITE" in this section.

420. TANK OWNER TYPE - Check the type of tank ownership.
421. BOE NUMBER - Enter your Board of Equalization (BOE) UST storage fee account number. This fee applies to regulated USTs storing petroleum products. This is required before your permit application can be processed. If you do not have an account number with the BOE or if you have any questions regarding the fee or exemptions, please call the BOE at (916) 322-9669 or write to the BOE at: Board of Equalization, Fuel Taxes Division, P.O. Box 942879, Sacramento, CA 94279-0030.
422. PETROLEUM UST FINANCIAL RESPONSIBILITY CODE - Check the method(s) used by the owner and/or operator in meeting the Federal and State financial responsibility requirements. CHECK ALL THAT APPLY. If the method is not listed, check "other≅ and enter the method(s). USTs owned by any Federal or State agency and non-petroleum USTs are exempt from this requirement.
423. LEGAL NOTIFICATION AND MAILING ADDRESS - Indicate the address to which legal notifications and mailings should be sent. The legal notifications and mailings will be sent to the tank owner unless the facility (box 1) or the property owner (box 2) is checked.
SIGNATURE OF APPLICANT - The business owner/operator of the tank facility, or officially designated representative of the owner/operator, shall sign in the space provided. This signature certifies that the signer believes that all the information submitted is accurate and complete.
424. DATE CERTIFIED - Enter the date that the page was signed.
425. APPLICANT PHONE - Enter the phone number of the applicant (person certifying).
426. APPLICANT NAME - Enter the full printed name of the person signing the page.
427. APPLICANT TITLE - Enter the title of the person signing the page.
428. STATE UST FACILITY NUMBER - Leave this blank. This number is assigned by the CUPA as follows: the number is composed of the two digit county number, the three digit jurisdiction number, and a six digit facility number. The facility number must be the same as shown in item 1.
429. 1998 UPGRADE CERTIFICATE NUMBER - Leave this blank. This number is assigned by the CUPA.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS

UNDERGROUND STORAGE TANKS – TANK PAGE 1

(Two pages per tank)

TYPE OF ACTION (Check one item only) 430.
☐ 1. NEW PERMIT ☐ 4. AMENDED PERMIT ☐ 5. CHANGE OF INFORMATION ☐ 6. TEMPORARY TANK CLOSURE
☒ 3. RENEWAL PERMIT ☐ 7. PERMANENTLY CLOSED ON SITE
(Specify reason) (Specify reason) ☐ 8. TANK REMOVED

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Lawrence Berkeley National Laboratory

FACILITY ID: 1.

LOCATION WITHIN SITE (Optional) 431.
Building 2 - North Side

I. TANK DESCRIPTION

(A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432.	TANK MANUFACTURER 433.	COMPARTMENTALIZED TANK ☐ Yes ☒ No 434.
TK-3-2	Owens-Corning	If "Yes," complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435.	TANK CAPACITY IN GALLONS 436.	NUMBER OF COMPARTMENTS 437.
1988/July	4,000	N/A

ADDITIONAL DESCRIPTION (For local use only) 438.

II. TANK CONTENTS

TANK USE 439.
☐ 1. MOTOR VEHICLE FUEL
(If checked, complete Petroleum Type)
☒ 2. NON-FUEL PETROLEUM
☐ 3. CHEMICAL PRODUCT
☐ 4. HAZARDOUS WASTE (Includes Used Oil)
☐ 95. UNKNOWN

PETROLEUM TYPE 440.
☐ 1a. REGULAR UNLEADED ☐ 2. LEADED ☐ 5. JET FUEL
☐ 1b. PREMIUM UNLEADED ☒ 3. DIESEL ☐ 6. AVIATION GAS
☐ 1c. MIDGRADE UNLEADED ☐ 4. GASOHOL ☐ 99. OTHER: _____

COMMON NAME (from Hazardous Materials Inventory page) 441.
Diesel #2

CAS# (from Hazardous Materials Inventory page) 442.
68476346

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443.
☐ 1. SINGLE WALL ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM
☒ 2. DOUBLE WALL ☐ 4. SINGLE WALL IN A VAULT ☐ 95. UNKNOWN ☐ 99. OTHER ____

TANK MATERIAL – primary tank (Check one item only) 444.
☐ 1. BARE STEEL ☒ 3. FIBERGLASS / PLASTIC ☐ 5. CONCRETE ☐ 95. UNKNOWN
☐ 2. STAINLESS STEEL ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP) ☐ 8. FRP COMPATIBLE W/100% METHANOL ☐ 99. OTHER: _____

TANK MATERIAL – secondary tank (Check one item only) 445.
☐ 1. BARE STEEL ☒ 3. FIBERGLASS / PLASTIC ☐ 8. FRP COMPTIBLE W/100% METHANOL ☐ 95. UNKNOWN
☐ 2. STAINLESS STEEL ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP) ☐ 9. FRP NON-CORRODABLE JACKET ☐ 99. OTHER _____
☐ 5. CONCRETE ☐ 10. COATED STEEL

TANK INTERIOR LINING OR COATING (Check one item only) 446.
☐ 1. RUBBER LINED ☐ 3. EPOXY LINING ☐ 5. GLASS LINING ☐ 95. UNKNOWN
☐ 2. ALKYD LINING ☐ 4. PHENOLIC LINING ☐ 6. UNLINED ☐ 99. OTHER _____
DATE INSTALLED 447.

OTHER CORROSION PROTECTION (If Applicable) 448.
☐ 1. MANUFACTURED CATHODIC PROTECTION ☐ 3. FIBERGLASS REINFORCED PLASTIC ☐ 95. UNKNOWN
☐ 2. SACRIFICIAL ANODE ☐ 4. IMPRESSED CURRENT ☐ 99. OTHER _____
DATE INSTALLED 449.

SPILL AND OVERFILL (Check all that apply) 450. YEAR INSTALLED
☒ 1. SPILL CONTAINMENT 1988
☒ 2. DROP TUBE 1988
☒ 3. STRIKER PLATE 1988

TYPE 451.
_____
_____
_____

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452.
☒ 1. ALARM Feb '03 ☒ 3. FILL TUBE SHUT OFF VALVE 1988
☐ 2. BALL FLOAT ____ ☐ 4. EXEMPT

IV. TANK LEAK DETECTION

(A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453.
☐ 1. VISUAL (EXPOSED PORTION ONLY)
☐ 2. AUTOMATIC TANK GAUGING (ATG)
☐ 3. CONTINUOUS ATG
☐ 4. STATISTICAL INVENTORY RECONCILIATION (SIR) + BIENNIAL TANK TESTING
☐ 5. MANUAL TANK GAUGING (MTG)
☐ 6. VADOSE ZONE
☐ 7. GROUNDWATER
☐ 8. TANK TESTING
☐ 99. OTHER _____

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454.
☐ 1. VISUAL (SINGLE WALL IN VAULT ONLY)
☒ 2. CONTINUOUS INTERSTITIAL MONITORING
☐ 3. MANUAL MONITORING

V. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455.	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456.	TANK FILLED WITH INERT MATERIAL? 457.
	_____ gallons	☐ Yes ☐ No

UST - Tank Form Page 1 Instructions
(Formerly SWRCB Permit Application Form B)

Complete a separate form for each tank for all new permits, permit changes, or any facility information changes. This form must be submitted within 30 days of permit or facility information changes, unless your local agency requires approval prior to making changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of a separate tank form. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
430. TYPE OF ACTION - Check the reason why this form is being submitted. For amended permits and changes of information, include a brief statement summarizing the amendment or change.
431. LOCATION WITHIN SITE - You may use this space to describe the location of the tank within the facility.
432. TANK ID NUMBER - If the UST owner has assigned an in-house tank ID number to this tank, enter that number in this space.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check the appropriate box to indicate whether or not the tank is compartmentalized. Each compartment is considered a separate tank.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - You may use this space to provide additional tank or location information.
439. TANK USE - Check the substance stored. If motor vehicle fuel, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 in item 439 is checked, indicate the specific type/grade of fuel stored.
441. COMMON NAME - For substances other than motor vehicle fuels, enter the common name of the substance stored.
442. CAS # - For substances other than motor vehicle fuels, enter the CAS (Chemical Abstract Service) number.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and specify type in the space provided.
444. TANK MATERIAL (PRIMARY TANK) - Check the material of construction of the inner tank (i.e. inner tank wall nearest the hazardous substance stored). If the tank is lined, describe the lining material in item 446, not in this section. If the tank material is not listed, check "other" and specify the material in the space provided.
445. TANK MATERIAL (SECONDARY TANK) - Check material of construction of the tank that provides containment external to, and separate from, the primary containment described above. If the tank material is not listed, check "other" and specify the material in the space provided. If the tank is a single-wall tank, skip item 445.
446. TANK INTERIOR LINING OR COATING - Check the material of construction of any interior lining or coating in the tank. If unlined, check "unlined." If the type of interior lining or coating is not listed, check "other" and specify the lining material in the space provided.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed.
448. OTHER TANK CORROSION PROTECTION - If any other tank corrosion protection methods are used, check the appropriate boxes to describe them. If methods used are not listed, check "other" and describe in the space provided.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date tank corrosion protection was installed.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate boxes to indicate whether drop tube(s), spill containment, and striker plate(s) are installed. In the spaces provided, specify the year each type of equipment was installed.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and striker plate installed.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box(es) to describe the type(s) of overfill protection equipment installed. In the space provided, specify the year this equipment was installed.
453. TANK LEAK DETECTION (SINGLE WALL TANKS ONLY) - Check the leak detection system(s) used to comply with monitoring requirements for the tank itself. CHECK ALL THAT APPLY. If you use a leak detection system that is not listed, check "other" and describe the system in the space provided.
454. TANK LEAK DETECTION (DOUBLE WALL TANKS) - For double wall tanks, tanks in vaults, or tanks with a bladder, check the leak detection system(s) used to monitor the tank secondary containment system. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - Complete this section only if the tank was closed in place. Enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - Complete this section only if the tank was closed in place. Enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - Complete this section only if the tank was closed in place. Check whether or not the tank was filled with an inert material prior to closure.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

	UNDERGROUND PIPING				ABOVEGROUND PIPING			
SYSTEM TYPE	☐ 1. PRESSURE	☒ 2. SUCTION	☐ 3. GRAVITY	458.	☐ 1. PRESSURE	☐ 2. SUCTION	☐ 3. GRAVITY	459.
CONSTRUCTION/ MANUFACTURER	☐ 1. SINGLE WALL ☒ 2. DOUBLE WALL	☐ 3. LINED TRENCH ☐ 95. UNKNOWN	☐ 99. OTHER	460.	☐ 1. SINGLE WALL ☐ 2. DOUBLE WALL	☐ 95. UNKNOWN ☐ 99. OTHER		462.
MANUFACTURER				461.	MANUFACTURER			463.

UNDERGROUND PIPING	ABOVEGROUND PIPING
☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL
☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL	☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL
☐ 3. PLASTIC COMPATIBLE WITH CONTENTS ☐ 95. UNKNOWN	☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER
☒ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER	☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION
☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION 464.	☐ 5. STEEL W/COATING ☐ 95. UNKNOWN 465.

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING

SINGLE WALL PIPING 466.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT-OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

CONVENTIONAL SUCTION SYSTEMS

☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☒ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☒ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION

☒ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

ABOVEGROUND PIPING

SINGLE WALL PIPING 467.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 4. DAILY VISUAL CHECK

CONVENTIONAL SUCTION SYSTEMS (Check all that apply)

☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM

☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW (Check all that apply):

☐ 8. DAILY VISUAL MONITORING

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LEAK DETECTOR

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)

☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT 468.			
DATE INSTALLED	☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE	☐ 4. DAILY VISUAL CHECK 469.	
____N/A____	☐ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS	☐ 5. TRENCH/LINER MONITORING	
	☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS	☐ 6. NONE	

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR:	DATE: JK 3/23/11 TK-3-2 470.
NAME OF OWNER/OPERATOR (print): Jim Krupnick	TITLE OF OWNER/OPERATOR: Associate Lab Director / COO 472.

Permit Number (Agency use only) 473.	Permit Approved By (Agency use only) 474.	Permit Expiration Date (Agency use only) 475.

UST - Tank Form Page 2 Instructions
(Formerly SWRCB Permit Application Form B)

Please number all pages of your submittal.

458. PIPING SYSTEM TYPE (UNDERGROUND) -

459. PIPING SYSTEM TYPE (ABOVEGROUND) -

For items 458 and 459, check the appropriate boxes to describe the type of product/waste piping installed in this tank system. Describe underground and aboveground (if any) piping separately in the columns provided.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for the underground product/waste piping.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for any aboveground portions of the product/waste piping.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) - Check the appropriate boxes to describe the material(s) of construction of the primary (i.e. inner) underground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND) - Check the appropriate boxes to describe the material(s) of construction of any primary (i.e. inner) aboveground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

466. PIPING LEAK DETECTION (UNDERGROUND) -

467. PIPING LEAK DETECTION (ABOVEGROUND)-

For items 466 and 467, check the appropriate boxes to describe all leak detection method(s) used to comply with the monitoring requirements for regulated piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If the tank system is equipped with dispenser secondary containment (i.e. dispenser sumps or pans) equipment, enter the date that equipment was installed. If the tank system has a dispenser that is not secondarily contained, specify "None" in the space provided for the date. If the system does not include dispensers (e.g. standby generator tank system), enter "N/A."

469. DISPENSER CONTAINMENT TYPE - Check the appropriate box to describe how dispenser secondary containment is monitored for leaks.

SIGNATURE OF OWNER/OPERATOR - The owner or an authorized agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

470 DATE CERTIFIED - Enter the date the form was signed.

471. OWNER/ OPERATOR NAME - Print or type the name of the person signing the form.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the form.

473. PERMIT NUMBER - This space is for agency use only.

474. PERMIT APPROVED BY - This space is for agency use only.

475. PERMIT EXPIRATION DATE - This space is for agency use only.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS

UNDERGROUND STORAGE TANKS – TANK PAGE 1

(Two pages per tank)

TYPE OF ACTION (Check one item only) 430.
- ☐ 1. NEW PERMIT
- ☒ 3. RENEWAL PERMIT
- ☐ 4. AMENDED PERMIT (Specify reason)
- ☐ 5. CHANGE OF INFORMATION (Specify reason)
- ☐ 6. TEMPORARY TANK CLOSURE
- ☐ 7. PERMANENTLY CLOSED ON SITE
- ☐ 8. TANK REMOVED

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Lawrence Berkeley National Laboratory

FACILITY ID: 1.

LOCATION WITHIN SITE (Optional) 431.
Building 2 - North Side

I. TANK DESCRIPTION

(A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432.	TANK MANUFACTURER 433.	COMPARTMENTALIZED TANK ☐ Yes ☒ No 434.
TK-4-2	Owens-Corning	If "Yes," complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435.	TANK CAPACITY IN GALLONS 436.	NUMBER OF COMPARTMENTS 437.
1988/July	1,000	N/A

ADDITIONAL DESCRIPTION (For local use only) 438.

II. TANK CONTENTS

TANK USE 439.
- ☐ 1. MOTOR VEHICLE FUEL (If checked, complete Petroleum Type)
- ☒ 2. NON-FUEL PETROLEUM
- ☐ 3. CHEMICAL PRODUCT
- ☐ 4. HAZARDOUS WASTE (Includes Used Oil)
- ☐ 95. UNKNOWN

PETROLEUM TYPE 440.
- ☐ 1a. REGULAR UNLEADED
- ☐ 1b. PREMIUM UNLEADED
- ☐ 1c. MIDGRADE UNLEADED
- ☐ 2. LEADED
- ☒ 3. DIESEL
- ☐ 4. GASOHOL
- ☐ 5. JET FUEL
- ☐ 6. AVIATION GAS
- ☐ 99. OTHER: _____

COMMON NAME (from Hazardous Materials Inventory page) 441.
Diesel #2

CAS# (from Hazardous Materials Inventory page) 442.
68476346

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443.
- ☐ 1. SINGLE WALL
- ☒ 2. DOUBLE WALL
- ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER
- ☐ 4. SINGLE WALL IN A VAULT
- ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

TANK MATERIAL – primary tank (Check one item only) 444.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☒ 3. FIBERGLASS / PLASTIC
- ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPATIBLE W/100% METHANOL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER: _____

TANK MATERIAL – secondary tank (Check one item only) 445.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☒ 3. FIBERGLASS / PLASTIC
- ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPTIBLE W/100% METHANOL
- ☐ 9. FRP NON-CORRODABLE JACKET
- ☐ 10. COATED STEEL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

TANK INTERIOR LINING OR COATING (Check one item only) 446.
- ☐ 1. RUBBER LINED
- ☐ 2. ALKYD LINING
- ☐ 3. EPOXY LINING
- ☐ 4. PHENOLIC LINING
- ☐ 5. GLASS LINING
- ☐ 6. UNLINED
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 447.

OTHER CORROSION PROTECTION (If Applicable) 448.
- ☐ 1. MANUFACTURED CATHODIC PROTECTION
- ☐ 2. SACRIFICIAL ANODE
- ☐ 3. FIBERGLASS REINFORCED PLASTIC
- ☐ 4. IMPRESSED CURRENT
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 449.

SPILL AND OVERFILL (Check all that apply) 450.

	YEAR INSTALLED
☒ 1. SPILL CONTAINMENT	1988 replaced 2010
☒ 2. DROP TUBE	1988
☒ 3. STRIKER PLATE	1988

TYPE 451.
_____
_____
_____

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452.
- ☒ 1. ALARM Feb '03
- ☒ 3. FILL TUBE SHUT OFF VALVE 1988
- ☐ 2. BALL FLOAT _____
- ☐ 4. EXEMPT

IV. TANK LEAK DETECTION

(A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453.
- ☐ 1. VISUAL (EXPOSED PORTION ONLY)
- ☐ 2. AUTOMATIC TANK GAUGING (ATG)
- ☐ 3. CONTINUOUS ATG
- ☐ 4. STATISTICAL INVENTORY RECONCILIATION (SIR) + BIENNIAL TANK TESTING
- ☐ 5. MANUAL TANK GAUGING (MTG)
- ☐ 6. VADOSE ZONE
- ☐ 7. GROUNDWATER
- ☐ 8. TANK TESTING
- ☐ 99. OTHER _____

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454.
- ☐ 1. VISUAL (SINGLE WALL IN VAULT ONLY)
- ☒ 2. CONTINUOUS INTERSTITIAL MONITORING
- ☐ 3. MANUAL MONITORING

V. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455.	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456.	TANK FILLED WITH INERT MATERIAL? 457.
	_____ gallons	☐ Yes ☐ No

UST - Tank Form Page 1 Instructions
(Formerly SWRCB Permit Application Form B)

Complete a separate form for each tank for all new permits, permit changes, or any facility information changes. This form must be submitted within 30 days of permit or facility information changes, unless your local agency requires approval prior to making changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of a separate tank form. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
430. TYPE OF ACTION - Check the reason why this form is being submitted. For amended permits and changes of information, include a brief statement summarizing the amendment or change.
431. LOCATION WITHIN SITE - You may use this space to describe the location of the tank within the facility.
432. TANK ID NUMBER - If the UST owner has assigned an in-house tank ID number to this tank, enter that number in this space.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check the appropriate box to indicate whether or not the tank is compartmentalized. Each compartment is considered a separate tank.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - You may use this space to provide additional tank or location information.
439. TANK USE - Check the substance stored. If motor vehicle fuel, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 in item 439 is checked, indicate the specific type/grade of fuel stored.
441. COMMON NAME - For substances other than motor vehicle fuels, enter the common name of the substance stored.
442. CAS # - For substances other than motor vehicle fuels, enter the CAS (Chemical Abstract Service) number.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and specify type in the space provided.
444. TANK MATERIAL (PRIMARY TANK) - Check the material of construction of the inner tank (i.e. inner tank wall nearest the hazardous substance stored). If the tank is lined, describe the lining material in item 446, not in this section. If the tank material is not listed, check "other" and specify the material in the space provided.
445. TANK MATERIAL (SECONDARY TANK) - Check material of construction of the tank that provides containment external to, and separate from, the primary containment described above. If the tank material is not listed, check "other" and specify the material in the space provided. If the tank is a single-wall tank, skip item 445.
446. TANK INTERIOR LINING OR COATING - Check the material of construction of any interior lining or coating in the tank. If unlined, check "unlined." If the type of interior lining or coating is not listed, check "other" and specify the lining material in the space provided.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed.
448. OTHER TANK CORROSION PROTECTION - If any other tank corrosion protection methods are used, check the appropriate boxes to describe them. If methods used are not listed, check "other" and describe in the space provided.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date tank corrosion protection was installed.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate boxes to indicate whether drop tube(s), spill containment, and striker plate(s) are installed. In the spaces provided, specify the year each type of equipment was installed.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and striker plate installed.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box(es) to describe the type(s) of overfill protection equipment installed. In the space provided, specify the year this equipment was installed.
453. TANK LEAK DETECTION (SINGLE WALL TANKS ONLY) - Check the leak detection system(s) used to comply with monitoring requirements for the tank itself. CHECK ALL THAT APPLY. If you use a leak detection system that is not listed, check "other" and describe the system in the space provided.
454. TANK LEAK DETECTION (DOUBLE WALL TANKS) - For double wall tanks, tanks in vaults, or tanks with a bladder, check the leak detection system(s) used to monitor the tank secondary containment system. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - Complete this section only if the tank was closed in place. Enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - Complete this section only if the tank was closed in place. Enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - Complete this section only if the tank was closed in place. Check whether or not the tank was filled with an inert material prior to closure.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

	UNDERGROUND PIPING	ABOVEGROUND PIPING
SYSTEM TYPE	☐ 1. PRESSURE ☒ 2. SUCTION ☐ 3. GRAVITY 458.	☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 459.
CONSTRUCTION/ MANUFACTURER	☐ 1. SINGLE WALL ☐ 3. LINED TRENCH ☐ 99. OTHER 460. ☒ 2. DOUBLE WALL ☐ 95. UNKNOWN	☐ 1. SINGLE WALL ☐ 95. UNKNOWN 462. ☐ 2. DOUBLE WALL ☐ 99. OTHER
MANUFACTURER	461.	MANUFACTURER 463.
	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE WITH CONTENTS ☐ 95. UNKNOWN ☒ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION 464.	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION ☐ 5. STEEL W/COATING ☐ 95. UNKNOWN 465.

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING

SINGLE WALL PIPING 466.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT-OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

CONVENTIONAL SUCTION SYSTEMS

☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☒ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☒ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION

☒ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

ABOVEGROUND PIPING

SINGLE WALL PIPING 467.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 4. DAILY VISUAL CHECK

CONVENTIONAL SUCTION SYSTEMS (Check all that apply)

☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM

☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW (Check all that apply):

☐ 8. DAILY VISUAL MONITORING

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LEAK DETECTOR

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)

☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT 468. DATE INSTALLED N/A	☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE ☐ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS ☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS	☐ 4. DAILY VISUAL CHECK 469. ☐ 5. TRENCH/LINER MONITORING ☐ 6. NONE

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR	DATE: 3/23/11 TK-4-2 470.
NAME OF OWNER/OPERATOR (print): Jim Krupnick	TITLE OF OWNER/OPERATOR: Associate Lab Director / COO 472.

Permit Number (Agency use only) 473.	Permit Approved By (Agency use only) 474.	Permit Expiration Date (Agency use only) 475.

UST - Tank Form Page 2 Instructions
(Formerly SWRCB Permit Application Form B)

Please number all pages of your submittal.

458. PIPING SYSTEM TYPE (UNDERGROUND) -

459. PIPING SYSTEM TYPE (ABOVEGROUND) -

For items 458 and 459, check the appropriate boxes to describe the type of product/waste piping installed in this tank system. Describe underground and aboveground (if any) piping separately in the columns provided.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for the underground product/waste piping.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for any aboveground portions of the product/waste piping.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) - Check the appropriate boxes to describe the material(s) of construction of the primary (i.e. inner) underground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND) - Check the appropriate boxes to describe the material(s) of construction of any primary (i.e. inner) aboveground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

466. PIPING LEAK DETECTION (UNDERGROUND) -

467. PIPING LEAK DETECTION (ABOVEGROUND)-

For items 466 and 467, check the appropriate boxes to describe all leak detection method(s) used to comply with the monitoring requirements for regulated piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If the tank system is equipped with dispenser secondary containment (i.e. dispenser sumps or pans) equipment, enter the date that equipment was installed. If the tank system has a dispenser that is not secondarily contained, specify "None" in the space provided for the date. If the system does not include dispensers (e.g. standby generator tank system), enter "N/A."

469. DISPENSER CONTAINMENT TYPE - Check the appropriate box to describe how dispenser secondary containment is monitored for leaks.

SIGNATURE OF OWNER/OPERATOR - The owner or an authorized agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

470 DATE CERTIFIED - Enter the date the form was signed.

471. OWNER/ OPERATOR NAME - Print or type the name of the person signing the form.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the form.

473. PERMIT NUMBER - This space is for agency use only.

474. PERMIT APPROVED BY - This space is for agency use only.

475. PERMIT EXPIRATION DATE - This space is for agency use only.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS

UNDERGROUND STORAGE TANKS – TANK PAGE 1

(Two pages per tank)

TYPE OF ACTION (Check one item only) 430.
☐ 1. NEW PERMIT ☐ 4. AMENDED PERMIT (Specify reason) ☐ 5. CHANGE OF INFORMATION (Specify reason) ☐ 6. TEMPORARY TANK CLOSURE ☐ 7. PERMANENTLY CLOSED ON SITE ☐ 8. TANK REMOVED
☒ 3. RENEWAL PERMIT

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Lawrence Berkeley National Laboratory

FACILITY ID: 1.

LOCATION WITHIN SITE (Optional) 431.
Northeast corner of Building 90, between Building 55 and Building 90

I. TANK DESCRIPTION

(A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432.	TANK MANUFACTURER 433.	COMPARTMENTALIZED TANK ☐ Yes ☒ No 434.
TK-1-55		If "Yes," complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435.	TANK CAPACITY IN GALLONS 436.	NUMBER OF COMPARTMENTS 437.
1986	1,000	N/A

ADDITIONAL DESCRIPTION (For local use only) 438.

II. TANK CONTENTS

TANK USE 439.
☐ 1. MOTOR VEHICLE FUEL (If checked, complete Petroleum Type)
☒ 2. NON-FUEL PETROLEUM
☐ 3. CHEMICAL PRODUCT
☐ 4. HAZARDOUS WASTE (Includes Used Oil)
☐ 95. UNKNOWN

PETROLEUM TYPE 440.
☐ 1a. REGULAR UNLEADED ☐ 2. LEADED ☐ 5. JET FUEL
☐ 1b. PREMIUM UNLEADED ☒ 3. DIESEL ☐ 6. AVIATION GAS
☐ 1c. MIDGRADE UNLEADED ☐ 4. GASOHOL ☐ 99. OTHER: _____

COMMON NAME (from Hazardous Materials Inventory page) 441.
Diesel #2

CAS# (from Hazardous Materials Inventory page) 442.
68476346

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443.
☐ 1. SINGLE WALL ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM ☐ 95. UNKNOWN
☒ 2. DOUBLE WALL ☐ 4. SINGLE WALL IN A VAULT ☐ 99. OTHER ____

TANK MATERIAL – primary tank (Check one item only) 444.
☐ 1. BARE STEEL ☐ 3. FIBERGLASS / PLASTIC ☐ 5. CONCRETE ☐ 95. UNKNOWN
☐ 2. STAINLESS STEEL ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP) ☐ 8. FRP COMPATIBLE W/100% METHANOL ☐ 99. OTHER: _____

TANK MATERIAL – secondary tank (Check one item only) 445.
☐ 1. BARE STEEL ☐ 3. FIBERGLASS / PLASTIC ☐ 8. FRP COMPTIBLE W/100% METHANOL ☐ 95. UNKNOWN
☐ 2. STAINLESS STEEL ☒ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP) ☐ 9. FRP NON-CORRODABLE JACKET ☐ 99. OTHER _____
☐ 5. CONCRETE ☐ 10. COATED STEEL

TANK INTERIOR LINING OR COATING (Check one item only) 446.
☐ 1. RUBBER LINED ☐ 3. EPOXY LINING ☒ 5. GLASS LINING ☐ 95. UNKNOWN
☐ 2. ALKYD LINING ☐ 4. PHENOLIC LINING ☐ 6. UNLINED ☐ 99. OTHER _____
DATE INSTALLED 447.

OTHER CORROSION PROTECTION (If Applicable) 448.
☐ 1. MANUFACTURED CATHODIC PROTECTION ☒ 3. FIBERGLASS REINFORCED PLASTIC ☐ 95. UNKNOWN
☐ 2. SACRIFICIAL ANODE ☐ 4. IMPRESSED CURRENT ☐ 99. OTHER _____
DATE INSTALLED 449.

SPILL AND OVERFILL (Check all that apply) 450.
☒ 1. SPILL CONTAINMENT 1986 replaced 2009
☒ 2. DROP TUBE 1986
☒ 3. STRIKER PLATE 1986

TYPE 451.
_____
_____
_____

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452.
☒ 1. ALARM Feb '03 ☒ 3. FILL TUBE SHUT OFF VALVE 2001
☐ 2. BALL FLOAT ____ ☐ 4. EXEMPT

IV. TANK LEAK DETECTION

(A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453.
☐ 1. VISUAL (EXPOSED PORTION ONLY)
☐ 2. AUTOMATIC TANK GAUGING (ATG)
☐ 3. CONTINUOUS ATG
☐ 4. STATISTICAL INVENTORY RECONCILIATION (SIR) + BIENNIAL TANK TESTING
☐ 5. MANUAL TANK GAUGING (MTG)
☐ 6. VADOSE ZONE
☐ 7. GROUNDWATER
☐ 8. TANK TESTING
☐ 99. OTHER _____

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454.
☐ 1. VISUAL (SINGLE WALL IN VAULT ONLY)
☒ 2. CONTINUOUS INTERSTITIAL MONITORING
☐ 3. MANUAL MONITORING

V. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455.	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456.	TANK FILLED WITH INERT MATERIAL? 457.
	_____ gallons	☐ Yes ☐ No

UST - Tank Form Page 1 Instructions
(Formerly SWRCB Permit Application Form B)

Complete a separate form for each tank for all new permits, permit changes, or any facility information changes. This form must be submitted within 30 days of permit or facility information changes, unless your local agency requires approval prior to making changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of a separate tank form. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
430. TYPE OF ACTION - Check the reason why this form is being submitted. For amended permits and changes of information, include a brief statement summarizing the amendment or change.
431. LOCATION WITHIN SITE - You may use this space to describe the location of the tank within the facility.
432. TANK ID NUMBER - If the UST owner has assigned an in-house tank ID number to this tank, enter that number in this space.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check the appropriate box to indicate whether or not the tank is compartmentalized. Each compartment is considered a separate tank.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - You may use this space to provide additional tank or location information.
439. TANK USE - Check the substance stored. If motor vehicle fuel, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 in item 439 is checked, indicate the specific type/grade of fuel stored.
441. COMMON NAME - For substances other than motor vehicle fuels, enter the common name of the substance stored.
442. CAS # - For substances other than motor vehicle fuels, enter the CAS (Chemical Abstract Service) number.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and specify type in the space provided.
444. TANK MATERIAL (PRIMARY TANK) - Check the material of construction of the inner tank (i.e. inner tank wall nearest the hazardous substance stored). If the tank is lined, describe the lining material in item 446, not in this section. If the tank material is not listed, check "other" and specify the material in the space provided.
445. TANK MATERIAL (SECONDARY TANK) - Check material of construction of the tank that provides containment external to, and separate from, the primary containment described above. If the tank material is not listed, check "other" and specify the material in the space provided. If the tank is a single-wall tank, skip item 445.
446. TANK INTERIOR LINING OR COATING - Check the material of construction of any interior lining or coating in the tank. If unlined, check "unlined." If the type of interior lining or coating is not listed, check "other" and specify the lining material in the space provided.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed.
448. OTHER TANK CORROSION PROTECTION - If any other tank corrosion protection methods are used, check the appropriate boxes to describe them. If methods used are not listed, check "other" and describe in the space provided.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date tank corrosion protection was installed.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate boxes to indicate whether drop tube(s), spill containment, and striker plate(s) are installed. In the spaces provided, specify the year each type of equipment was installed.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and striker plate installed.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box(es) to describe the type(s) of overfill protection equipment installed. In the space provided, specify the year this equipment was installed.
453. TANK LEAK DETECTION (SINGLE WALL TANKS ONLY) - Check the leak detection system(s) used to comply with monitoring requirements for the tank itself. CHECK ALL THAT APPLY. If you use a leak detection system that is not listed, check "other" and describe the system in the space provided.
454. TANK LEAK DETECTION (DOUBLE WALL TANKS) - For double wall tanks, tanks in vaults, or tanks with a bladder, check the leak detection system(s) used to monitor the tank secondary containment system. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - Complete this section only if the tank was closed in place. Enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - Complete this section only if the tank was closed in place. Enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - Complete this section only if the tank was closed in place. Check whether or not the tank was filled with an inert material prior to closure.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

	UNDERGROUND PIPING	ABOVEGROUND PIPING
SYSTEM TYPE	☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 458.	☐ 1. PRESSURE ☒ 2. SUCTION ☐ 3. GRAVITY 459.
CONSTRUCTION/ MANUFACTURER	☐ 1. SINGLE WALL ☐ 3. LINED TRENCH ☐ 99. OTHER 460. ☐ 2. DOUBLE WALL ☐ 95. UNKNOWN	☒ 1. SINGLE WALL ☐ 95. UNKNOWN 462. ☐ 2. DOUBLE WALL ☐ 99. OTHER
MANUFACTURER	461.	MANUFACTURER 463.
	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE WITH CONTENTS ☐ 95. UNKNOWN ☐ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION 464.	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☒ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION ☐ 5. STEEL W/COATING ☐ 95. UNKNOWN 465.

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING

SINGLE WALL PIPING 466.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT-OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

CONVENTIONAL SUCTION SYSTEMS

☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION

☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

ABOVEGROUND PIPING

SINGLE WALL PIPING 467.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 4. DAILY VISUAL CHECK

CONVENTIONAL SUCTION SYSTEMS (Check all that apply)

☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM

☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW (Check all that apply):

☐ 8. DAILY VISUAL MONITORING

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LEAK DETECTOR

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)

☒ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☒ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT 468.	☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE	☐ 4. DAILY VISUAL CHECK 469.
DATE INSTALLED	☐ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS	☐ 5. TRENCH/LINER MONITORING
N/A	☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS	☐ 6. NONE

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR	DATE: 3/23/11 TK-1-55 470.
NAME OF OWNER/OPERATOR (print): Jim Krupnick	TITLE OF OWNER/OPERATOR: Associate Lab Director / COO 472.

Permit Number (Agency use only) 473.	Permit Approved By (Agency use only) 474.	Permit Expiration Date (Agency use only) 475.

UST - Tank Form Page 2 Instructions
(Formerly SWRCB Permit Application Form B)

Please number all pages of your submittal.

458. PIPING SYSTEM TYPE (UNDERGROUND) -

459. PIPING SYSTEM TYPE (ABOVEGROUND) -

For items 458 and 459, check the appropriate boxes to describe the type of product/waste piping installed in this tank system. Describe underground and aboveground (if any) piping separately in the columns provided.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for the underground product/waste piping.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for any aboveground portions of the product/waste piping.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) - Check the appropriate boxes to describe the material(s) of construction of the primary (i.e. inner) underground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND) - Check the appropriate boxes to describe the material(s) of construction of any primary (i.e. inner) aboveground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

466. PIPING LEAK DETECTION (UNDERGROUND) -

467. PIPING LEAK DETECTION (ABOVEGROUND)-

For items 466 and 467, check the appropriate boxes to describe all leak detection method(s) used to comply with the monitoring requirements for regulated piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If the tank system is equipped with dispenser secondary containment (i.e. dispenser sumps or pans) equipment, enter the date that equipment was installed. If the tank system has a dispenser that is not secondarily contained, specify "None" in the space provided for the date. If the system does not include dispensers (e.g. standby generator tank system), enter "N/A."

469. DISPENSER CONTAINMENT TYPE - Check the appropriate box to describe how dispenser secondary containment is monitored for leaks.

SIGNATURE OF OWNER/OPERATOR - The owner or an authorized agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

470 DATE CERTIFIED - Enter the date the form was signed.

471. OWNER/ OPERATOR NAME - Print or type the name of the person signing the form.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the form.

473. PERMIT NUMBER - This space is for agency use only.

474. PERMIT APPROVED BY - This space is for agency use only.

475. PERMIT EXPIRATION DATE - This space is for agency use only.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS

UNDERGROUND STORAGE TANKS – TANK PAGE 1

(Two pages per tank)

TYPE OF ACTION (Check one item only) 430.
- ☐ 1. NEW PERMIT
- ☒ 3. RENEWAL PERMIT
- ☐ 4. AMENDED PERMIT (Specify reason)
- ☐ 5. CHANGE OF INFORMATION (Specify reason)
- ☐ 6. TEMPORARY TANK CLOSURE
- ☐ 7. PERMANENTLY CLOSED ON SITE
- ☐ 8. TANK REMOVED

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Lawrence Berkeley National Laboratory

FACILITY ID: 1.

LOCATION WITHIN SITE (Optional) 431.
Building 76 - South side by Motor Pool offices

I. TANK DESCRIPTION

(A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432.	TANK MANUFACTURER 433.	COMPARTMENTALIZED TANK ☐ Yes ☒ No 434.
TK-5-76	Modern Welding	If "Yes," complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435.	TANK CAPACITY IN GALLONS 436.	NUMBER OF COMPARTMENTS 437.
December/1990	10,000	N/A

ADDITIONAL DESCRIPTION (For local use only) 438.

II. TANK CONTENTS

TANK USE 439.
- ☒ 1. MOTOR VEHICLE FUEL (If checked, complete Petroleum Type)
- ☐ 2. NON-FUEL PETROLEUM
- ☐ 3. CHEMICAL PRODUCT
- ☐ 4. HAZARDOUS WASTE (Includes Used Oil)
- ☐ 95. UNKNOWN

PETROLEUM TYPE 440.
- ☒ 1a. REGULAR UNLEADED
- ☐ 1b. PREMIUM UNLEADED
- ☐ 1c. MIDGRADE UNLEADED
- ☐ 2. LEADED
- ☐ 3. DIESEL
- ☐ 4. GASOHOL
- ☐ 5. JET FUEL
- ☐ 6. AVIATION GAS
- ☐ 99. OTHER: _____

COMMON NAME (from Hazardous Materials Inventory page) 441.
Gasoline

CAS# (from Hazardous Materials Inventory page) 442.
8006619

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443.
- ☐ 1. SINGLE WALL
- ☒ 2. DOUBLE WALL
- ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER
- ☐ 4. SINGLE WALL IN A VAULT
- ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM
- ☐ 95. UNKNOWN
- ☐ 99. OTHER ____

TANK MATERIAL – primary tank (Check one item only) 444.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☐ 3. FIBERGLASS / PLASTIC
- ☒ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPATIBLE W/100% METHANOL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER: _____

TANK MATERIAL – secondary tank (Check one item only) 445.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☐ 3. FIBERGLASS / PLASTIC
- ☒ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPTIBLE W/100% METHANOL
- ☐ 9. FRP NON-CORRODABLE JACKET
- ☐ 10. COATED STEEL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

TANK INTERIOR LINING OR COATING (Check one item only) 446.
- ☐ 1. RUBBER LINED
- ☐ 2. ALKYD LINING
- ☐ 3. EPOXY LINING
- ☐ 4. PHENOLIC LINING
- ☐ 5. GLASS LINING
- ☒ 6. UNLINED
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 447.

OTHER CORROSION PROTECTION (If Applicable) 448.
- ☐ 1. MANUFACTURED CATHODIC PROTECTION
- ☐ 2. SACRIFICIAL ANODE
- ☒ 3. FIBERGLASS REINFORCED PLASTIC
- ☐ 4. IMPRESSED CURRENT
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 449.

SPILL AND OVERFILL (Check all that apply) 450.

	YEAR INSTALLED
☒ 1. SPILL CONTAINMENT	1990
☒ 2. DROP TUBE	1990
☒ 3. STRIKER PLATE	1990

TYPE 451.
_____
_____
_____

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452.
- ☒ 1. ALARM 1990
- ☐ 2. BALL FLOAT ____
- ☒ 3. FILL TUBE SHUT OFF VALVE 1990
- ☐ 4. EXEMPT

IV. TANK LEAK DETECTION

(A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453.
- ☐ 1. VISUAL (EXPOSED PORTION ONLY)
- ☐ 2. AUTOMATIC TANK GAUGING (ATG)
- ☐ 3. CONTINUOUS ATG
- ☐ 4. STATISTICAL INVENTORY RECONCILIATION (SIR) + BIENNIAL TANK TESTING
- ☐ 5. MANUAL TANK GAUGING (MTG)
- ☐ 6. VADOSE ZONE
- ☐ 7. GROUNDWATER
- ☐ 8. TANK TESTING
- ☐ 99. OTHER _____

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454.
- ☐ 1. VISUAL (SINGLE WALL IN VAULT ONLY)
- ☒ 2. CONTINUOUS INTERSTITIAL MONITORING
- ☐ 3. MANUAL MONITORING

V. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455.	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456.	TANK FILLED WITH INERT MATERIAL? 457.
	_____ gallons	☐ Yes ☐ No

UST - Tank Form Page 1 Instructions
(Formerly SWRCB Permit Application Form B)

Complete a separate form for each tank for all new permits, permit changes, or any facility information changes. This form must be submitted within 30 days of permit or facility information changes, unless your local agency requires approval prior to making changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of a separate tank form. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
430. TYPE OF ACTION - Check the reason why this form is being submitted. For amended permits and changes of information, include a brief statement summarizing the amendment or change.
431. LOCATION WITHIN SITE - You may use this space to describe the location of the tank within the facility.
432. TANK ID NUMBER - If the UST owner has assigned an in-house tank ID number to this tank, enter that number in this space.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check the appropriate box to indicate whether or not the tank is compartmentalized. Each compartment is considered a separate tank.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - You may use this space to provide additional tank or location information.
439. TANK USE - Check the substance stored. If motor vehicle fuel, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 in item 439 is checked, indicate the specific type/grade of fuel stored.
441. COMMON NAME - For substances other than motor vehicle fuels, enter the common name of the substance stored.
442. CAS # - For substances other than motor vehicle fuels, enter the CAS (Chemical Abstract Service) number.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and specify type in the space provided.
444. TANK MATERIAL (PRIMARY TANK) - Check the material of construction of the inner tank (i.e. inner tank wall nearest the hazardous substance stored). If the tank is lined, describe the lining material in item 446, not in this section. If the tank material is not listed, check "other" and specify the material in the space provided.
445. TANK MATERIAL (SECONDARY TANK) - Check material of construction of the tank that provides containment external to, and separate from, the primary containment described above. If the tank material is not listed, check "other" and specify the material in the space provided. If the tank is a single-wall tank, skip item 445.
446. TANK INTERIOR LINING OR COATING - Check the material of construction of any interior lining or coating in the tank. If unlined, check "unlined." If the type of interior lining or coating is not listed, check "other" and specify the lining material in the space provided.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed.
448. OTHER TANK CORROSION PROTECTION - If any other tank corrosion protection methods are used, check the appropriate boxes to describe them. If methods used are not listed, check "other" and describe in the space provided.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date tank corrosion protection was installed.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate boxes to indicate whether drop tube(s), spill containment, and striker plate(s) are installed. In the spaces provided, specify the year each type of equipment was installed.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and striker plate installed.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box(es) to describe the type(s) of overfill protection equipment installed. In the space provided, specify the year this equipment was installed.
453. TANK LEAK DETECTION (SINGLE WALL TANKS ONLY) - Check the leak detection system(s) used to comply with monitoring requirements for the tank itself. CHECK ALL THAT APPLY. If you use a leak detection system that is not listed, check "other" and describe the system in the space provided.
454. TANK LEAK DETECTION (DOUBLE WALL TANKS) - For double wall tanks, tanks in vaults, or tanks with a bladder, check the leak detection system(s) used to monitor the tank secondary containment system. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - Complete this section only if the tank was closed in place. Enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - Complete this section only if the tank was closed in place. Enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - Complete this section only if the tank was closed in place. Check whether or not the tank was filled with an inert material prior to closure.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

	UNDERGROUND PIPING	ABOVEGROUND PIPING
SYSTEM TYPE	☒ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 458.	☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 459.
CONSTRUCTION/ MANUFACTURER	☐ 1. SINGLE WALL ☐ 3. LINED TRENCH ☐ 99. OTHER 460. ☒ 2. DOUBLE WALL ☐ 95. UNKNOWN	☐ 1. SINGLE WALL ☐ 95. UNKNOWN 462. ☐ 2. DOUBLE WALL ☐ 99. OTHER
	MANUFACTURER Ameron Dualoy 461.	MANUFACTURER 463.
	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE WITH CONTENTS ☐ 95. UNKNOWN ☒ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION 464.	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION ☐ 5. STEEL W/COATING ☐ 95. UNKNOWN 465.

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING

SINGLE WALL PIPING 466.

PRESSURIZED PIPING (Check all that apply):

- ☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT-OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.
- ☐ 2. MONTHLY 0.2 GPH TEST
- ☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

CONVENTIONAL SUCTION SYSTEMS

- ☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

- ☐ 7. SELF MONITORING

GRAVITY FLOW

- ☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
    - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
    - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
    - ☒ c. NO AUTO PUMP SHUT OFF
- ☒ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION
- ☒ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

- ☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

- ☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS
- ☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION
- ☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)
- ☐ 17. DAILY VISUAL CHECK

ABOVEGROUND PIPING

SINGLE WALL PIPING 467.

PRESSURIZED PIPING (Check all that apply):

- ☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.
- ☐ 2. MONTHLY 0.2 GPH TEST
- ☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)
- ☐ 4. DAILY VISUAL CHECK

CONVENTIONAL SUCTION SYSTEMS (Check all that apply)

- ☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM
- ☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

- ☐ 7. SELF MONITORING

GRAVITY FLOW (Check all that apply):

- ☐ 8. DAILY VISUAL MONITORING
- ☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
    - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
    - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
    - ☐ c. NO AUTO PUMP SHUT OFF
- ☐ 11. AUTOMATIC LEAK DETECTOR
- ☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

- ☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

- ☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS
- ☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)
- ☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)
- ☐ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT 468.	☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE	☐ 4. DAILY VISUAL CHECK 469.
DATE INSTALLED 1990 (containment)	☒ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS	☐ 5. TRENCH/LINER MONITORING
	☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS	☐ 6. NONE

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR	DATE: 3/23/11 TK-5-76 470.
NAME OF OWNER/OPERATOR (print): Jim Krupnick	TITLE OF OWNER/OPERATOR: Associate Lab Director / COO 472.

Permit Number (Agency use only) 473.	Permit Approved By (Agency use only) 474.	Permit Expiration Date (Agency use only) 475.

UST - Tank Form Page 2 Instructions
(Formerly SWRCB Permit Application Form B)

Please number all pages of your submittal.

458. PIPING SYSTEM TYPE (UNDERGROUND) -

459. PIPING SYSTEM TYPE (ABOVEGROUND) -

For items 458 and 459, check the appropriate boxes to describe the type of product/waste piping installed in this tank system. Describe underground and aboveground (if any) piping separately in the columns provided.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for the underground product/waste piping.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for any aboveground portions of the product/waste piping.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) - Check the appropriate boxes to describe the material(s) of construction of the primary (i.e. inner) underground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND) - Check the appropriate boxes to describe the material(s) of construction of any primary (i.e. inner) aboveground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

466. PIPING LEAK DETECTION (UNDERGROUND) -

467. PIPING LEAK DETECTION (ABOVEGROUND)-

For items 466 and 467, check the appropriate boxes to describe all leak detection method(s) used to comply with the monitoring requirements for regulated piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If the tank system is equipped with dispenser secondary containment (i.e. dispenser sumps or pans) equipment, enter the date that equipment was installed. If the tank system has a dispenser that is not secondarily contained, specify "None" in the space provided for the date. If the system does not include dispensers (e.g. standby generator tank system), enter "N/A."

469. DISPENSER CONTAINMENT TYPE - Check the appropriate box to describe how dispenser secondary containment is monitored for leaks.

SIGNATURE OF OWNER/OPERATOR - The owner or an authorized agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

470 DATE CERTIFIED - Enter the date the form was signed.

471. OWNER/ OPERATOR NAME - Print or type the name of the person signing the form.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the form.

473. PERMIT NUMBER - This space is for agency use only.

474. PERMIT APPROVED BY - This space is for agency use only.

475. PERMIT EXPIRATION DATE - This space is for agency use only.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 1

(Two pages per tank)

TYPE OF ACTION (Check one item only) 430.
- ☐ 1. NEW PERMIT
- ☐ 4. AMENDED PERMIT (Specify reason)
- ☐ 5. CHANGE OF INFORMATION (Specify reason)
- ☐ 6. TEMPORARY TANK CLOSURE
- ☐ 7. PERMANENTLY CLOSED ON SITE
- ☒ 3. RENEWAL PERMIT
- ☐ 8. TANK REMOVED

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Lawrence Berkeley National Laboratory

FACILITY ID: 1.

LOCATION WITHIN SITE (Optional) 431.
Building 76 - South side by Motor Pool offices

I. TANK DESCRIPTION

(A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432.	TANK MANUFACTURER 433.	COMPARTMENTALIZED TANK ☐ Yes ☒ No 434.
TK-6-76	Modern Welding	If "Yes," complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435.	TANK CAPACITY IN GALLONS 436.	NUMBER OF COMPARTMENTS 437.
December/1990	10,000	N/A

ADDITIONAL DESCRIPTION (For local use only) 438.

II. TANK CONTENTS

TANK USE 439.
- ☒ 1. MOTOR VEHICLE FUEL (If checked, complete Petroleum Type)
- ☐ 2. NON-FUEL PETROLEUM
- ☐ 3. CHEMICAL PRODUCT
- ☐ 4. HAZARDOUS WASTE (Includes Used Oil)
- ☐ 95. UNKNOWN

PETROLEUM TYPE 440.
- ☐ 1a. REGULAR UNLEADED
- ☐ 1b. PREMIUM UNLEADED
- ☐ 1c. MIDGRADE UNLEADED
- ☐ 2. LEADED
- ☒ 3. DIESEL
- ☐ 4. GASOHOL
- ☐ 5. JET FUEL
- ☐ 6. AVIATION GAS
- ☐ 99. OTHER: _____

COMMON NAME (from Hazardous Materials Inventory page) 441.
Diesel #2

CAS# (from Hazardous Materials Inventory page) 442.
68476346

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443.
- ☐ 1. SINGLE WALL
- ☒ 2. DOUBLE WALL
- ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER
- ☐ 4. SINGLE WALL IN A VAULT
- ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM
- ☐ 95. UNKNOWN
- ☐ 99. OTHER ____

TANK MATERIAL – primary tank (Check one item only) 444.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☐ 3. FIBERGLASS / PLASTIC
- ☒ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPATIBLE W/100% METHANOL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER: _____

TANK MATERIAL – secondary tank (Check one item only) 445.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☐ 3. FIBERGLASS / PLASTIC
- ☒ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPTIBLE W/100% METHANOL
- ☐ 9. FRP NON-CORRODABLE JACKET
- ☐ 10. COATED STEEL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

TANK INTERIOR LINING OR COATING (Check one item only) 446.
- ☐ 1. RUBBER LINED
- ☐ 2. ALKYD LINING
- ☐ 3. EPOXY LINING
- ☐ 4. PHENOLIC LINING
- ☐ 5. GLASS LINING
- ☒ 6. UNLINED
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 447.

OTHER CORROSION PROTECTION (If Applicable) 448.
- ☐ 1. MANUFACTURED CATHODIC PROTECTION
- ☐ 2. SACRIFICIAL ANODE
- ☒ 3. FIBERGLASS REINFORCED PLASTIC
- ☐ 4. IMPRESSED CURRENT
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 449.

SPILL AND OVERFILL (Check all that apply) 450.

	YEAR INSTALLED
☒ 1. SPILL CONTAINMENT	1990 replaced 2009
☒ 2. DROP TUBE	1990
☒ 3. STRIKER PLATE	1990

TYPE 451.
_____
_____
_____

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452.
- ☒ 1. ALARM 1990
- ☐ 2. BALL FLOAT ____
- ☒ 3. FILL TUBE SHUT OFF VALVE 1990
- ☐ 4. EXEMPT

IV. TANK LEAK DETECTION

(A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453.
- ☐ 1. VISUAL (EXPOSED PORTION ONLY)
- ☐ 2. AUTOMATIC TANK GAUGING (ATG)
- ☐ 3. CONTINUOUS ATG
- ☐ 4. STATISTICAL INVENTORY RECONCILIATION (SIR) + BIENNIAL TANK TESTING
- ☐ 5. MANUAL TANK GAUGING (MTG)
- ☐ 6. VADOSE ZONE
- ☐ 7. GROUNDWATER
- ☐ 8. TANK TESTING
- ☐ 99. OTHER _____

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454.
- ☐ 1. VISUAL (SINGLE WALL IN VAULT ONLY)
- ☒ 2. CONTINUOUS INTERSTITIAL MONITORING
- ☐ 3. MANUAL MONITORING

V. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455.	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456.	TANK FILLED WITH INERT MATERIAL? 457.
	_____ gallons	☐ Yes ☐ No

UST - Tank Form Page 1 Instructions
(Formerly SWRCB Permit Application Form B)

Complete a separate form for each tank for all new permits, permit changes, or any facility information changes. This form must be submitted within 30 days of permit or facility information changes, unless your local agency requires approval prior to making changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of a separate tank form. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
430. TYPE OF ACTION - Check the reason why this form is being submitted. For amended permits and changes of information, include a brief statement summarizing the amendment or change.
431. LOCATION WITHIN SITE - You may use this space to describe the location of the tank within the facility.
432. TANK ID NUMBER - If the UST owner has assigned an in-house tank ID number to this tank, enter that number in this space.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check the appropriate box to indicate whether or not the tank is compartmentalized. Each compartment is considered a separate tank.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - You may use this space to provide additional tank or location information.
439. TANK USE - Check the substance stored. If motor vehicle fuel, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 in item 439 is checked, indicate the specific type/grade of fuel stored.
441. COMMON NAME - For substances other than motor vehicle fuels, enter the common name of the substance stored.
442. CAS # - For substances other than motor vehicle fuels, enter the CAS (Chemical Abstract Service) number.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and specify type in the space provided.
444. TANK MATERIAL (PRIMARY TANK) - Check the material of construction of the inner tank (i.e. inner tank wall nearest the hazardous substance stored). If the tank is lined, describe the lining material in item 446, not in this section. If the tank material is not listed, check "other" and specify the material in the space provided.
445. TANK MATERIAL (SECONDARY TANK) - Check material of construction of the tank that provides containment external to, and separate from, the primary containment described above. If the tank material is not listed, check "other" and specify the material in the space provided. If the tank is a single-wall tank, skip item 445.
446. TANK INTERIOR LINING OR COATING - Check the material of construction of any interior lining or coating in the tank. If unlined, check "unlined." If the type of interior lining or coating is not listed, check "other" and specify the lining material in the space provided.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed.
448. OTHER TANK CORROSION PROTECTION - If any other tank corrosion protection methods are used, check the appropriate boxes to describe them. If methods used are not listed, check "other" and describe in the space provided.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date tank corrosion protection was installed.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate boxes to indicate whether drop tube(s), spill containment, and striker plate(s) are installed. In the spaces provided, specify the year each type of equipment was installed.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and striker plate installed.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box(es) to describe the type(s) of overfill protection equipment installed. In the space provided, specify the year this equipment was installed.
453. TANK LEAK DETECTION (SINGLE WALL TANKS ONLY) - Check the leak detection system(s) used to comply with monitoring requirements for the tank itself. CHECK ALL THAT APPLY. If you use a leak detection system that is not listed, check "other" and describe the system in the space provided.
454. TANK LEAK DETECTION (DOUBLE WALL TANKS) - For double wall tanks, tanks in vaults, or tanks with a bladder, check the leak detection system(s) used to monitor the tank secondary containment system. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - Complete this section only if the tank was closed in place. Enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - Complete this section only if the tank was closed in place. Enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - Complete this section only if the tank was closed in place. Check whether or not the tank was filled with an inert material prior to closure.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

	UNDERGROUND PIPING	ABOVEGROUND PIPING
SYSTEM TYPE	☒ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 458.	☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 459.
CONSTRUCTION/ MANUFACTURER	☐ 1. SINGLE WALL ☐ 3. LINED TRENCH ☐ 99. OTHER 460. ☒ 2. DOUBLE WALL ☐ 95. UNKNOWN	☐ 1. SINGLE WALL ☐ 95. UNKNOWN 462. ☐ 2. DOUBLE WALL ☐ 99. OTHER
	MANUFACTURER Ameron Dualoy 461.	MANUFACTURER 463.
	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE WITH CONTENTS ☐ 95. UNKNOWN ☒ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION 464.	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION ☐ 5. STEEL W/COATING ☐ 95. UNKNOWN 465.

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING

SINGLE WALL PIPING 466.

PRESSURIZED PIPING (Check all that apply):

- ☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT-OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.
- ☐ 2. MONTHLY 0.2 GPH TEST
- ☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

CONVENTIONAL SUCTION SYSTEMS

- ☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

- ☐ 7. SELF MONITORING

GRAVITY FLOW

- ☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
    - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
    - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
    - ☒ c. NO AUTO PUMP SHUT OFF
- ☒ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION
- ☒ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

- ☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

- ☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS
- ☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION
- ☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)
- ☐ 17. DAILY VISUAL CHECK

ABOVEGROUND PIPING

SINGLE WALL PIPING 467.

PRESSURIZED PIPING (Check all that apply):

- ☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.
- ☐ 2. MONTHLY 0.2 GPH TEST
- ☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)
- ☐ 4. DAILY VISUAL CHECK

CONVENTIONAL SUCTION SYSTEMS (Check all that apply)

- ☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM
- ☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

- ☐ 7. SELF MONITORING

GRAVITY FLOW (Check all that apply):

- ☐ 8. DAILY VISUAL MONITORING
- ☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
    - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
    - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
    - ☐ c. NO AUTO PUMP SHUT OFF
- ☐ 11. AUTOMATIC LEAK DETECTOR
- ☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

- ☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

- ☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS
- ☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)
- ☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)
- ☐ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT 468.	☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE	☐ 4. DAILY VISUAL CHECK 469.
DATE INSTALLED 1990 (containment)	☒ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS	☐ 5. TRENCH/LINER MONITORING
	☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS	☐ 6. NONE

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR	DATE: 3/23/11 TK-6-76 470.
NAME OF OWNER/OPERATOR (print): Jim Krupnick	TITLE OF OWNER/OPERATOR: Associate Lab Director / COO 472.

Permit Number (Agency use only) 473.	Permit Approved By (Agency use only) 474.	Permit Expiration Date (Agency use only) 475.

UST - Tank Form Page 2 Instructions
(Formerly SWRCB Permit Application Form B)

Please number all pages of your submittal.

458. PIPING SYSTEM TYPE (UNDERGROUND) -

459. PIPING SYSTEM TYPE (ABOVEGROUND) -

For items 458 and 459, check the appropriate boxes to describe the type of product/waste piping installed in this tank system. Describe underground and aboveground (if any) piping separately in the columns provided.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for the underground product/waste piping.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for any aboveground portions of the product/waste piping.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) - Check the appropriate boxes to describe the material(s) of construction of the primary (i.e. inner) underground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND) - Check the appropriate boxes to describe the material(s) of construction of any primary (i.e. inner) aboveground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

466. PIPING LEAK DETECTION (UNDERGROUND) -

467. PIPING LEAK DETECTION (ABOVEGROUND)-

For items 466 and 467, check the appropriate boxes to describe all leak detection method(s) used to comply with the monitoring requirements for regulated piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If the tank system is equipped with dispenser secondary containment (i.e. dispenser sumps or pans) equipment, enter the date that equipment was installed. If the tank system has a dispenser that is not secondarily contained, specify "None" in the space provided for the date. If the system does not include dispensers (e.g. standby generator tank system), enter "N/A."

469. DISPENSER CONTAINMENT TYPE - Check the appropriate box to describe how dispenser secondary containment is monitored for leaks.

SIGNATURE OF OWNER/OPERATOR - The owner or an authorized agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

470 DATE CERTIFIED - Enter the date the form was signed.

471. OWNER/ OPERATOR NAME - Print or type the name of the person signing the form.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the form.

473. PERMIT NUMBER - This space is for agency use only.

474. PERMIT APPROVED BY - This space is for agency use only.

475. PERMIT EXPIRATION DATE - This space is for agency use only.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS

UNDERGROUND STORAGE TANKS – TANK PAGE 1

(Two pages per tank)

TYPE OF ACTION (Check one item only) 430.
- ☐ 1. NEW PERMIT
- ☒ 3. RENEWAL PERMIT
- ☐ 4. AMENDED PERMIT _____ (Specify reason)
- ☐ 5. CHANGE OF INFORMATION (Specify reason)
- ☐ 6. TEMPORARY TANK CLOSURE
- ☐ 7. PERMANENTLY CLOSED ON SITE
- ☐ 8. TANK REMOVED

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Lawrence Berkeley National Laboratory

FACILITY ID: 1.

LOCATION WITHIN SITE (Optional) 431.
Building 85 - East side

I. TANK DESCRIPTION

(A scaled plot plan with the location of the UST system including buildings and landmarks shall be submitted to the local agency.)

TANK ID # 432.	TANK MANUFACTURER 433.	COMPARTMENTALIZED TANK ☐ Yes ☒ No 434.
TK-1-85	Fluid Containment	If "Yes," complete one page for each compartment.
DATE INSTALLED (YEAR/MO) 435.	TANK CAPACITY IN GALLONS 436.	NUMBER OF COMPARTMENTS 437.
1995/August	2,500	N/A

ADDITIONAL DESCRIPTION (For local use only) 438.

II. TANK CONTENTS

TANK USE 439.
- ☐ 1. MOTOR VEHICLE FUEL (If checked, complete Petroleum Type)
- ☒ 2. NON-FUEL PETROLEUM
- ☐ 3. CHEMICAL PRODUCT
- ☐ 4. HAZARDOUS WASTE (Includes Used Oil)
- ☐ 95. UNKNOWN

PETROLEUM TYPE 440.
- ☐ 1a. REGULAR UNLEADED
- ☐ 1b. PREMIUM UNLEADED
- ☐ 1c. MIDGRADE UNLEADED
- ☐ 2. LEADED
- ☒ 3. DIESEL
- ☐ 4. GASOHOL
- ☐ 5. JET FUEL
- ☐ 6. AVIATION GAS
- ☐ 99. OTHER: _____

COMMON NAME (from Hazardous Materials Inventory page) 441.
Diesel #2

CAS# (from Hazardous Materials Inventory page) 442.
68476346

III. TANK CONSTRUCTION

TYPE OF TANK (Check one item only) 443.
- ☐ 1. SINGLE WALL
- ☒ 2. DOUBLE WALL
- ☐ 3. SINGLE WALL WITH EXTERIOR MEMBRANE LINER
- ☐ 4. SINGLE WALL IN A VAULT
- ☐ 5. SINGLE WALL WITH INTERNAL BLADDER SYSTEM
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

TANK MATERIAL – primary tank (Check one item only) 444.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☒ 3. FIBERGLASS / PLASTIC
- ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPATIBLE W/100% METHANOL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER: _____

TANK MATERIAL – secondary tank (Check one item only) 445.
- ☐ 1. BARE STEEL
- ☐ 2. STAINLESS STEEL
- ☒ 3. FIBERGLASS / PLASTIC
- ☐ 4. STEEL CLAD W/FIBERGLASS REINFORCED PLASTIC (FRP)
- ☐ 5. CONCRETE
- ☐ 8. FRP COMPTIBLE W/100% METHANOL
- ☐ 9. FRP NON-CORRODABLE JACKET
- ☐ 10. COATED STEEL
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

TANK INTERIOR LINING OR COATING (Check one item only) 446.
- ☐ 1. RUBBER LINED
- ☐ 2. ALKYD LINING
- ☐ 3. EPOXY LINING
- ☐ 4. PHENOLIC LINING
- ☐ 5. GLASS LINING
- ☒ 6. UNLINED
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 447.

OTHER CORROSION PROTECTION (If Applicable) 448.
- ☐ 1. MANUFACTURED CATHODIC PROTECTION
- ☐ 2. SACRIFICIAL ANODE
- ☒ 3. FIBERGLASS REINFORCED PLASTIC
- ☐ 4. IMPRESSED CURRENT
- ☐ 95. UNKNOWN
- ☐ 99. OTHER _____

DATE INSTALLED 449.

SPILL AND OVERFILL (Check all that apply) 450.

	YEAR INSTALLED
☒ 1. SPILL CONTAINMENT	1995
☒ 2. DROP TUBE	1995
☒ 3. STRIKER PLATE	1995

TYPE 451.
_____
_____
_____

OVERFILL PROTECTION EQUIPMENT: YEAR INSTALLED 452.
- ☒ 1. ALARM 1995
- ☐ 2. BALL FLOAT ____
- ☒ 3. FILL TUBE SHUT OFF VALVE 1995
- ☐ 4. EXEMPT

IV. TANK LEAK DETECTION

(A description of the monitoring program shall be submitted to the local agency.)

IF SINGLE WALL TANK (Check all that apply) 453.
- ☐ 1. VISUAL (EXPOSED PORTION ONLY)
- ☐ 2. AUTOMATIC TANK GAUGING (ATG)
- ☐ 3. CONTINUOUS ATG
- ☐ 4. STATISTICAL INVENTORY RECONCILIATION (SIR) + BIENNIAL TANK TESTING
- ☐ 5. MANUAL TANK GAUGING (MTG)
- ☐ 6. VADOSE ZONE
- ☐ 7. GROUNDWATER
- ☐ 8. TANK TESTING
- ☐ 99. OTHER _____

IF DOUBLE WALL TANK OR TANK WITH BLADDER (Check one item only) 454.
- ☐ 1. VISUAL (SINGLE WALL IN VAULT ONLY)
- ☒ 2. CONTINUOUS INTERSTITIAL MONITORING
- ☐ 3. MANUAL MONITORING

V. TANK CLOSURE INFORMATION / PERMANENT CLOSURE IN PLACE

ESTIMATED DATE LAST USED (YR/MO/DAY) 455.	ESTIMATED QUANTITY OF SUBSTANCE REMAINING 456.	TANK FILLED WITH INERT MATERIAL? 457.
	_____ gallons	☐ Yes ☐ No

UST - Tank Form Page 1 Instructions
(Formerly SWRCB Permit Application Form B)

Complete a separate form for each tank for all new permits, permit changes, or any facility information changes. This form must be submitted within 30 days of permit or facility information changes, unless your local agency requires approval prior to making changes. For compartmentalized tanks, each compartment is considered a separate tank and requires completion of a separate tank form. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
430. TYPE OF ACTION - Check the reason why this form is being submitted. For amended permits and changes of information, include a brief statement summarizing the amendment or change.
431. LOCATION WITHIN SITE - You may use this space to describe the location of the tank within the facility.
432. TANK ID NUMBER - If the UST owner has assigned an in-house tank ID number to this tank, enter that number in this space.
433. TANK MANUFACTURER - Enter the name of the company that manufactured the tank.
434. COMPARTMENTALIZED TANK - Check the appropriate box to indicate whether or not the tank is compartmentalized. Each compartment is considered a separate tank.
435. DATE TANK INSTALLED - Enter the year and month the tank was installed.
436. TANK CAPACITY - Enter the tank capacity in gallons.
437. NUMBER OF TANK COMPARTMENTS - If the tank is compartmentalized, enter the number of compartments.
438. ADDITIONAL DESCRIPTION - You may use this space to provide additional tank or location information.
439. TANK USE - Check the substance stored. If motor vehicle fuel, check box 1 and complete item 440, PETROLEUM TYPE.
440. PETROLEUM TYPE - If box 1 in item 439 is checked, indicate the specific type/grade of fuel stored.
441. COMMON NAME - For substances other than motor vehicle fuels, enter the common name of the substance stored.
442. CAS # - For substances other than motor vehicle fuels, enter the CAS (Chemical Abstract Service) number.
443. TYPE OF TANK - Check the type of tank construction. If type of tank is not listed, check "other" and specify type in the space provided.
444. TANK MATERIAL (PRIMARY TANK) - Check the material of construction of the inner tank (i.e. inner tank wall nearest the hazardous substance stored). If the tank is lined, describe the lining material in item 446, not in this section. If the tank material is not listed, check "other" and specify the material in the space provided.
445. TANK MATERIAL (SECONDARY TANK) - Check material of construction of the tank that provides containment external to, and separate from, the primary containment described above. If the tank material is not listed, check "other" and specify the material in the space provided. If the tank is a single-wall tank, skip item 445.
446. TANK INTERIOR LINING OR COATING - Check the material of construction of any interior lining or coating in the tank. If unlined, check "unlined." If the type of interior lining or coating is not listed, check "other" and specify the lining material in the space provided.
447. DATE TANK INTERIOR LINING INSTALLED - If applicable, enter the date the tank interior lining was installed.
448. OTHER TANK CORROSION PROTECTION - If any other tank corrosion protection methods are used, check the appropriate boxes to describe them. If methods used are not listed, check "other" and describe in the space provided.
449. DATE TANK CORROSION PROTECTION INSTALLED - If applicable, enter the date tank corrosion protection was installed.
450. YEAR SPILL AND OVERFILL INSTALLED - Check the appropriate boxes to indicate whether drop tube(s), spill containment, and striker plate(s) are installed. In the spaces provided, specify the year each type of equipment was installed.
451. TYPE OF SPILL PROTECTION - Enter the type of spill containment, drop tube, and striker plate installed.
452. YEAR OVERFILL PROTECTION EQUIPMENT INSTALLED - Check the appropriate box(es) to describe the type(s) of overfill protection equipment installed. In the space provided, specify the year this equipment was installed.
453. TANK LEAK DETECTION (SINGLE WALL TANKS ONLY) - Check the leak detection system(s) used to comply with monitoring requirements for the tank itself. CHECK ALL THAT APPLY. If you use a leak detection system that is not listed, check "other" and describe the system in the space provided.
454. TANK LEAK DETECTION (DOUBLE WALL TANKS) - For double wall tanks, tanks in vaults, or tanks with a bladder, check the leak detection system(s) used to monitor the tank secondary containment system. CHECK ONE ITEM ONLY.
455. ESTIMATED DATE LAST USED - Complete this section only if the tank was closed in place. Enter the date the tank was last used.
456. ESTIMATED QUANTITY OF SUBSTANCE REMAINING IN TANK - Complete this section only if the tank was closed in place. Enter the estimated quantity of hazardous substance remaining in the tank (in gallons).
457. TANK FILLED WITH INERT MATERIAL - Complete this section only if the tank was closed in place. Check whether or not the tank was filled with an inert material prior to closure.

UNIFIED PROGRAM CONSOLIDATED FORM
TANKS
UNDERGROUND STORAGE TANKS – TANK PAGE 2

VI. PIPING CONSTRUCTION (Check all that apply)

	UNDERGROUND PIPING	ABOVEGROUND PIPING
SYSTEM TYPE	☐ 1. PRESSURE ☒ 2. SUCTION ☐ 3. GRAVITY 458.	☐ 1. PRESSURE ☐ 2. SUCTION ☐ 3. GRAVITY 459.
CONSTRUCTION/ MANUFACTURER	☐ 1. SINGLE WALL ☐ 3. LINED TRENCH ☐ 99. OTHER 460. ☒ 2. DOUBLE WALL ☐ 95. UNKNOWN	☐ 1. SINGLE WALL ☐ 95. UNKNOWN 462. ☐ 2. DOUBLE WALL ☐ 99. OTHER
MANUFACTURER	461.	MANUFACTURER 463.
	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE WITH CONTENTS ☐ 95. UNKNOWN ☒ 4. FIBERGLASS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 5. STEEL W/COATING ☐ 9. CATHODIC PROTECTION 464.	☐ 1. BARE STEEL ☐ 6. FRP COMPATIBLE W/100% METHANOL ☐ 2. STAINLESS STEEL ☐ 7. GALVANIZED STEEL ☐ 3. PLASTIC COMPATIBLE W/ CONTENTS ☐ 8. FLEXIBLE (HDPE) ☐ 99. OTHER ☐ 4. FIBERGLASS ☐ 9. CATHODIC PROTECTION ☐ 5. STEEL W/COATING ☐ 95. UNKNOWN 465.

VII. PIPING LEAK DETECTION (Check all that apply) (A description of the monitoring program shall be submitted to the local agency.)

UNDERGROUND PIPING

SINGLE WALL PIPING 466.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT-OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

CONVENTIONAL SUCTION SYSTEMS

☐ 5. DAILY VISUAL MONITORING OF PUMPING SYSTEM + TRIENNIAL PIPING INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITH FLOW SHUT OFF OR RESTRICTION

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☒ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☒ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST) WITHOUT FLOW SHUT OFF OR RESTRICTION

☒ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

ABOVEGROUND PIPING

SINGLE WALL PIPING 467.

PRESSURIZED PIPING (Check all that apply):

☐ 1. ELECTRONIC LINE LEAK DETECTOR 3.0 GPH TEST WITH AUTO PUMP SHUT OFF FOR LEAK, SYSTEM FAILURE, AND SYSTEM DISCONNECTION + AUDIBLE AND VISUAL ALARMS.

☐ 2. MONTHLY 0.2 GPH TEST

☐ 3. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 4. DAILY VISUAL CHECK

CONVENTIONAL SUCTION SYSTEMS (Check all that apply)

☐ 5. DAILY VISUAL MONITORING OF PIPING AND PUMPING SYSTEM

☐ 6. TRIENNIAL INTEGRITY TEST (0.1 GPH)

SAFE SUCTION SYSTEMS (NO VALVES IN BELOW GROUND PIPING):

☐ 7. SELF MONITORING

GRAVITY FLOW (Check all that apply):

☐ 8. DAILY VISUAL MONITORING

☐ 9. BIENNIAL INTEGRITY TEST (0.1 GPH)

SECONDARILY CONTAINED PIPING

PRESSURIZED PIPING (Check all that apply):

10. CONTINUOUS TURBINE SUMP SENSOR WITH AUDIBLE AND VISUAL ALARMS AND (Check one)
   - ☐ a. AUTO PUMP SHUT OFF WHEN A LEAK OCCURS
   - ☐ b. AUTO PUMP SHUT OFF FOR LEAKS, SYSTEM FAILURE AND SYSTEM DISCONNECTION
   - ☐ c. NO AUTO PUMP SHUT OFF

☐ 11. AUTOMATIC LEAK DETECTOR

☐ 12. ANNUAL INTEGRITY TEST (0.1 GPH)

SUCTION/GRAVITY SYSTEM

☐ 13. CONTINUOUS SUMP SENSOR + AUDIBLE AND VISUAL ALARMS

EMERGENCY GENERATORS ONLY (Check all that apply)

☐ 14. CONTINUOUS SUMP SENSOR WITHOUT AUTO PUMP SHUT OFF AUDIBLE AND VISUAL ALARMS

☐ 15. AUTOMATIC LINE LEAK DETECTOR (3.0 GPH TEST)

☐ 16. ANNUAL INTEGRITY TEST (0.1 GPH)

☐ 17. DAILY VISUAL CHECK

VIII. DISPENSER CONTAINMENT

DISPENSER CONTAINMENT 468. DATE INSTALLED N/A	☐ 1. FLOAT MECHANISM THAT SHUTS OFF SHEAR VALVE ☐ 2. CONTINUOUS DISPENSER PAN SENSOR + AUDIBLE AND VISUAL ALARMS ☐ 3. CONTINUOUS DISPENSER PAN SENSOR WITH AUTO SHUT OFF FOR DISPENSER + AUDIBLE AND VISUAL ALARMS	☐ 4. DAILY VISUAL CHECK 469. ☐ 5. TRENCH/LINER MONITORING ☐ 6. NONE

IX. OWNER/OPERATOR SIGNATURE

I certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF OWNER/OPERATOR	DATE: 3/23/11 TK-1-85 470.
NAME OF OWNER/OPERATOR (print): Jim Krupnick	TITLE OF OWNER/OPERATOR: Associate Lab Director / COO 472.

Permit Number (Agency use only) 473.	Permit Approved By (Agency use only) 474.	Permit Expiration Date (Agency use only) 475.

UST - Tank Form Page 2 Instructions
(Formerly SWRCB Permit Application Form B)

Please number all pages of your submittal.

458. PIPING SYSTEM TYPE (UNDERGROUND) -

459. PIPING SYSTEM TYPE (ABOVEGROUND) -

For items 458 and 459, check the appropriate boxes to describe the type of product/waste piping installed in this tank system. Describe underground and aboveground (if any) piping separately in the columns provided.

460. PIPING CONSTRUCTION (UNDERGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for the underground product/waste piping.

461. PIPING MANUFACTURER (UNDERGROUND) - Enter the name of the piping manufacturer.

462. PIPING CONSTRUCTION (ABOVEGROUND) - Check the appropriate box(es) to describe the type(s) of containment provided for any aboveground portions of the product/waste piping.

463. PIPING MANUFACTURER (ABOVEGROUND) - Enter the name of the piping manufacturer.

464. PIPING MATERIAL AND CORROSION PROTECTION (UNDERGROUND) - Check the appropriate boxes to describe the material(s) of construction of the primary (i.e. inner) underground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

465. PIPING MATERIAL AND CORROSION PROTECTION (ABOVEGROUND) - Check the appropriate boxes to describe the material(s) of construction of any primary (i.e. inner) aboveground product/waste piping and indicate whether any cathodic (i.e. corrosion) protection systems are installed.

466. PIPING LEAK DETECTION (UNDERGROUND) -

467. PIPING LEAK DETECTION (ABOVEGROUND)-

For items 466 and 467, check the appropriate boxes to describe all leak detection method(s) used to comply with the monitoring requirements for regulated piping.

468. DATE DISPENSER CONTAINMENT INSTALLED - If the tank system is equipped with dispenser secondary containment (i.e. dispenser sumps or pans) equipment, enter the date that equipment was installed. If the tank system has a dispenser that is not secondarily contained, specify "None" in the space provided for the date. If the system does not include dispensers (e.g. standby generator tank system), enter "N/A."

469. DISPENSER CONTAINMENT TYPE - Check the appropriate box to describe how dispenser secondary containment is monitored for leaks.

SIGNATURE OF OWNER/OPERATOR - The owner or an authorized agent of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

470 DATE CERTIFIED - Enter the date the form was signed.

471. OWNER/ OPERATOR NAME - Print or type the name of the person signing the form.

472. OWNER/ OPERATOR TITLE - Enter the title of the person signing the form.

473. PERMIT NUMBER - This space is for agency use only.

474. PERMIT APPROVED BY - This space is for agency use only.

475. PERMIT EXPIRATION DATE - This space is for agency use only.

UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN – (Page 1 of 2)

TYPE OF ACTION ☒ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION 490-1

PLAN TYPE (Check one item only) ☐ 1. MONITORING IS IDENTICAL FOR ALL USTs AT THIS FACILITY. 490-2
☒ 2. THIS PLAN COVERS ONLY THE FOLLOWING UST SYSTEM(S): Building 2 USTs: TK-3-2, TK-4-2

I. FACILITY INFORMATION

FACILITY ID # (*Agency Use Only*) — — 1

BUSINESS NAME (Same as FACILITY NAME) Lawrence Berkeley National Laboratory 3.

BUSINESS SITE ADDRESS One Cyclotron Road, Building 2 103. CITY Berkeley 104.

II. EQUIPMENT TESTING AND PREVENTIVE MAINTENANCE

Testing, preventive maintenance, and calibration of monitoring equipment (e.g., sensors, probes, line leak detectors, etc.) must be performed at the frequency specified by the equipment manufacturers' instructions, or annually, whichever is more frequent, and that such work must be performed by qualified personnel. (23 CCR §2632, 2634, 2638, 2641)

MONITORING EQUIPMENT IS SERVICED ☒ 1. ANNUALLY ☐ 99. OTHER (Specify): 490-3a 490-3b

III. MONITORING LOCATIONS

☒ 1. NEW SITE PLOT PLAN/MAP SUBMITTED WITH THIS PLAN. ☐ 2. SITE PLOT PLAN/MAP PREVIOUSLY SUBMITTED. (23 CCR §2632, 2634) 490-4

IV. TANK MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S):

☒ 1. CONTINUOUS ELECTRONIC TANK MONITORING OF ANNULAR (INTERSTITIAL) SPACE(S) OR SECONDARY CONTAINMENT VAULT(S) WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2632, 2634) 490-5

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-6

PANEL MANUFACTURER: Veeder Root 490-7. MODEL #: TLS 300C 490-8

LEAK SENSOR MANUFACTURER: Veeder Root 490-9. MODEL #(S): 794390-409 (annular) 490-10

☐ 2. AUTOMATIC TANK GAUGING (ATG) SYSTEM USED TO MONITOR SINGLE WALL TANK(S). (23 CCR §2643) 490-11

PANEL MANUFACTURER: 490-12. MODEL #: 490-13

IN-TANK PROBE MANUFACTURER: 490-14. MODEL #(S): 490-15

LEAK TEST FREQUENCY: ☐ a. CONTINUOUS ☐ b. DAILY/NIGHTLY ☐ c. WEEKLY 490-16
☐ d. MONTHLY ☐ e. OTHER (Specify): _____ 490-17

PROGRAMMED TESTS: ☐ a. 0.1 g.p.h. ☐ b. 0.2 g.p.h. ☐ c. OTHER (Specify): _____ 490-18 490-19

☐ 3. MONTHLY STATISTICAL INVENTORY RECONCILIATION (23 CCR §2646.1): 490-20

☐ 4. WEEKLY MANUAL TANK GAUGING (MTG) (23 CCR §2645). TESTING PERIOD: ☐ a. 36 HOURS ☐ b. 60 HOURS 490-21 490-22

☐ 5. TANK INTEGRITY TESTING (23 CCR §2643.1): 490-23
TEST FREQUENCY: ☐ a. ANNUALLY ☐ b. BIENNIALLY ☐ c. OTHER (Specify): 490-24 490-25

☐ 99. OTHER (Specify): 490-26 490-27

V. PIPE MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S) (Check all that apply)

☒ 1. CONTINUOUS MONITORING OF PIPE/ PIPING SUMP(S) AND OTHER SECONDARY CONTAINMENT WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2636) 490-28

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-29

PANEL MANUFACTURER: Veeder Root 490-30 MODEL #: TLS 300C 490-31

LEAK SENSOR MANUFACTURER: Veeder Root 490-32 MODEL #(S): 794380-208 (Piping Sump) 490-33

PIPING LEAK ALARM TRIGGERS AUTOMATIC PUMP (i.e., TURBINE) SHUTDOWN. ☐ a. YES ☒ b. NO 490-34

FAILURE/DISCONNECTION OF THE MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☒ b. NO 490-35

☐ 2. MECHANICAL LINE LEAK DETECTOR (MLLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS AND RESTRICTS OR SHUTS OFF PRODUCT FLOW WHEN A LEAK IS DETECTED (23 CCR §2636) 490-36

MLLD MANUFACTURER(S): 490-37 MODEL #(S): 490-38

☐ 3. ELECTRONIC LINE LEAK DETECTOR (ELLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS (23 CCR §2636) 490-39

ELLD MANUFACTURER(S) 490-40. MODEL #(S): 490-41

PROGRAMMED IN LINE LEAK TEST: ☐ 1. MINIMUM MONTHLY 0.2 g.p.h. ☐ 2. MINIMUM ANNUAL 0.1 g.p.h. 490-42

ELLD DETECTION OF A PIPING LEAK TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-43

ELLD FAILURE/DISCONNECTION TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-44

☒ 4. PIPE INTEGRITY TESTING 490-45
TEST FREQUENCY ☒ a. ANNUALLY ☐ b. EVERY 3 YEARS ☐ c. OTHER (Specify) 490-46 490-47

☐ 5. VISUAL PIPE MONITORING. 490-48
FREQUENCY ☐ a. DAILY ☐ b. WEEKLY ☐ c. MIN. MONTHLY & EACH TIME SYSTEM OPERATED* 490-49
* Allowed for monitoring of unburied emergency generator fuel piping only per HSC §25281.5(b)(3)

☒ 6. SUCTION PIPING MEETS EXEMPTION CRITERIA [23 CCR §2636(a)(3)]. 490-50

☐ 7. NO REGULATED PIPING PER HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7 IS CONNECTED TO THE TANK SYSTEM 490-51

☒ 99. OTHER (Specify) TK-3-2, 4000 gallon UST, supports boilers. TK-4-2, 1000 gallon UST, supports engine generator. 490-52 490-53

UST Monitoring Plan – Page 1 Instructions

Complete a separate UST Monitoring Plan for each UST monitoring system at the facility. This form must be submitted with your initial UST Operating Permit Application and within 30 days of changes in the information it contains. Please note that your local agency may require you to obtain approval prior to installing or modifying monitoring equipment. (Note: Numbering of these instructions follows the data element numbers on the form.)

490-1. TYPE OF ACTION – Check the appropriate box to indicate why this plan is being submitted.

490-2. PLAN TYPE – Check the appropriate box to indicate whether this plan covers all, or merely some, of the USTs at the facility. If the plan covers only some of the tanks, identify those tanks in the space provided [e.g., by using the Tank ID #(s) in item 432 of the UST Operating Permit Application – Tank Information Form(s)].

1. FACILITY ID NUMBER – This space is for agency use only.

3. BUSINESS NAME – Enter the complete Facility Name.

103. BUSINESS SITE ADDRESS – Enter the street address where the facility is located, including building number, if applicable. Post office box numbers are not acceptable This information must provide a means to locate the facility geographically.

104. CITY – Enter the city or unincorporated area in which the facility is located.

490-3a MONITORING EQUIPMENT IS SERVICED – Check the appropriate box to specify the frequency of monitoring equipment testing/certification.

490-3b Specify Other frequency for monitoring equipment servicing.

490-4 SITE PLAN - Indicate if a site plan/map is submitted with this monitoring plan or if it was submitted previously and is current for the facility. Monitoring plans must include a Site Plot Plan/Map showing the tank and piping layouts and the locations where monitoring is performed (i.e., location of sensors, probes, line leak detectors, monitoring system control panel, etc.).

490-5 IV-1 CONTINUOUS ELECTRONIC MONITORING-Indicate if this monitoring method is being used to monitor the tanks.

490-6 SECONDARY CONTAINMENT– If IV-1 is checked, check the appropriate box to describe the environment inside the tank secondary containment.

490-7 PANEL MANUFACTURER – – If IV-1 is checked, enter the name of the manufacturer of the monitoring system control panel (console).

490-8 MODEL # – If IV-1 is checked, enter the model number for the monitoring system control panel.

490-9 LEAK SENSOR MANUFACTURER — If IV-1 is checked, enter the name of the manufacturer of the sensor(s). If additional space is needed, use Section X.

490-10 MODEL #(S) – – If IV-1 is checked, enter the model number for each type of sensor installed. If additional space is needed, use Section X.

490-11 IV-2 AUTOMATIC TANK GAUGING-Indicate if this method is used for monitoring the UST's.

490-12 PANEL MANUFACTURER – If IV-2 is checked, enter the name of the manufacturer of the monitoring system control panel (console).

490-13 MODEL # – If IV-2 is checked, enter the model number for the monitoring system control panel.

490-14 IN-TANK PROBE MANUFACTURER – If IV-2 is checked, enter the name of the manufacturer of the probe(s).

490-15 MODEL #(S) – If IV-2 is checked, enter the model number for each type of in-tank probe installed. If additional space is needed, use Section X.

490-16. LEAK TEST FREQUENCY – If IV-2 is checked, check the appropriate box to describe the in-tank leak test frequency.

490-17. SPECIFY – If 490-16e is checked, enter the frequency of programmed leak tests.

490-18. PROGRAMMED TESTS – If IV-2 is checked, check the appropriate box to describe the tests programmed into the ATG system.

490-19. SPECIFY – If 490-18c is checked, enter the frequency of in-tank leak testing.

490-20. IV-3 INVENTORY RECONCILIATION – Check the box if statistical inventory reconciliation is performed .

490-21. IV-4 WEEKLY MANUAL TANK GAUGING. Indicate if this method is used to monitor the tanks.

490-22. TESTING PERIOD – If IV-4 is checked, check the appropriate box to describe the MTG testing period.

490-23. IV-5 TANK INTEGRITY TESTING: Indicate if this method is used to monitor the tanks.

490-24. TEST FREQUENCY – If IV-5 is checked, check the appropriate box to describe the frequency of tank integrity testing.

490-25. OTHER: If 490-24c is checked, specify other test frequency.

490-26. IV-99 OTHER: Indicate if monitoring of the tanks occurs that is not indicated in any other category.

490-27. If IV-99 is checked, enter a brief description of the other tank monitoring method(s) used (e.g., vadose zone monitoring per 23 CCR §2647, groundwater monitoring per 23CCR §2648). Include the monitoring frequency (e.g., Continuous, Weekly). If additional space is needed, use Section X.

490-28. V-1 CONTINUOUS MONITORING OF PIPE/PIPING SUMP(S) AND OTHER SECONDARY CONTAINMENT WITH AUDIB LE AND VISUAL ALARMS: Indicate if this is the monitoring method used for the piping.

490-29. SECONDARY CONTAINMENT: If V-1 is checked, Check the appropriate box to describe the environment inside piping secondary containment.

490-30. PANEL MANUFACTURER – If V-1 is checked, enter the name of the manufacturer of the monitoring system control panel (console).

490-31. MODEL # – If V-1 is checked, enter the model number for the monitoring system control panel.

490-32. LEAK SENSOR MANUFACTURER – If V-1 is checked, enter the name of the manufacturer of the sensor(s).

490-33. MODEL #(S) – If V-1 is checked, enter the model number for each type of sensor installed. If additional space is needed, use Section X.

490-34. PIPING LEAK ALARM T RIGGERS AUTOMATIC PUMP SHUTDOWN – If V-1 is checked, check Yes or No.

490-35. FAILURE/DISCONNECTION OF THE MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN – If V-1 is checked, check Yes or No.

490-36. V-2 PIPE MECHANICAL LINE LEAK DETECTORS PERFORM 3 GPH LEAK TESTS: Indicate if this monitoring method is used to monitor the pipelines.

490-37. MLLD MANUFACTURER(S) – If V-2 is checked, enter the name(s) of the manufacturer(s) of the mechanical line leak detector(s). If additional space is needed, use Section X.

490-38. MODEL #(s) - If V-2 is checked, Enter the model number for each type of mechanical line leak detector installed. If additional space is needed, use Section X.

490-39. V-3 PIPE ELECTRONIC LINE LEAK DETECTORS: Indicate if this monitoring method is used to monitor the pipelines.

490-40. ELLD MANUFACTURER – If V-3 is checked, Enter the name of the manufacturer of the electronic line leak detector(s).

490-41. MODEL #(S)n - If V-3 is checked, enter the model number for each type of electronic line leak detector installed. If additional space is needed, use Section X.

490-42. PROGRAMMED LINE INTEGRITY TESTS –If V-3 is checked, check the appropriate box to describe the type of tests programmed into the monitoring system.

490-43. ELLD DETECTION OF A PIPING LEAK ALARM TRIGGERS PUMP SHUTDOWN – If V-1 is checked, check Yes or No.

490-44. ELLD DETECTION OF A PIPING LEAK FAILURE/DISCONNECTION TRIGGERS PUMP SHUTDOWN. – If V-1 is checked, check Yes or No.

490-45. V-4 PIPE INTEGRITY TESTING - Indicate if this monitoring method is used to monitor the pipelines.

490-46. TEST FREQUENCY – If V-4 is checked, check the appropriate box to describe the frequency of pipe integrity testing.

490-47. SPECIFY – If 490-46-99 is checked, enter the frequency of pipe integrity testing.

490-48. V-5 VISUAL PIPE MONITORING - Indicate if this monitoring method is used to monitor the pipelines.

490-49. If V-5 is checked, check the appropriate box to describe the frequency of visual monitoring.

490-50. SUCTION PIPING MEETS EXEMPTION CRITERIA - Indicate if this monitoring method is used to monitor the pipelines.

490-51. NO REGULATED PIPING PER HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7 IS CONNECTED TO THE TANK SYSTEM - Check this box if no piping in the tank system is regulated under the UST law, or there is no piping.

490-52. V-99 OTHER - Indicate if another method is used for pipeline monitoring.

490-53. SPECIFY – Enter a brief description of the other line monitoring method(s) used. If additional space is needed, see Section X. Be sure to clearly describe monitoring method(s) and frequency.

This monitoring plan must include a Site Plan showing the general tank and piping layouts and the locations where monitoring is performed (i.e., location of each sensor, line leak detector, monitoring system control panel, etc.). If you already have a diagram (e.g., current UST Monitoring Site Plan from a Monitoring System Certification form, Hazardous Materials Business Plan map, etc.) that shows all required information, include it with this plan.

UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN (Page 2 of 2)

VI. UNDER DISPENSER CONTAINMENT (UDC) MONITORING

1. UDC MONITORING IS PERFORMED USING THE FOLLOWING METHOD 490-54a 490-54b

☐ 1. CONTINUOUS ELECTRONIC MONITORING ☐ 2. FLOAT AND CHAIN ASSEMBLY ☐ 3. ELECTRONIC STAND-ALONE

☒ 4. NO DISPENSERS ☐ 99. OTHER (Specify):

PANEL MANUFACTURER: 490-55 MODEL #: 490-56.

LEAK SENSOR MANUFACTURER: 490-57 MODEL #(S): 490-58

DETECTION OF A LEAK INTO THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS	☐ a. YES	☐ b. NO	490-59
UDC LEAK ALARM TRIGGERS AUTOMATIC PUMP SHUTDOWN	☐ a. YES	☐ b. NO	490-60.
FAILURE / DISCONNECTION OF UDC MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN.	☐ a. YES	☐ b. NO	490-61
UDC MONITORING STOPS THE FLOW OF PRODUCT AT THE DISPENSER.	☐ a. YES	☐ b. NO	490-62

2. UDC CONSTRUCTION IS ☐ 1. SINGLE-WALLED ☐ 2. DOUBLE-WALLED 490-63

IF DOUBLE WALLED:
UDC INTERSTITIAL SPACE IS MONITORED BY: ☐ 1. LIQUID ☐ 2. PRESSURE ☐ 3. VACUUM 490-64a

A LEAK WITHIN THE SECONDARY CONTAINMENT OF THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS ☐ a. YES ☐ b. NO 490-64b

VII. PERIODIC SYSTEM TESTING

☐ 1. **ELD TESTING:** THIS FACILITY HAS BEEN NOTIFIED BY THE STATE WATER RESOURCES CONTROL BOARD THAT ENHANCED LEAK DETECTION (ELD) MUST BE PERFORMED. PERIODIC ELD IS PERFORMED EVERY 36 MONTHS AS REQUIRED. (23 CCR §2644.1) 490-65.

☒ 2. **SECONDARY CONTAINMENT COMPONENTS ARE TESTED EVERY 36 MONTHS.** 490-66

☒ 3. **SPILL BUCKETS ARE TESTED ANNUALLY.** 490-67

VIII. RECORDKEEPING

The following monitoring/maintenance records are kept for this facility:

☒ Alarm logs 490-68a ☒ Visual Inspection Records 490-68b ☐ Tank integrity testing results 490-68c
☐ SIR testing results (and supporting documentation records). 490-68d ☐ Tank gauging results (and supporting documentation records). 490-68e
☐ ATG Testing results (and supporting documentation records). 490-68f ☐ Corrosion Protection 60-day logs 490-68g
☒ Equipment maintenance and calibration records. 490-68h

IX. TRAINING

☒ Personnel with UST monitoring responsibilities are familiar with all of the following documents relevant to their job duties. 490-69a

REFERENCE DOCUMENTS MAINTAINED AT FACILITY (Check all that apply)

- ☒ THIS UNDERGROUND STORAGE TANK MONITORING PLAN (Required) 490-69b
- ☒ OPERATING MANUALS FOR ELECTRONIC MONITORING EQUIPMENT (Required) 490-69c
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK REGULATIONS 490-69d
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK LAW 490-69e
- ☐ STATE WATER RESOURCES CONTROL BOARD (SWRCB) PUBLICATION: "HANDBOOK FOR TANK OWNERS - MANUAL AND STATISTICAL INVENTORY RECONCILIATION" 490-69f
- ☐ SWRCB PUBLICATION: "UNDERSTANDING AUTOMATIC TANK GAUGING SYSTEMS" 490-69g
- ☐ OTHER (Specify): M69h, M69i

☒ This facility has a "Designated UST Operator" who has passed the California UST System Operator Exam administered by the International Code Council (ICC). The "Designated UST Operator" will train facility employees in the proper operation and maintenance of the UST systems annually, and within 30 days of hire. This training will include, but is not limited to, the following:

- Operation of the UST systems in a manner consistent with the facility's best management practices
- The facility employee's role with regard to the monitoring equipment as specified in this UST Monitoring Plan
- The facility employee's role with regard to spills and overfills as specified in the UST Response Plan
- Names of contact person(s) for emergencies and monitoring alarms. 490-70

X. COMMENTS/ADDITIONAL INFORMATION

Provide additional comments here or indicate how many pages with additional information on specific monitoring procedures are attached to this plan. 490-71

XI. PERSONNEL RESPONSIBILITIES

The UST Owner/Operator is responsible for ensuring that: 1) the daily/routine UST monitoring activities and maintenance of UST leak detection equipment covered by this plan occurs, 2) all conditions that indicate a possible release are investigated, and 3) all monitoring records are maintained properly.
The following person(s) are responsible for performing the monitoring and equipment maintenance:

NAME: Mike Botello 490-72 TITLE: Lead Plant Maintenance Technician 490-73

NAME: Joe Kappl 490-74 TITLE: Plant Maintenance Technician 490-75

The Designated Operator shall perform a monthly visual inspection of the facility, provide a report to the owner/operator, and inform the owner/operator of any conditions that need follow-up action.

XII. OWNER/OPERATOR SIGNATURE

CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

APPLICANT SIGNATURE Robert Fox 490-76 DATE: 2/6/09 490-77

REPRESENTING: ☐ 1. Tank Owner/Operator ☐ 2. Facility Owner/Operator ☒ 3. Authorized Representative of Owner

APPLICANT NAME (print): Robert Fox 490-78 APPLICANT TITLE: Environmental Specialist 490-79

(Agency Use Only) This plan has been reviewed and: ☐ Approved ☐ Approved With Conditions

Local Agency Signature: _____ Date: _____

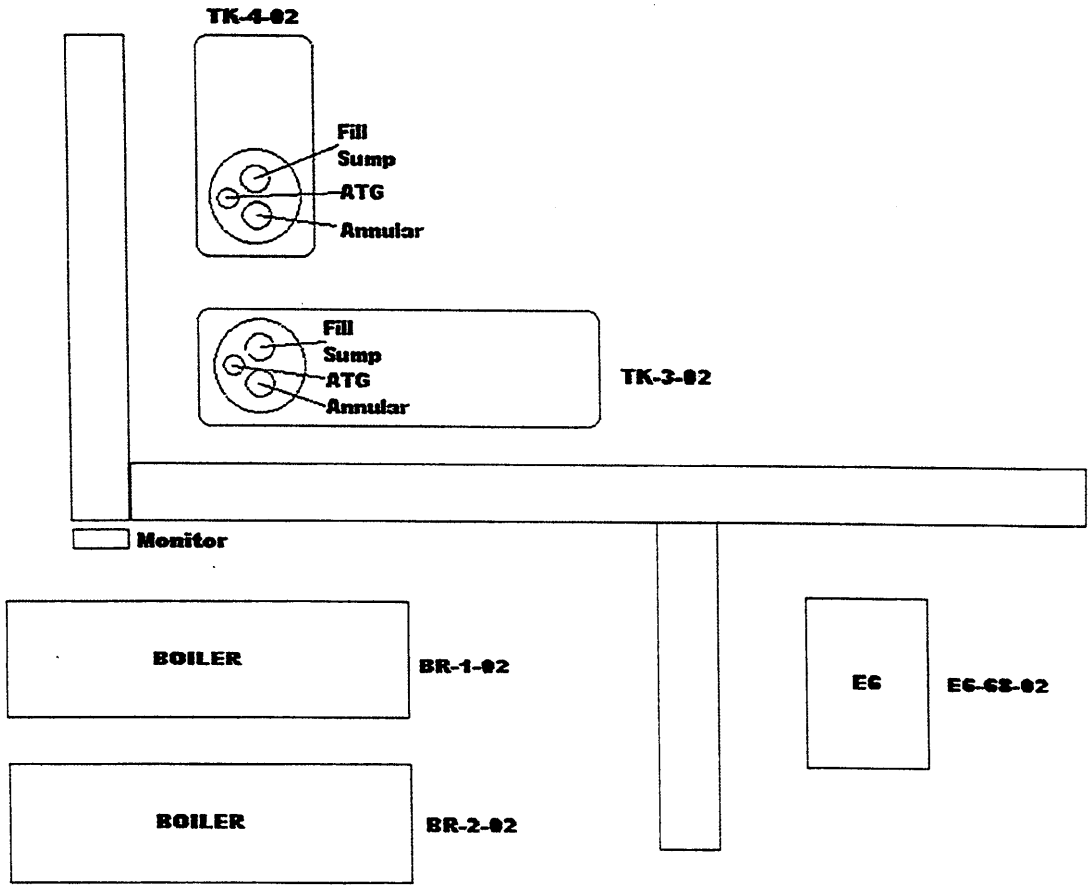
Comments or Special Conditions:

UST Monitoring Plan – Page 2 Instructions

Complete a separate UST Monitoring Plan for each UST monitoring system at the facility. This form must be submitted with your initial UST Operating Permit Application and within 30 days of changes in the information it contains. Please note that your local agency may require you to obtain approval prior to installing or modifying monitoring equipment. (Note: Numbering of these instructions follows the data element numbers on the form.)

490-54a. MONITORING OF THE UNDER DISPENSER CONTAINMENT- Indicate the method used for UDC monitoring.
490-54b. SPECIFY-If 99 "Other" is checked, describe other method used.
If VI-1-1, VI-1-2 or VI-1-3 or VI-1-99 is checked, complete 490-55 to 490-64b.
490-55. PANEL MANUFACTURER –Enter the name of the manufacturer of the monitoring system control panel (console). If there is no control panel (e.g., only an electrical relay box is installed) leave this space blank.
490-56. MODEL # - Enter the model number for the monitoring system control panel (console). If there is no control panel (e.g., only an electrical relay box is installed) leave this
space blank.
490-57. LEAK SENSOR MANUFACTURER – Enter the name of the manufacturer of the sensor(s).
490-58. MODEL #(S) – Enter the model number of the sensor(s) installed. If additional space is needed, use Section X.
490-59. DETECTION OF A LEAK INTO THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS. Indicate Yes or No
490-60. UDC LEAK ALARM TRIGGERS PUMP SHUTDOWN - Indicate Yes or No
490-61. FAILURE/DISCONNECTION OF UDC MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN - Indicate Yes or No
490-62. UDC MONITORING STOPS THE FLOW OF PRODUCT AT THE DISPENSER - Indicate Yes or No.
490-63. UDC CONSTRUCTION - Indicate if the construction of the UDC is single-walled, or double-walled.
490-64a. DOUBLE-WALLED INTERSTITIAL SPACE MONITORING - Indicate what is used to monitor the interstitial space.
490-64b. LEAK WITHIN THE SECONDARY CONTAIMENT OF UDC TRIGGERS AUDIBLE AND VISUAL ALARMS - Indicate Yes or No
490-65. VII-1 ELD TESTING - Check the box if you have been notified by the State Water Resources Control Board (SWRCB) that the UST(s) covered by this plan is/are subject to Enhanced Leak Detection Requirements (i.e., UST has any single-wall component and is located within 1,000 feet of a public drinking water well).
490-66. TESTING OF SECONDARY CONTAINMENT COMPONENTS EVERY 36 MONTHS - Check the box if you have secondary containment that requires testing.
490-67. SPILL BUCKET TESTING - Check the box if you have spill buckets.
490-68a-h. VIII RECORDKEEPING -Indicate which monitoring and equipment maintenance records are maintained for this facility.
490-69a IX TRAINING STATEMENT - Check the box to verify that the statement is true.
REFERENCE DOCUMENTS MAINTAINED AT FACILITY – Check the appropriate boxes to describe reference documents maintained at the facility. Note that the first two items on the list must be kept at the facility.
490-69b. MONITORING PLAN: Indicate that this plan is kept as a reference document.
490-69c. OPERATING MANUALS FOR ELECTRONIC EQUIPMENT: Indicate that this plan is kept as a reference document.
490-69d. CA UST REGULATIONS - Indicate that this is kept as a reference document.
490-69e. CA UST LAW - Indicate that this is kept as a reference document.
490-69f. STATE WATER RESOURCES CONTROL BOARD (SWRCB) PUBLICATION - "HANDBOOK FOR TANK OWNERS - MANUAL AND STATISTICAL INVENTORY RECONCILIATION - Indicate that this is kept as a reference document.
490-69g. SWRCB PUBLICATION: "UNDERSTANDING AUTOMATIC TANK GAUGING SYSTEMS": Indicate that this is kept as a reference document.
490-69h. OTHER - Indicate that other reference documents are kept.
490-69i. SPECIFY-If "OTHER" is checked, enter a brief description of the other document(s) maintained at the facility. If additional space is needed, see Section X.
490-70. DESIGNATED OPERATOR TRAINING - Check this box to verify that this statement is true.
490-71. COMMENTS/ADDITIONAL INFORMATION – Make additional comments or you may attach and identify the number of additional pages of information to describe any additional UST system monitoring-related information (e.g., additional information required by your local agency). Attach any monitoring logs that you will be using for the monitoring of your tank system.
490-72. NAME – Enter the name of the person who routinely conducts the monitoring and equipment maintenance under this plan.
490-73. TITLE - Enter the title of the person.
490-74. NAME – Enter the name of the second person, if applicable, who routinely conducts the monitoring and equipment maintenance under this plan.
490-75. TITLE - Enter the title of the second person.
OWNER/OPERATOR SIGNATURE – The tank owner/operator, facility owner/operator, or an authorized representative of the owner shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete, and that the training program specified in Section IX has been implemented.
490-76. REPRESENTING -- Check the appropriate box to indicate whether the signer is the UST owner/operator, the UST facility owner/operator, or an authorized representative of the owner.
490-77. DATE – Enter the date the plan was signed.
490-78. APPLICANT NAME – Print or type the name of the person signing the plan.
490-79. APPLICANT TITLE – Enter the title of the person signing the plan.

UC Lawrence Berkeley National Lab
One Cyclotron Road, Building 02
Berkeley, CA 94720



UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN – (Page 1 of 2)

TYPE OF ACTION ☒ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION 490-1

PLAN TYPE (Check one item only) ☐ 1. MONITORING IS IDENTICAL FOR ALL USTs AT THIS FACILITY. 490-2
☒ 2. THIS PLAN COVERS ONLY THE FOLLOWING UST SYSTEM(S): Building 55/90 UST: TK-1-55

I. FACILITY INFORMATION

FACILITY ID # *(Agency Use Only)* — — 1

BUSINESS NAME (Same as FACILITY NAME) Lawrence Berkeley National Laboratory 3.

BUSINESS SITE ADDRESS One Cyclotron Road, Building 55/90 103. CITY Berkeley 104.

II. EQUIPMENT TESTING AND PREVENTIVE MAINTENANCE

Testing, preventive maintenance, and calibration of monitoring equipment (e.g., sensors, probes, line leak detectors, etc.) must be performed at the frequency specified by the equipment manufacturers' instructions, or annually, whichever is more frequent, and that such work must be performed by qualified personnel. (23 CCR §2632, 2634, 2638, 2641)

MONITORING EQUIPMENT IS SERVICED ☒ 1. ANNUALLY ☐ 99. OTHER (Specify): 490-3a 490-3b

III. MONITORING LOCATIONS

☒ **1. NEW SITE PLOT PLAN/MAP SUBMITTED WITH THIS PLAN.** ☐ **2. SITE PLOT PLAN/MAP PREVIOUSLY SUBMITTED. (23 CCR §2632, 2634)** 490-4

IV. TANK MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S):

☒ **1. CONTINUOUS ELECTRONIC TANK MONITORING OF ANNULAR (INTERSTITIAL) SPACE(S) OR SECONDARY CONTAINMENT VAULT(S) WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2632, 2634)** 490-5

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-6

PANEL MANUFACTURER: Veeder Root 490-7. MODEL #: TLS 300C 490-8

LEAK SENSOR MANUFACTURER: Veeder Root 490-9. MODEL #(S): 794390-420 (annular) 490-10

☐ **2. AUTOMATIC TANK GAUGING (ATG) SYSTEM USED TO MONITOR SINGLE WALL TANK(S). (23 CCR §2643)** 490-11

PANEL MANUFACTURER: 490-12. MODEL #: 490-13

IN-TANK PROBE MANUFACTURER: 490-14. MODEL #(S): 490-15

LEAK TEST FREQUENCY: ☐ a. CONTINUOUS ☐ b. DAILY/NIGHTLY ☐ c. WEEKLY 490-16
☐ d. MONTHLY ☐ e. OTHER (Specify): _____ 490-17

PROGRAMMED TESTS: ☐ a. 0.1 g.p.h. ☐ b. 0.2 g.p.h. ☐ c. OTHER (Specify): _____ 490-18 490-19

☐ **3. MONTHLY STATISTICAL INVENTORY RECONCILIATION (23 CCR §2646.1):** 490-20

☐ **4. WEEKLY MANUAL TANK GAUGING (MTG) (23 CCR §2645).** TESTING PERIOD: ☐ a. 36 HOURS ☐ b. 60 HOURS 490-21 490-22

☐ **5. TANK INTEGRITY TESTING (23 CCR §2643.1):** 490-23
TEST FREQUENCY: ☐ a. ANNUALLY ☐ b. BIENNIALLY ☐ c. OTHER (Specify): 490-24 490-25

☐ **99. OTHER** (Specify): 490-26 490-27

V. PIPE MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S) (Check all that apply)

☐ **1. CONTINUOUS MONITORING OF PIPE/ PIPING SUMP(S) AND OTHER SECONDARY CONTAINMENT WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2636)** 490-28

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-29

PANEL MANUFACTURER: 490-30 MODEL #: 490-31

LEAK SENSOR MANUFACTURER: 490-32 MODEL #(S): 490-33

PIPING LEAK ALARM TRIGGERS AUTOMATIC PUMP (i.e., TURBINE) SHUTDOWN. ☐ a. YES ☐ b. NO 490-34

FAILURE/DISCONNECTION OF THE MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-35

☐ **2. MECHANICAL LINE LEAK DETECTOR (MLLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS AND RESTRICTS OR SHUTS OFF PRODUCT FLOW WHEN A LEAK IS DETECTED (23 CCR §2636)** 490-36

MLLD MANUFACTURER(S): 490-37 MODEL #(S): 490-38

☐ **3. ELECTRONIC LINE LEAK DETECTOR (ELLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS (23 CCR §2636)** 490-39

ELLD MANUFACTURER(S) 490-40. MODEL #(S): 490-41

PROGRAMMED IN LINE LEAK TEST: ☐ 1. MINIMUM MONTHLY 0.2 g.p.h. ☐ 2. MINIMUM ANNUAL 0.1 g.p.h. 490-42

ELLD DETECTION OF A PIPING LEAK TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-43

ELLD FAILURE/DISCONNECTION TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-44

☒ **4. PIPE INTEGRITY TESTING** 490-45
TEST FREQUENCY ☒ a. ANNUALLY ☐ b. EVERY 3 YEARS ☐ c. OTHER (Specify) 490-46 490-47

☐ **5. VISUAL PIPE MONITORING.** 490-48
FREQUENCY ☐ a. DAILY ☐ b. WEEKLY ☐ c. MIN. MONTHLY & EACH TIME SYSTEM OPERATED* 490-49
* Allowed for monitoring of unburied emergency generator fuel piping only per HSC §25281.5(b)(3)

☒ **6. SUCTION PIPING MEETS EXEMPTION CRITERIA [23 CCR §2636(a)(3)].** 490-50

☐ **7. NO REGULATED PIPING PER HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7 IS CONNECTED TO THE TANK SYSTEM** 490-51

☒ **99. OTHER** (Specify) TK-1-55, 1000 gallon UST, supports engine generator. All piping is aboveground piping. 490-52 490-53

UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN (Page 2 of 2)

VI. UNDER DISPENSER CONTAINMENT (UDC) MONITORING

1. UDC MONITORING IS PERFORMED USING THE FOLLOWING METHOD 490-54a 490-54b

☐ 1. CONTINUOUS ELECTRONIC MONITORING ☐ 2. FLOAT AND CHAIN ASSEMBLY ☐ 3. ELECTRONIC STAND-ALONE

☒ 4. NO DISPENSERS ☐ 99. OTHER (Specify):

PANEL MANUFACTURER: 490-55 MODEL #: 490-56.

LEAK SENSOR MANUFACTURER: 490-57 MODEL #(S): 490-58

DETECTION OF A LEAK INTO THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS ☐ a. YES ☐ b. NO 490-59

UDC LEAK ALARM TRIGGERS AUTOMATIC PUMP SHUTDOWN ☐ a. YES ☐ b. NO 490-60.

FAILURE / DISCONNECTION OF UDC MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-61

UDC MONITORING STOPS THE FLOW OF PRODUCT AT THE DISPENSER. ☐ a. YES ☐ b. NO 490-62

2. UDC CONSTRUCTION IS ☐ 1. SINGLE-WALLED ☐ 2. DOUBLE-WALLED 490-63

IF DOUBLE WALLED: 490-64a
UDC INTERSTITIAL SPACE IS MONITORED BY: ☐ 1. LIQUID ☐ 2. PRESSURE ☐ 3. VACUUM

A LEAK WITHIN THE SECONDARY CONTAINMENT OF THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS ☐ a. YES ☐ b. NO 490-64b

VII. PERIODIC SYSTEM TESTING

☐ 1. **ELD TESTING:** THIS FACILITY HAS BEEN NOTIFIED BY THE STATE WATER RESOURCES CONTROL BOARD THAT ENHANCED LEAK DETECTION (ELD) MUST BE PERFORMED. PERIODIC ELD IS PERFORMED EVERY 36 MONTHS AS REQUIRED. (23 CCR §2644.1) 490-65.

☒ 2. **SECONDARY CONTAINMENT COMPONENTS ARE TESTED EVERY 36 MONTHS.** 490-66

☒ 3. **SPILL BUCKETS ARE TESTED ANNUALLY.** 490-67

VIII. RECORDKEEPING

The following monitoring/maintenance records are kept for this facility:

☒ Alarm logs 490-68a ☒ Visual Inspection Records 490-68b ☐ Tank integrity testing results 490-68c
☐ SIR testing results (and supporting documentation records). 490-68d ☐ Tank gauging results (and supporting documentation records). 490-68e
☐ ATG Testing results (and supporting documentation records). 490-68f ☐ Corrosion Protection 60-day logs 490-68g
☒ Equipment maintenance and calibration records. 490-68h

IX. TRAINING

☒ Personnel with UST monitoring responsibilities are familiar with all of the following documents relevant to their job duties. 490-69a

REFERENCE DOCUMENTS MAINTAINED AT FACILITY (Check all that apply)

- ☒ THIS UNDERGROUND STORAGE TANK MONITORING PLAN (Required) 490-69b
- ☒ OPERATING MANUALS FOR ELECTRONIC MONITORING EQUIPMENT (Required) 490-69c
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK REGULATIONS 490-69d
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK LAW 490-69e
- ☐ STATE WATER RESOURCES CONTROL BOARD (SWRCB) PUBLICATION: "HANDBOOK FOR TANK OWNERS - MANUAL AND STATISTICAL INVENTORY RECONCILIATION" 490-69f
- ☐ SWRCB PUBLICATION: "UNDERSTANDING AUTOMATIC TANK GAUGING SYSTEMS" 490-69g
- ☐ OTHER (Specify): M69h, M69i

☒ This facility has a "Designated UST Operator" who has passed the California UST System Operator Exam administered by the International Code Council (ICC). The "Designated UST Operator" will train facility employees in the proper operation and maintenance of the UST systems annually, and within 30 days of hire. This training will include, but is not limited to, the following:

- Operation of the UST systems in a manner consistent with the facility's best management practices
- The facility employee's role with regard to the monitoring equipment as specified in this UST Monitoring Plan
- The facility employee's role with regard to spills and overfills as specified in the UST Response Plan
- Names of contact person(s) for emergencies and monitoring alarms. 490-70

X. COMMENTS/ADDITIONAL INFORMATION

Provide additional comments here or indicate how many pages with additional information on specific monitoring procedures are attached to this plan. 490-71

XI. PERSONNEL RESPONSIBILITIES

The UST Owner/Operator is responsible for ensuring that: 1) the daily/routine UST monitoring activities and maintenance of UST leak detection equipment covered by this plan occurs, 2) all conditions that indicate a possible release are investigated, and 3) all monitoring records are maintained properly.
The following person(s) are responsible for performing the monitoring and equipment maintenance:

NAME: Mike Botello 490-72 TITLE: Lead Plant Maintenance Technician 490-73

NAME: Joe Kappl 490-74 TITLE: Plant Maintenance Technician 490-75

The Designated Operator shall perform a monthly visual inspection of the facility, provide a report to the owner/operator, and inform the owner/operator of any conditions that need follow-up action.

XII. OWNER/OPERATOR SIGNATURE

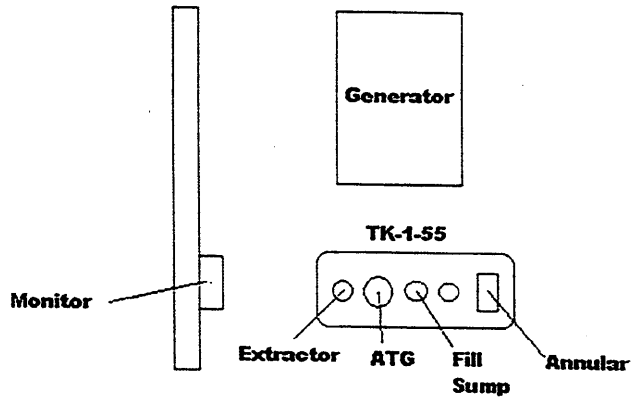
CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

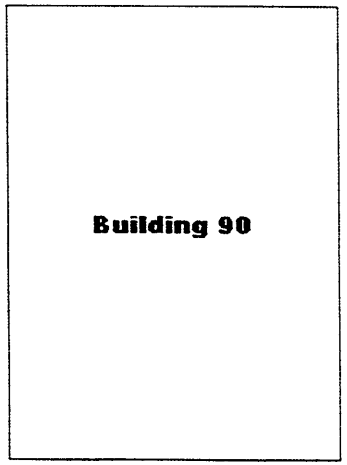
APPLICANT SIGNATURE Robert Fox 490-76 DATE: 2/6/09 490-77

REPRESENTING: ☐ 1. Tank Owner/Operator ☐ 2. Facility Owner/Operator ☒ 3. Authorized Representative of Owner

APPLICANT NAME (print): Robert Fox 490-78 APPLICANT TITLE: Environmental Specialist 490-79

UC Lawrence Berkeley National Lab
One Cyclotron Road, Building 55/90
Berkeley, CA 94720





UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN – (Page 1 of 2)

TYPE OF ACTION ☒ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION 490-1

PLAN TYPE (Check one item only) ☐ 1. MONITORING IS IDENTICAL FOR ALL USTs AT THIS FACILITY. 490-2
☒ 2. THIS PLAN COVERS ONLY THE FOLLOWING UST SYSTEM(S): Building 76 USTs: TK-5-76, TK-6-76

I. FACILITY INFORMATION

FACILITY ID # (*Agency Use Only*) — — 1

BUSINESS NAME (Same as FACILITY NAME) Lawrence Berkeley National Laboratory 3.

BUSINESS SITE ADDRESS One Cyclotron Road, Building 76 103. CITY Berkeley 104.

II. EQUIPMENT TESTING AND PREVENTIVE MAINTENANCE

Testing, preventive maintenance, and calibration of monitoring equipment (e.g., sensors, probes, line leak detectors, etc.) must be performed at the frequency specified by the equipment manufacturers' instructions, or annually, whichever is more frequent, and that such work must be performed by qualified personnel. (23 CCR §2632, 2634, 2638, 2641)

MONITORING EQUIPMENT IS SERVICED ☒ 1. ANNUALLY ☐ 99. OTHER (Specify): 490-3a 490-3b

III. MONITORING LOCATIONS

☒ 1. NEW SITE PLOT PLAN/MAP SUBMITTED WITH THIS PLAN. ☐ 2. SITE PLOT PLAN/MAP PREVIOUSLY SUBMITTED. (23 CCR §2632, 2634) 490-4

IV. TANK MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S):

☒ 1. CONTINUOUS ELECTRONIC TANK MONITORING OF ANNULAR (INTERSTITIAL) SPACE(S) OR SECONDARY CONTAINMENT VAULT(S) WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2632, 2634) 490-5

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-6

PANEL MANUFACTURER: Veeder Root 490-7. MODEL #: TLS 350 490-8

LEAK SENSOR MANUFACTURER: Veeder Root 490-9. MODEL #(S): 794390-420 (annular) 490-10

☐ 2. AUTOMATIC TANK GAUGING (ATG) SYSTEM USED TO MONITOR SINGLE WALL TANK(S). (23 CCR §2643) 490-11

PANEL MANUFACTURER: 490-12. MODEL #: 490-13

IN-TANK PROBE MANUFACTURER: 490-14. MODEL #(S): 490-15

LEAK TEST FREQUENCY: ☐ a. CONTINUOUS ☐ b. DAILY/NIGHTLY ☐ c. WEEKLY 490-16
☐ d. MONTHLY ☐ e. OTHER (Specify): _____ 490-17

PROGRAMMED TESTS: ☐ a. 0.1 g.p.h. ☐ b. 0.2 g.p.h. ☐ c. OTHER (Specify): _____ 490-18 490-19

☐ 3. MONTHLY STATISTICAL INVENTORY RECONCILIATION (23 CCR §2646.1): 490-20

☐ 4. WEEKLY MANUAL TANK GAUGING (MTG) (23 CCR §2645). TESTING PERIOD: ☐ a. 36 HOURS ☐ b. 60 HOURS 490-21 490-22

☐ 5. TANK INTEGRITY TESTING (23 CCR §2643.1): 490-23
TEST FREQUENCY: ☐ a. ANNUALLY ☐ b. BIENNIALLY ☐ c. OTHER (Specify): 490-24 490-25

☐ 99. OTHER (Specify): 490-26 490-27

V. PIPE MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S) (Check all that apply)

☒ 1. CONTINUOUS MONITORING OF PIPE/ PIPING SUMP(S) AND OTHER SECONDARY CONTAINMENT WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2636) 490-28

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-29

PANEL MANUFACTURER: Veeder Root 490-30 MODEL #: TLS 350 490-31

LEAK SENSOR MANUFACTURER: Veeder Root 490-32 MODEL #(S): 794380-208 (Turbine Sump) 490-33

PIPING LEAK ALARM TRIGGERS AUTOMATIC PUMP (i.e., TURBINE) SHUTDOWN. ☐ a. YES ☒ b. NO 490-34

FAILURE/DISCONNECTION OF THE MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☒ b. NO 490-35

☒ 2. MECHANICAL LINE LEAK DETECTOR (MLLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS AND RESTRICTS OR SHUTS OFF PRODUCT FLOW WHEN A LEAK IS DETECTED (23 CCR §2636) 490-36

MLLD MANUFACTURER(S): Red Jacket 490-37 MODEL #(S): FX2V & FX2DV 490-38

☐ 3. ELECTRONIC LINE LEAK DETECTOR (ELLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS (23 CCR §2636) 490-39

ELLD MANUFACTURER(S) 490-40. MODEL #(S): 490-41

PROGRAMMED IN LINE LEAK TEST: ☐ 1. MINIMUM MONTHLY 0.2 g.p.h. ☐ 2. MINIMUM ANNUAL 0.1 g.p.h. 490-42

ELLD DETECTION OF A PIPING LEAK TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-43

ELLD FAILURE/DISCONNECTION TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-44

☒ 4. PIPE INTEGRITY TESTING 490-45
TEST FREQUENCY ☒ a. ANNUALLY ☐ b. EVERY 3 YEARS ☐ c. OTHER (Specify) 490-46 490-47

☐ 5. VISUAL PIPE MONITORING. 490-48
FREQUENCY ☐ a. DAILY ☐ b. WEEKLY ☐ c. MIN. MONTHLY & EACH TIME SYSTEM OPERATED* 490-49
* Allowed for monitoring of unburied emergency generator fuel piping only per HSC §25281.5(b)(3)

☐ 6. SUCTION PIPING MEETS EXEMPTION CRITERIA [23 CCR §2636(a)(3)]. 490-50

☐ 7. NO REGULATED PIPING PER HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7 IS CONNECTED TO THE TANK SYSTEM 490-51

☐ 99. OTHER (Specify) 490-52 490-53

UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN (Page 2 of 2)

VI. UNDER DISPENSER CONTAINMENT (UDC) MONITORING

1. UDC MONITORING IS PERFORMED USING THE FOLLOWING METHOD 490-54a 490-54b

☒ 1. CONTINUOUS ELECTRONIC MONITORING ☐ 2. FLOAT AND CHAIN ASSEMBLY ☐ 3. ELECTRONIC STAND-ALONE
☐ 4. NO DISPENSERS ☐ 99. OTHER (Specify):

PANEL MANUFACTURER: Veeder Root 490-55 | MODEL #: TLS-350 490-56.

LEAK SENSOR MANUFACTURER: Veeder Root 490-57 | MODEL #(S): 794380-208 (UDC) 490-58

DETECTION OF A LEAK INTO THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS	☒ a. YES	☐ b. NO	490-59
UDC LEAK ALARM TRIGGERS AUTOMATIC PUMP SHUTDOWN	☐ a. YES	☒ b. NO	490-60.
FAILURE / DISCONNECTION OF UDC MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN.	☐ a. YES	☒ b. NO	490-61
UDC MONITORING STOPS THE FLOW OF PRODUCT AT THE DISPENSER.	☐ a. YES	☒ b. NO	490-62

2. UDC CONSTRUCTION IS ☒ 1. SINGLE-WALLED ☐ 2. DOUBLE-WALLED 490-63

IF DOUBLE WALLED: 490-64a
UDC INTERSTITIAL SPACE IS MONITORED BY: ☐ 1. LIQUID ☐ 2. PRESSURE ☐ 3. VACUUM

A LEAK WITHIN THE SECONDARY CONTAINMENT OF THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS ☐ a. YES ☐ b. NO 490-64b

VII. PERIODIC SYSTEM TESTING

☐ 1. **ELD TESTING**: THIS FACILITY HAS BEEN NOTIFIED BY THE STATE WATER RESOURCES CONTROL BOARD THAT ENHANCED LEAK DETECTION (ELD) MUST BE PERFORMED. PERIODIC ELD IS PERFORMED EVERY 36 MONTHS AS REQUIRED. (23 CCR §2644.1) 490-65.

☒ 2. **SECONDARY CONTAINMENT COMPONENTS ARE TESTED EVERY 36 MONTHS.** 490-66

☒ 3. **SPILL BUCKETS ARE TESTED ANNUALLY.** 490-67

VIII. RECORDKEEPING

The following monitoring/maintenance records are kept for this facility:

☒ Alarm logs 490-68a ☒ Visual Inspection Records 490-68b ☐ Tank integrity testing results 490-68c
☐ SIR testing results (and supporting documentation records). 490-68d ☐ Tank gauging results (and supporting documentation records). 490-68e
☐ ATG Testing results (and supporting documentation records). 490-68f ☐ Corrosion Protection 60-day logs 490-68g
☒ Equipment maintenance and calibration records. 490-68h

IX. TRAINING

☒ Personnel with UST monitoring responsibilities are familiar with all of the following documents relevant to their job duties. 490-69a

REFERENCE DOCUMENTS MAINTAINED AT FACILITY (Check all that apply)

- ☒ THIS UNDERGROUND STORAGE TANK MONITORING PLAN (Required) 490-69b
- ☒ OPERATING MANUALS FOR ELECTRONIC MONITORING EQUIPMENT (Required) 490-69c
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK REGULATIONS 490-69d
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK LAW 490-69e
- ☐ STATE WATER RESOURCES CONTROL BOARD (SWRCB) PUBLICATION: "HANDBOOK FOR TANK OWNERS - MANUAL AND STATISTICAL INVENTORY RECONCILIATION" 490-69f
- ☐ SWRCB PUBLICATION: "UNDERSTANDING AUTOMATIC TANK GAUGING SYSTEMS" 490-69g
- ☐ OTHER (Specify): M69h, M69i

☒ This facility has a "Designated UST Operator" who has passed the California UST System Operator Exam administered by the International Code Council (ICC). The "Designated UST Operator" will train facility employees in the proper operation and maintenance of the UST systems annually, and within 30 days of hire. This training will include, but is not limited to, the following:

- Operation of the UST systems in a manner consistent with the facility's best management practices
- The facility employee's role with regard to the monitoring equipment as specified in this UST Monitoring Plan
- The facility employee's role with regard to spills and overfills as specified in the UST Response Plan
- Names of contact person(s) for emergencies and monitoring alarms. 490-70

X. COMMENTS/ADDITIONAL INFORMATION

Provide additional comments here or indicate how many pages with additional information on specific monitoring procedures are attached to this plan. 490-71

XI. PERSONNEL RESPONSIBILITIES

The UST Owner/Operator is responsible for ensuring that: 1) the daily/routine UST monitoring activities and maintenance of UST leak detection equipment covered by this plan occurs, 2) all conditions that indicate a possible release are investigated, and 3) all monitoring records are maintained properly.
The following person(s) are responsible for performing the monitoring and equipment maintenance:

NAME: Mike Botello 490-72 TITLE: Lead Plant Maintenance Technician 490-73

NAME: Joe Kappl 490-74 TITLE: Plant Maintenance Technician 490-75

The Designated Operator shall perform a monthly visual inspection of the facility, provide a report to the owner/operator, and inform the owner/operator of any conditions that need follow-up action.

XII. OWNER/OPERATOR SIGNATURE

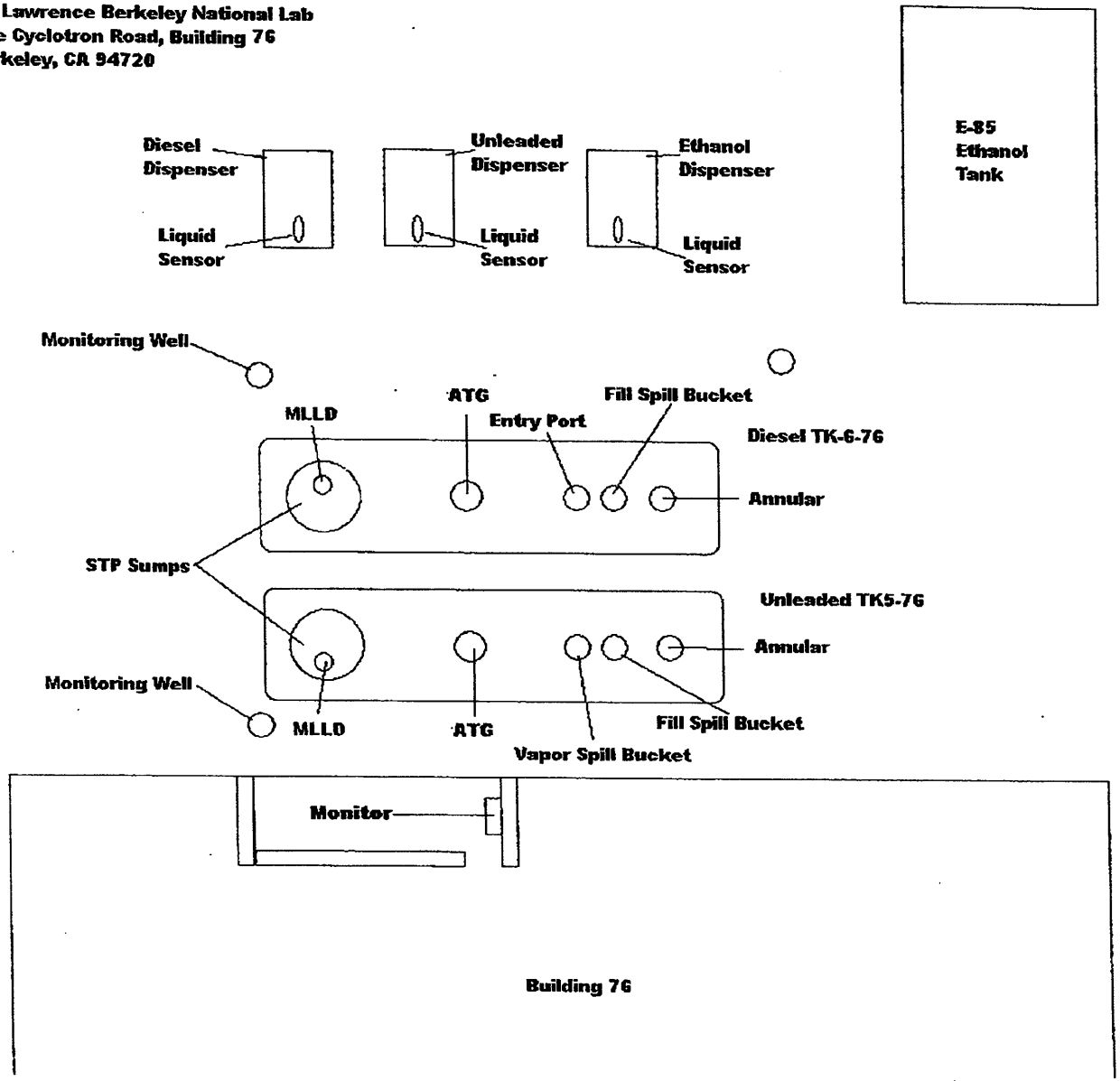
CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

APPLICANT SIGNATURE Robert Fox 490-76 | DATE: 2/6/09 490-77

REPRESENTING: ☐ 1. Tank Owner/Operator ☐ 2. Facility Owner/Operator ☒ 3. Authorized Representative of Owner

APPLICANT NAME (print): Robert Fox 490-78 | APPLICANT TITLE: Environmental Specialist 490-79

UC Lawrence Berkeley National Lab
One Cyclotron Road, Building 76
Berkeley, CA 94720



UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN – (Page 1 of 2)

TYPE OF ACTION ☒ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION 490-1

PLAN TYPE (Check one item only) ☐ 1. MONITORING IS IDENTICAL FOR ALL USTs AT THIS FACILITY. 490-2
☒ 2. THIS PLAN COVERS ONLY THE FOLLOWING UST SYSTEM(S): Building 85 UST: TK-1-85

I. FACILITY INFORMATION

FACILITY ID # *(Agency Use Only)* | | | – | | | | – | | | | | | | 1

BUSINESS NAME (Same as FACILITY NAME) Lawrence Berkeley National Laboratory 3.

BUSINESS SITE ADDRESS One Cyclotron Road, Building 85 103. CITY Berkeley 104.

II. EQUIPMENT TESTING AND PREVENTIVE MAINTENANCE

Testing, preventive maintenance, and calibration of monitoring equipment (e.g., sensors, probes, line leak detectors, etc.) must be performed at the frequency specified by the equipment manufacturers' instructions, or annually, whichever is more frequent, and that such work must be performed by qualified personnel. (23 CCR §2632, 2634, 2638, 2641)

MONITORING EQUIPMENT IS SERVICED ☒ 1. ANNUALLY ☐ 99. OTHER (Specify): 490-3a 490-3b

III. MONITORING LOCATIONS

☒ 1. NEW SITE PLOT PLAN/MAP SUBMITTED WITH THIS PLAN. ☐ 2. SITE PLOT PLAN/MAP PREVIOUSLY SUBMITTED. (23 CCR §2632, 2634) 490-4

IV. TANK MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S):

☒ 1. CONTINUOUS ELECTRONIC TANK MONITORING OF ANNULAR (INTERSTITIAL) SPACE(S) OR SECONDARY CONTAINMENT VAULT(S) WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2632, 2634) 490-5

SECONDARY CONTAINMENT IS: ☐ a. DRY ☒ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-6

PANEL MANUFACTURER: INCON 490-7. MODEL #: TS-1000 490-8

LEAK SENSOR MANUFACTURER: INCON 490-9. MODEL #(S): TSP-HIS (annular) 490-10

☐ 2. AUTOMATIC TANK GAUGING (ATG) SYSTEM USED TO MONITOR SINGLE WALL TANK(S). (23 CCR §2643) 490-11

PANEL MANUFACTURER: 490-12. MODEL #: 490-13

IN-TANK PROBE MANUFACTURER: 490-14. MODEL #(S): 490-15

LEAK TEST FREQUENCY: ☐ a. CONTINUOUS ☐ b. DAILY/NIGHTLY ☐ c. WEEKLY 490-16
☐ d. MONTHLY ☐ e. OTHER (Specify): _____ 490-17

PROGRAMMED TESTS: ☐ a. 0.1 g.p.h. ☐ b. 0.2 g.p.h. ☐ c. OTHER (Specify): _____ 490-18 490-19

☐ 3. MONTHLY STATISTICAL INVENTORY RECONCILIATION (23 CCR §2646.1): 490-20

☐ 4. WEEKLY MANUAL TANK GAUGING (MTG) (23 CCR §2645). TESTING PERIOD: ☐ a. 36 HOURS ☐ b. 60 HOURS 490-21 490-22

☐ 5. TANK INTEGRITY TESTING (23 CCR §2643.1): 490-23
TEST FREQUENCY: ☐ a. ANNUALLY ☐ b. BIENNIALLY ☐ c. OTHER (Specify): 490-24 490-25

☐ 99. OTHER (Specify): 490-26 490-27

V. PIPE MONITORING IS PERFORMED USING THE FOLLOWING METHOD(S) (Check all that apply)

☒ 1. CONTINUOUS MONITORING OF PIPE/ PIPING SUMP(S) AND OTHER SECONDARY CONTAINMENT WITH AUDIBLE AND VISUAL ALARMS. (23 CCR §2636) 490-28

SECONDARY CONTAINMENT IS: ☒ a. DRY ☐ b. LIQUID FILLED ☐ c. PRESSURIZED ☐ d. UNDER VACUUM 490-29

PANEL MANUFACTURER: INCON 490-30 MODEL #: TS-1000 490-31

LEAK SENSOR MANUFACTURER: INCON 490-32 MODEL #(S): TSP-ULS 490-33

PIPING LEAK ALARM TRIGGERS AUTOMATIC PUMP (i.e., TURBINE) SHUTDOWN. ☐ a. YES ☒ b. NO 490-34

FAILURE/DISCONNECTION OF THE MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☒ b. NO 490-35

☐ 2. MECHANICAL LINE LEAK DETECTOR (MLLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS AND RESTRICTS OR SHUTS OFF PRODUCT FLOW WHEN A LEAK IS DETECTED (23 CCR §2636) 490-36

MLLD MANUFACTURER(S): 490-37 MODEL #(S): 490-38

☐ 3. ELECTRONIC LINE LEAK DETECTOR (ELLD) THAT ROUTINELY PERFORMS 3.0 g.p.h. LEAK TESTS (23 CCR §2636) 490-39

ELLD MANUFACTURER(S) 490-40. MODEL #(S): 490-41

PROGRAMMED IN LINE LEAK TEST: ☐ 1. MINIMUM MONTHLY 0.2 g.p.h. ☐ 2. MINIMUM ANNUAL 0.1 g.p.h. 490-42

ELLD DETECTION OF A PIPING LEAK TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-43

ELLD FAILURE/DISCONNECTION TRIGGERS AUTOMATIC PUMP SHUTDOWN. ☐ a. YES ☐ b. NO 490-44

☒ 4. PIPE INTEGRITY TESTING 490-45
TEST FREQUENCY ☒ a. ANNUALLY ☐ b. EVERY 3 YEARS ☐ c. OTHER (Specify) 490-46 490-47

☐ 5. VISUAL PIPE MONITORING. 490-48
FREQUENCY ☐ a. DAILY ☐ b. WEEKLY ☐ c. MIN. MONTHLY & EACH TIME SYSTEM OPERATED* 490-49
* Allowed for monitoring of unburied emergency generator fuel piping only per HSC §25281.5(b)(3)

☒ 6. SUCTION PIPING MEETS EXEMPTION CRITERIA [23 CCR §2636(a)(3)]. 490-50

☐ 7. NO REGULATED PIPING PER HEALTH AND SAFETY CODE, DIVISION 20, CHAPTER 6.7 IS CONNECTED TO THE TANK SYSTEM 490-51

☒ 99. OTHER (Specify) TK-1-85, 2,500 gallon UST, supports an engine generator. 490-52 490-53

UNIFIED PROGRAM CONSOLIDATED FORM
UNDERGROUND STORAGE TANK
MONITORING PLAN (Page 2 of 2)

VI. UNDER DISPENSER CONTAINMENT (UDC) MONITORING

1. UDC MONITORING IS PERFORMED USING THE FOLLOWING METHOD 490-54a 490-54b

☐ 1. CONTINUOUS ELECTRONIC MONITORING ☐ 2. FLOAT AND CHAIN ASSEMBLY ☐ 3. ELECTRONIC STAND-ALONE

☒ 4. NO DISPENSERS ☐ 99. OTHER (Specify):

PANEL MANUFACTURER: 490-55 | MODEL #: 490-56.

LEAK SENSOR MANUFACTURER: 490-57 | MODEL #(S): 490-58

DETECTION OF A LEAK INTO THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS	☐ a. YES	☐ b. NO	490-59
UDC LEAK ALARM TRIGGERS AUTOMATIC PUMP SHUTDOWN	☐ a. YES	☐ b. NO	490-60.
FAILURE / DISCONNECTION OF UDC MONITORING SYSTEM TRIGGERS AUTOMATIC PUMP SHUTDOWN.	☐ a. YES	☐ b. NO	490-61
UDC MONITORING STOPS THE FLOW OF PRODUCT AT THE DISPENSER.	☐ a. YES	☐ b. NO	490-62

2. UDC CONSTRUCTION IS ☐ 1. SINGLE-WALLED ☐ 2. DOUBLE-WALLED 490-63

IF DOUBLE WALLED: 490-64a
UDC INTERSTITIAL SPACE IS MONITORED BY: ☐ 1. LIQUID ☐ 2. PRESSURE ☐ 3. VACUUM

A LEAK WITHIN THE SECONDARY CONTAINMENT OF THE UDC TRIGGERS AUDIBLE AND VISUAL ALARMS ☐ a. YES ☐ b. NO 490-64b

VII. PERIODIC SYSTEM TESTING

☐ 1. **ELD TESTING**: THIS FACILITY HAS BEEN NOTIFIED BY THE STATE WATER RESOURCES CONTROL BOARD THAT ENHANCED LEAK DETECTION (ELD) MUST BE PERFORMED. PERIODIC ELD IS PERFORMED EVERY 36 MONTHS AS REQUIRED. (23 CCR §2644.1) 490-65.

☒ 2. **SECONDARY CONTAINMENT COMPONENTS ARE TESTED EVERY 36 MONTHS.** 490-66

☒ 3. **SPILL BUCKETS ARE TESTED ANNUALLY.** 490-67

VIII. RECORDKEEPING

The following monitoring/maintenance records are kept for this facility:

☒ Alarm logs 490-68a ☒ Visual Inspection Records 490-68b ☐ Tank integrity testing results 490-68c
☐ SIR testing results (and supporting documentation records). 490-68d ☐ Tank gauging results (and supporting documentation records). 490-68e
☐ ATG Testing results (and supporting documentation records). 490-68f ☐ Corrosion Protection 60-day logs 490-68g
☒ Equipment maintenance and calibration records. 490-68h

IX. TRAINING

☒ Personnel with UST monitoring responsibilities are familiar with all of the following documents relevant to their job duties. 490-69a

REFERENCE DOCUMENTS MAINTAINED AT FACILITY (Check all that apply)

- ☒ THIS UNDERGROUND STORAGE TANK MONITORING PLAN (Required) 490-69b
- ☒ OPERATING MANUALS FOR ELECTRONIC MONITORING EQUIPMENT (Required) 490-69c
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK REGULATIONS 490-69d
- ☐ CALIFORNIA UNDERGROUND STORAGE TANK LAW 490-69e
- ☐ STATE WATER RESOURCES CONTROL BOARD (SWRCB) PUBLICATION: "HANDBOOK FOR TANK OWNERS - MANUAL AND STATISTICAL INVENTORY RECONCILIATION" 490-69f
- ☐ SWRCB PUBLICATION: "UNDERSTANDING AUTOMATIC TANK GAUGING SYSTEMS" 490-69g
- ☐ OTHER (Specify): M69h, M69i

☒ This facility has a "Designated UST Operator" who has passed the California UST System Operator Exam administered by the International Code Council (ICC). The "Designated UST Operator" will train facility employees in the proper operation and maintenance of the UST systems annually, and within 30 days of hire. This training will include, but is not limited to, the following:

- Operation of the UST systems in a manner consistent with the facility's best management practices
- The facility employee's role with regard to the monitoring equipment as specified in this UST Monitoring Plan
- The facility employee's role with regard to spills and overfills as specified in the UST Response Plan
- Names of contact person(s) for emergencies and monitoring alarms. 490-70

X. COMMENTS/ADDITIONAL INFORMATION

Provide additional comments here or indicate how many pages with additional information on specific monitoring procedures are attached to this plan. 490-71

XI. PERSONNEL RESPONSIBILITIES

The UST Owner/Operator is responsible for ensuring that: 1) the daily/routine UST monitoring activities and maintenance of UST leak detection equipment covered by this plan occurs, 2) all conditions that indicate a possible release are investigated, and 3) all monitoring records are maintained properly.
The following person(s) are responsible for performing the monitoring and equipment maintenance:

NAME: Mike Botello 490-72 TITLE: Lead Plant Maintenance Technician 490-73

NAME: Joe Kappl 490-74 TITLE: Plant Maintenance Technician 490-75

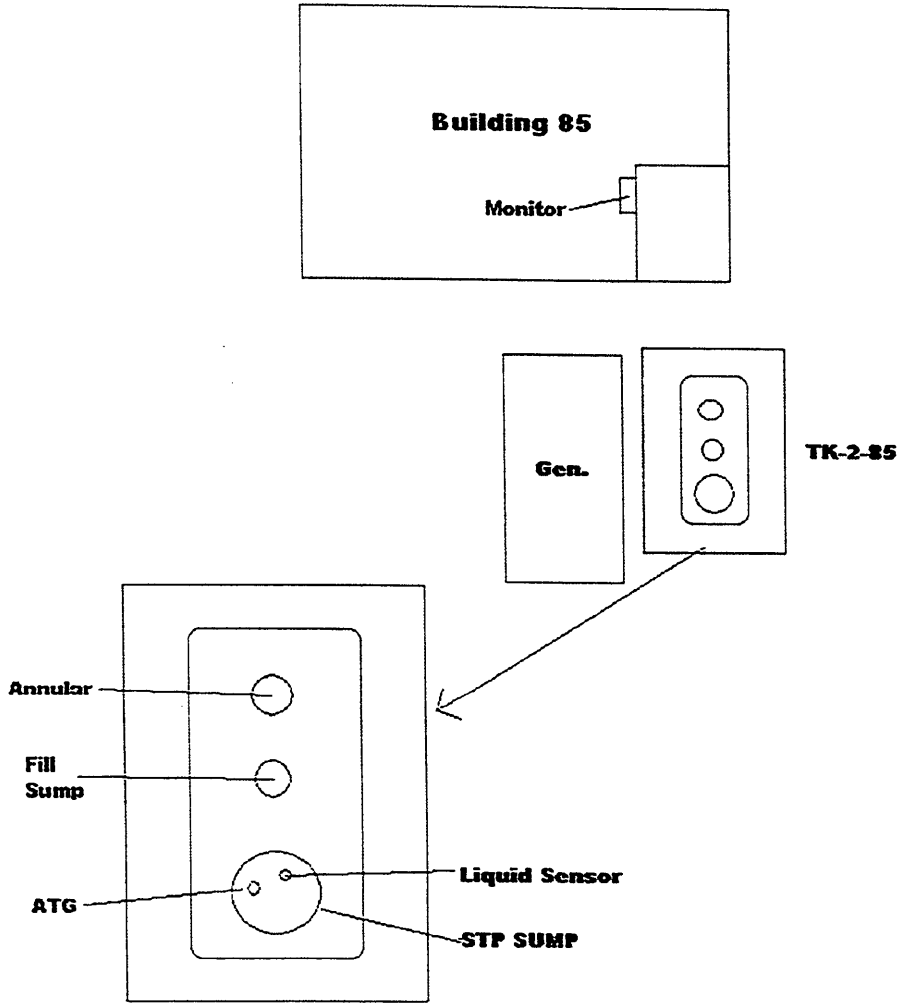
The Designated Operator shall perform a monthly visual inspection of the facility, provide a report to the owner/operator, and inform the owner/operator of any conditions that need follow-up action.

XII. OWNER/OPERATOR SIGNATURE

CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

APPLICANT SIGNATURE 490-76 Robert Fox	DATE: 490-77 2/6/09
REPRESENTING: ☐ 1. Tank Owner/Operator ☐ 2. Facility Owner/Operator ☒ 3. Authorized Representative of Owner	
APPLICANT NAME (print): Robert Fox 490-78	APPLICANT TITLE: Environmental Specialist 490-79

UC Lawrence Berkeley National Lab
One Cyclotron Road, Building 85
Berkeley, CA 94720



ESG Sample Collection Form

U.C. Lawrence Berkeley National Laboratory
1 Cyclotron Road
Berkeley CA 94720

Wastewater Monitoring
EBMUD Self-Monitoring-FTU
Collection: 7168

Sample Data

Sample ID	Location	SampleType	QC Type	Coll Type	Lab/Analysis	Date/time	Container(s)	Presv	Amount	Sample Notes
63770	77 FTU	Aqueous Sample Collected: Yes	Sample	Composite	BCLABS-BAK		1-1 Liter PE	None	1 L	
63771	77 FTU	Aqueous Sample Collected: Yes	Split	Composite	BCLABS-BAK		1-1 Liter PE	None	1 L	
63772	77 FTU	Aqueous Sample Collected: Yes	Split	Composite	BCLABS-BAK		1-1 Liter PE	None	1 L	
63773	TRAVEL BLANK	Aqueous Sample Collected: Yes	Blank	Grab	BCLABS-BAK		1-1 Liter PE	None	1 L	

Record the following information in Sample Notes: Volume, Color, Turbidity, Solids, Floatables, pH

UNDERGROUND STORAGE TANK

RESPONSE PLAN – PAGE 1

(One form per facility)

R01.

TYPE OF ACTION ☒ 1. NEW PLAN ☐ 2. CHANGE OF INFORMATION

I. FACILITY INFORMATION

FACILITY ID # *(Agency Use Only)* | | | – | | | | – | | | | | | | |

R02.

BUSINESS NAME (Same as FACILITY NAME)

Lawrence Berkeley National Laboratory

R03. BUSINESS SITE ADDRESS

One Cyclotron Road

R04. CITY

Berkeley

II. SPILL CONTROL AND CLEANUP METHODS

This plan addresses unauthorized releases from UST systems and supplements the emergency response plans and procedures in the facility's Hazardous Materials Business Plan.

- If safe to do so, facility personnel will take immediate measures to control or stop any release (e.g., activate pump shut-off, etc.) and, if necessary, safely remove remaining hazardous material from the UST system.
- Any release to secondary containment will be pumped or otherwise removed within a time consistent with the ability of the secondary containment system to contain the hazardous material, but not greater than 30 calendar days, or sooner if required by the local agency. Recovered hazardous materials, unless still suitable for their intended use, will be managed as hazardous waste.
- Absorbent material will be used to contain and clean up manageable spills of hazardous materials. Absorbent material which has become too saturated to be effective or which is no longer intended for use will be managed as hazardous waste unless a waste determination in accordance with 22 CCR §66262.11 finds that it is non-hazardous. Used absorbent material, reusable or waste, will be stored in a properly labeled and sealed container. Waste material shall be disposed appropriately.
- Facility personnel will determine whether any water removed from secondary containment systems, or from clean-up activity, has been in contact with any hazardous material. If the water is contaminated, it will be managed as hazardous waste unless a waste determination in accordance with 22 CCR §66262.11 finds that it is non-hazardous. If the water has a petroleum sheen (i.e., rainbow colors), it is contaminated. A thick floating petroleum layer may not necessarily display rainbow colors. Water (hazardous or non-hazardous) from sumps, spill containers, etc. will not be disposed to storm water systems.
- We will review secondary containment systems for possible deterioration if any of the following conditions occur:
  1. Hazardous material in contact with secondary containment is not compatible with the material used for secondary containment;
  2. Secondary containment is prone to damage from any equipment used to remove or clean up hazardous material collected in secondary containment;
  3. Hazardous material, other than the product/waste stored in the primary containment system, is placed inside secondary containment to treat or neutralize released product/waste, and the added material or resulting material from such a combination is not compatible with secondary containment.

III. SPILL CONTROL AND CLEAN-UP EQUIPMENT

PERIODIC MAINTENANCE: Spill control and clean-up equipment kept permanently on-site is listed in the facility's Hazardous Materials Business Plan. This equipment is inspected after each use, and supplies are replenished as needed. Defective equipment is repaired or replaced as necessary.

EQUIPMENT NOT PERMANENTLY ON-SITE, BUT AVAILABLE FOR USE IF NEEDED: (Complete only if applicable)

EQUIPMENT	LOCATION	AVAILABILITY
R10.	R20.	R30.
R11.	R21.	R31.
R12.	R22.	R32.
R13.	R23.	R33.
R14.	R24.	R34.
R15.	R25.	R35.

IV. RESPONSIBLE PERSONS

THE FOLLOWING PERSON(S) IS/ARE RESPONSIBLE FOR AUTHORIZING ANY WORK NECESSARY UNDER THIS RESPONSE PLAN:

NAME	TITLE
R40. Mike Botello	R50. Designated UST Operator
R41. Ken Fletcher	R51. Operations & Maintenance Manager
R42.	R52.
R43.	R53.

V. MONITORING INDICATORS

IF MONITORING INDICATES A POSSIBLE UNAUTHORIZED RELEASE, STEPS TO VERIFY THE RELEASE WILL BE MADE AS FOLLOWS:

☐ Additional system testing or data collection ☒ Inspection by qualified persons ☐ Recalibration of equipment

Other:

R60.

UST Response Plan – Instructions

Complete one UST Response Plan for each UST facility. This form must be submitted with your initial UST Operating Permit Application and within 30 days of changes in the information it contains. It supplements the Emergency Response Plans and Procedures in the facility's Hazardous Materials Business Plan. (Note: Numbering of these instructions follows the data element numbers on the form.)

R01. TYPE OF ACTION – Check the appropriate box to indicate why this plan is being submitted.
FACILITY ID NUMBER – This space is for agency use only.

R02. BUSINESS NAME – Enter the complete Facility Name.

R03. BUSINESS SITE ADDRESS – Enter the street address where the facility is located, including building number, if applicable. Post office box numbers are not acceptable. This information must provide a means to locate the facility geographically.

R04. CITY – Enter the city or unincorporated area in which the facility is located.

R10. EQUIPMENT – If you have spill control or clean-up equipment kept off-site, list that equipment in sections R10 through R15. If no equipment is kept off-site, leave this section blank.

R20. LOCATION – If you have spill control or clean-up equipment kept off-site, list the equipment location(s) sections R20 through R25. If no equipment is kept off-site, leave this section blank.

R30. AVAILABILITY – If you have spill control or clean-up equipment kept off-site, list the equipment availability in sections R30 through R35. If no equipment is kept off-site, leave this section blank.

R40. NAME – At least one person responsible for authorizing any work necessary under this UST Response Plan must be identified. Use sections R40 through R43 to list the name(s) of the responsible person(s).

R50. TITLE – At least one person responsible for authorizing any work necessary under this UST Response Plan must be identified. Use sections R50 through R53 to list the job title(s) of the responsible person(s).

R60. MONITORING INDICATORS Briefly describe the steps that will be taken to verify the presence or absence of a release if the tank monitoring system indicates the possibility of a release.

OWNER/OPERATOR SIGNATURE – The owner/operator shall sign in the space provided. This signature certifies that the signer believes that all information submitted is true, accurate, and complete.

R70. DATE – Enter the date the plan was signed.

R71. OWNER/OPERATOR NAME – Print or type the name of the person signing the plan.

R72. OWNER/OPERATOR TITLE – Enter the title of the person signing the plan.

UNDERGROUND STORAGE TANK

RESPONSE PLAN – PAGE 2

VI. REPORTING AND RECORD KEEPING

We will report/record any overfill, spill, or unauthorized release from a UST system as indicated in this plan.

Recordable Releases: Any unauthorized release from primary containment which the UST operator is able to clean up within eight (8) hours after the release was detected or should reasonably have been detected, and which does not escape from secondary containment, does not increase the hazard of fire or explosion, and does not cause any deterioration of secondary containment, must be recorded in the facility's monitoring records. Monitoring records must include:

- The UST operator's name and telephone number;
- A list of the types, quantities, and concentrations of hazardous substances released;
- A description of the actions taken to control and clean up the release;
- The method and location of disposal of the released hazardous substances, and whether a hazardous waste manifest was or will be used;
- A description of actions taken to repair the UST and to prevent future releases;
- A description of the method used to reactivate interstitial monitoring after replacement or repair of primary containment.

Reportable Releases: Any overfill, spill, or unauthorized release which escapes from secondary containment (or primary containment if no secondary containment exists), increases the hazard of fire or explosion, or causes any deterioration of secondary containment, is a reportable release. Reportable releases are also recordable.

Within 24 hours after a reportable release has been detected, or should have been detected, we will notify the local agency administering the UST program of the release, investigate the release, and take immediate measures to stop the release. If necessary, or if required by the local agency, remaining stored product/waste will be removed from the UST to prevent further releases or facilitate corrective action. If an emergency exists, we will notify the State Office of Emergency Services.

Within five (5) working days of a reportable release, we will submit to the local agency a full written report containing all of the following information to the extent that the information is known at the time of filing the report:

- The UST owner's or operator's name and telephone number;
- A list of the types, quantities, and concentrations of hazardous materials released;
- The approximate date of the release;
- The date on which the release was discovered;
- The date on which the release was stopped;
- A description of actions taken to control and/or stop the release;
- A description of corrective and remedial actions, including investigations which were undertaken and will be conducted to determine the nature and extent of soil, ground water or surface water contamination due to the release;
- The method(s) of cleanup implemented to date, proposed cleanup actions, and a schedule for implementing the proposed actions;
- The method(s) and location(s) of disposal of released hazardous materials and any contaminated soils, groundwater, or surface water.
- Copies of any hazardous waste manifests used for off-site transport of hazardous wastes associated with clean-up activity;
- A description of proposed methods for any repair or replacement of UST system primary/secondary containment systems;
- A description of additional actions taken to prevent future releases.

We will follow the reporting procedures described above if any of the following conditions occur:

- A recordable unauthorized release can not be cleaned up or is still under investigation within eight (8) hours of detection;
- Released hazardous substances are discovered at the UST site or in the surrounding area;
- Unusual operating conditions are observed, including erratic behavior of product dispensing equipment, sudden loss of product, or the unexplained presence of water in the tank, unless system equipment is found to be defective and is immediately repaired or replaced, and no leak has occurred;
- Monitoring results from UST system monitoring equipment/methods indicate that a release may have occurred, unless the monitoring equipment is found to be defective and is immediately repaired, recalibrated, or replaced, and additional monitoring does not confirm the initial results.

Record Retention: Monitoring records and written reports of unauthorized releases must be maintained on-site (or off-site at a readily available location, if approved by the local agency) for at least 3 years. Hazardous waste shipping/disposal records (e.g., manifests) must be maintained for at least 3 years from the date of shipment.

VII. OWNER/OPERATOR SIGNATURE

CERTIFICATION: I certify that the information provided herein is true and accurate to the best of my knowledge.

OWNER/OPERATOR SIGNATURE	DATE R70. 4/13/09
OWNER/OPERATOR NAME (print) R71. Ken Fletcher	OWNER/OPERATOR TITLE R72. Operations & Maintenance Manager

(Agency Use Only) This plan has been reviewed and: ☐ Approved ☐ Approved With Conditions ☐ Disapproved

Local Agency Signature: _____ Date: _____

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS WASTE

ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – FACILITY PAGE

I. FACILITY IDENTIFICATION

BUSINESS NAME (Same as FACILITY NAME or DBA - Doing Business As) 3.	FACILITY ID# 1.
Lawrence Berkeley National Laboratory	

II. STATUS

NOTIFICATION STATUS 600.	PERMIT STATUS (Check all that apply) 601.	
☐ a. Amended	☒ a. Facility Permit	☐ d. Variance
☐ b. Initial	☐ b. Interim Status	☐ e. Consent Agreement
☒ c. Renewal (PBR Only)	☐ c. Standardized Permit	

III. NUMBER OF UNITS AT FACILITY

(Indicate the number of units you operate in each tier. Attach one unit notification page for each unit except CE-CL) 602.

A.	_____	Conditionally Exempt – Small Quantity Treatment (CESQT) (May not function under any other tier.)
B.	_____	Conditionally Exempt Specified Wastestream (CESW)
C.	3	Conditionally Authorized (CA)
D.	2	Permit by Rule (PBR)
E.	_____	Conditionally Exempt – Limited (CEL)
F.	_____	Conditionally Exempt Commercial Laundry (CE-CL) (No unit page is required for laundries.)
G.	5	TOTAL UNITS (Must equal the number of unit notification pages attached plus the number of CE-CL units.)

IV. CERTIFICATION AND SIGNATURE

Vaste Minimization - I certify that I have a program in place to reduce the volume, quantity and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment.

Tiered Permitting Certification - I certify that the unit or units described in these documents meet the eligibility and operating requirements of state statutes and regulations for the indicated permitting tier, including generator and secondary containment requirements. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are substantial penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

SIGNATURE OF OWNER/OPERATOR	DATE 603.
	3/23/11
NAME OF OWNER/OPERATOR 604.	TITLE OF OWNER/OPERATOR 605.
Jim Krupnick	Associate Laboratory Director for Operations / Chief Operating Officer

REQUEST FOR SHORTENED REVIEW PERIOD (CE and CA only) ☐ Yes ☒ No

State Reason for Request:

V. ATTACHMENTS (Check if attached)

ALL tiers except CE-CL (Laundries) must submit:

- ☒ 1. One unit specific notification page and one treatment process page per unit
- ☒ 2. Plot Plan (or other grid/map)

PBR & CA ONLY:

- ☐ 1. Closure Financial Assurance (formerly DTSC form 1232)
  - ☐ Self Certified (< $10,000) ☐ Other mechanism
- ☒ 2. Prior Enforcement History, if applicable

PBR ONLY

- ☒ 1. Tank and container certifications, if required
- ☐ 2. Notification of local agency or agencies
- ☐ 3. Notification of property owner, if different from business owner

Onsite Hazardous Waste Treatment Notification – Facility Form Instructions
(Formerly DTSC Form 1772)

Complete this form if your facility performs onsite treatment of hazardous waste(s) generated onsite and the facility is eligible under the Conditional Exemption (CE), Conditional Authorization (CA), or Fixed Treatment Unit (FTU) Permit by Rule (PBR) tiers.

Submit one Onsite Hazardous Waste Treatment Notification - Facility page per facility, regardless of the number of treatment units located at the site. Attach separate Onsite Hazardous Waste Treatment Notification - Unit and Waste and Treatment Process Combinations pages for each treatment unit at the facility. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
600. NOTIFICATION STATUS - Check whether this notification is your initial notification under the Tiered Permitting system; an amended notification; or, for PBR only, a renewal notification.
601. PERMIT STATUS - If this facility has a state-issued hazardous waste permit or grant of authorization, check the appropriate box to indicate the permit status.
602. NUMBER OF UNITS - Enter the number of units you operate at this facility in each permit tier or category.

SIGNATURE OF OWNER/OPERATOR - The business owner, or officer of the company who is authorized to make decisions for the facility and who has operational control, shall sign in the space provided. In most companies, this is not the environmental compliance or technical staff. Original signatures are required.

603. DATE CERTIFIED - Enter the date the form was signed.
604. OWNER/ OPERATOR NAME - Print or type the full name of the person signing the page.
605. OWNER/ OPERATOR TITLE - Enter the title of the person signing the page.

REQUEST FOR SHORTENED REVIEW PERIOD - Generators operating under the PBR tier are not authorized until they are notified by their Certified Unified Program Agency (CUPA). Generators operating under CA and CE are legally authorized 60 days after submitting a complete notification. The time period between notification and authorization may be shortened if the owner or operator shows good cause. Check the appropriate box to indicate whether or not you are requesting to be authorized sooner than the standard 60-day period. If you check "Yes," state the reason(s) for your request (attach additional sheets if needed). Authorization will be automatically effective on the date the completed notification is received by your CUPA.

ATTACHMENTS - Check the appropriate boxes to indicate that all required document submittals are attached to this form. (*Note: Commercial Laundries are not required to provide attachments.*)

ALL FACILITIES:

1. Complete an Onsite Hazardous Waste Treatment Notification - Unit form and Waste and a Treatment Process Combinations form for each unit covered by this notification.
2. Provide a plot plan or map detailing the location(s) of the unit(s) at this facility. Clearly indicate the facility boundaries and major features. The Storage Map prepared for your Hazardous Materials Business Plan may be used as long as the unit numbers for the units covered by this notification are shown.

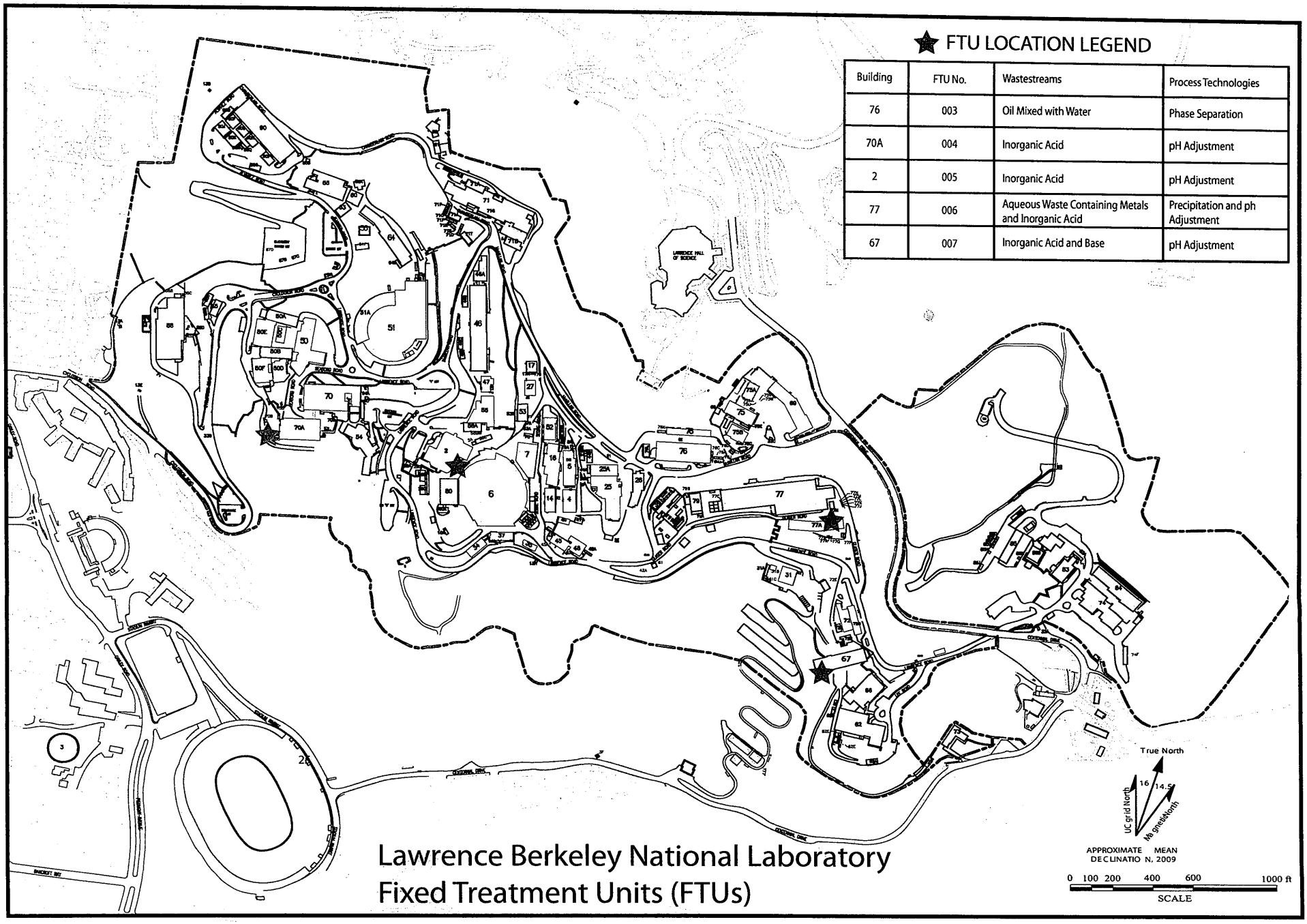
PBR and CA ONLY:*

1. Complete and attach the Certification of Financial Assurance for Closure (UPCF form HWF 1232). Check the appropriate box to indicate whether you have Self-Certified (closure costs must be less than $10,000) or are submitting a financial mechanism.
2. Prior Enforcement History information is required only if your facility was the subject of any convictions, judgments, settlements or final orders resulting from an action by any local, state, or federal environmental, hazardous waste, or public health enforcement agency. If applicable, attach a statement or summary that lists the cases for the last three years and provide a copy of the cover sheet from each document (conviction, settlement, etc.). The summary should include case and docket number, name and address of the agency, date, brief explanation, type of case (criminal, civil, administrative) and final resolution (including fines and penalties).

PBR ONLY:

1. 22 CCR §67450.2(b)(3)(G) requires that tank and/or containment system certifications be submitted, when applicable. Specific standards are in 22 CCR §66264.175(c) (containers) and 22 CCR §66265.191(a) and 66265.192(a) (tanks).
2. Notification of local agencies. Attach documentation of the other local agencies notified of your operation. (e.g. sewer agency).
3. Notification of property owner. If the property owner is different than the operator, provide documentation that the facility operator has notified the property owner of the operation of this hazardous waste treatment unit under PBR.

* For PBR and CA, a Phase I environmental assessment must be submitted to DTSC, not to your CUPA. The assessment checklist and instructions are available from DTSC. Call (916) 324-2423 or write to the DTSC-Unified Program Section at 400 P Street, 4th Floor, P.O. Box 806, Sacramento, CA 95182-0806. Completed Phase I assessments should be submitted to the same address.



★ FTU LOCATION LEGEND

Building	FTU No.	Wastestreams	Process Technologies
76	003	Oil Mixed with Water	Phase Separation
70A	004	Inorganic Acid	pH Adjustment
2	005	Inorganic Acid	pH Adjustment
77	006	Aqueous Waste Containing Metals and Inorganic Acid	Precipitation and ph Adjustment
67	007	Inorganic Acid and Base	pH Adjustment

Lawrence Berkeley National Laboratory
Fixed Treatment Units (FTUs)

Fixed Treatment Units Dwg 031411.ai
03/11

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS WASTE

ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – UNIT PAGE

(One page and attachments per unit)

FACILITY ID#	1.	BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
		Lawrence Berkeley National Laboratory

I. TREATMENT UNIT

UNIT ID# 606.	UNIT TYPE/TIER 607.	NUMBER OF TANKS 608.	NUMBER OF CONTAINERS/ TREATMENT AREAS 609.
FTU 003	☐ a. CESQT ☐ b. CESW	5	0
UNIT NAME 610.	☒ c. CA	MONTHLY TREATMENT VOLUME 611.	UNIT OF MEASURE 612.
Building 76	☐ d. PBR ☐ e. CEL	5,600	☐ a. Pounds ☒ b. Gallons

SPECIFIC WASTE TYPE TREATED (narrative) 613.

Oil mixed with water is generated from washing cars, trucks, and buses.

TREATMENT PROCESS DESCRIPTION (narrative) 614.

Phase separation by gravity settling.

(NOTE: For each treatment unit, complete and attach the appropriate Waste and Treatment Process Combinations page.)

II. BASIS FOR NOT NEEDING FEDERAL PERMIT (Check all that apply)

615.

☒ a. The treated waste is not a hazardous waste under federal law (California-only waste).

☒ b. Treated in waste water treatment units (tanks) and discharged to a publicly owned treatment works (POTW)/sewering agency or under an NPDES permit.

☐ c. Treatment in elementary neutralization units.

☐ d. Treatment in a totally enclosed treatment facility.

☐ e. Federal conditionally exempt small quantity generator (generated 100 kg., approximately 27 gallons, or less of hazardous waste in a calendar month).

☐ f. Treatment in an accumulation tank or container within 90 days for over 1,000 kg./month generators and 180 or 270 days for generators of 100 to 1,000 kg./month.

☐ g. Recyclable materials are reclaimed to recover silver or other precious metals.

☐ h. Empty container rinsing and/or treatment.

☐ i. Other (specify below)

III. RESIDUALS MANAGEMENT DESCRIPTION (Check all that apply)

616.

☒ a. Discharge non-hazardous aqueous waste to POTW or sewer.

☐ b. Discharge non-hazardous aqueous waste under a NPDES permit.

☐ c. Dispose of non-hazardous solid waste residues at an offsite location.

Residual hazardous waste hauled offsite by a registered hauler.

☐ d. Offsite recycling

☐ e. Thermal treatment

☒ f. Disposal to land

☒ g. Further treatment

☐ h. Other method of disposal (describe below)

SECONDARY CONTAINMENT INSTALLATION DATE (If required) 1991 617.

Onsite Hazardous Waste Treatment Notification – Unit
[(Formerly DTSC Form 1772A,B,C,D,L)]

Complete an Onsite Hazardous Waste Treatment Notification - Unit page and a Waste and Treatment Process Combinations page for each treatment unit operating at this facility. Commercial Laundries are not required to complete unit specific pages, provided that laundering is the only hazardous waste treatment activity conducted by the facility. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
606. UNIT ID NUMBER - Enter a unique number for each unit. All unit numbers must be clearly labeled on the plot plan/map.
607. UNIT TYPE / TIER - Check the appropriate box to indicate unit type under the Tiered Permitting program.
608. NUMBER OF TANKS - Enter the number of tanks used in the unit. ["Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.]
609. NUMBER OF CONTAINERS/TREATMENT AREAS - Enter the number of containers/container treatment areas used in the unit. ["Container" means any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, disposed of, or recycled.] "Treatment Area" is a location set aside and used to treat waste in containers.
610. UNIT NAME - Enter the name of the treatment unit. A treatment unit is defined as a tank, a container, or a combination of tanks or tank systems and/or containers located together that are used in sequence to treat or accumulate one or more compatible hazardous waste streams. The devices are either plumbed together or otherwise linked so as to form one system.
611. MONTHLY TREATMENT VOLUME - Enter the estimated monthly total volume of hazardous waste treated in this unit. If the volume fluctuates significantly by month, enter the maximum volume treated in any month.
612. UNIT OF MEASURE - Check a box to indicate whether the treatment volume unit of measure is pounds or gallons.
613. SPECIFIC WASTE TYPE TREATED - Describe the specific waste type(s) treated (e.g. If the waste qualifies as an aqueous waste with metals or organics, indicate the specific metals or organics).
614. TREATMENT PROCESS DESCRIPTION - Describe the treatment process(es) used. Indicate if the activities are seasonal or periodic.
615. BASIS FOR NOT NEEDING FEDERAL PERMIT - Check the reason(s) that best describe why your onsite treatment unit does not need a federal hazardous waste permit. You must indicate at least one reason to prove your eligibility for the onsite treatment tiers. If you are unsure how these exemptions apply to your operation, contact your Certified Unified Program Agency (CUPA), the DTSC Regional Office closest to you, the U.S. EPA Region IX RCRA Information Line at (415) 744-2074, or the U.S. EPA RCRA Hotline at (800) 424-9346. The eight most common reasons for not needing a federal permit are listed on this form. There is also a space to specify any other reason for exemption and a supporting regulatory citation. The following terms are defined in 40 CFR §260.10:

    Wastewater Treatment Unit - A device which: (1) is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act, and (2) receives and treats or stores an influent wastewater that is a hazardous waste or that generates and accumulates a wastewater treatment sludge that is a hazardous waste or that treats or stores a wastewater treatment sludge which is a hazardous waste, and (3) meets the definition of tank or tank system.

    Elementary Neutralization Unit - A device which (1) is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic or they are listed only for this reason, and (2) meets the definition of tank, tank system, container, transport vehicle, or vessel.

    Totally Enclosed Treatment Facility - A facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment.

    NPDES Permit - A permit issued by a regional water board allowing discharge of waste to the environment under the National Pollutant Discharge Elimination System (NPDES).
616. RESIDUALS MANAGEMENT DESCRIPTION - Check the appropriate box(es) to describe how treatment residuals are managed. If box h. is checked, describe the "other" methods in the space provided.
617. SECONDARY CONTAINMENT INSTALLATION DATE - Enter the date the secondary containment was installed.

UNIFIED PROGRAM CONSOLIDATED FORM
ONSITE TIERED PERMITTING
CONDITIONALLY AUTHORIZED (CA) PAGE
WASTE AND TREATMENT PROCESS COMBINATIONS

(One page per treatment unit. Check all that apply)

606. UNIT ID# FTU 003	1. Facility ID#	Page 4 of 45

629.

1. **Aqueous wastes, hazardous solely due to inorganic constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 1,400 ppm total of these constituents. (There is no volume limit for this wastestream.) Treatment using:**
   - ☐ a. Phase separation, including precipitation, by filtration, centrifugation, or gravity settling, including the use of demulsifiers and flocculants.
   - ☐ b. Ion exchange, including metallic replacement.
   - ☐ c. Reverse osmosis.
   - ☐ d. Adsorption.
   - ☐ e. pH adjustment of aqueous waste with a pH of between 2.0 and 12.5.
   - ☐ f. Electrowinning of solutions, unless those solutions contain hydrochloric acid.
   - ☐ g. Reduction of solutions hazardous solely due to hexavalent chromium, to trivalent chromium with sodium bisulfite, sodium metabisulfite, sodium thiosulfate, ferrous chloride, ferrous sulfate, ferrous sulfide, or sulfur dioxide. The solution contains less than 750 ppm of hexavalent chromium.

2. **Aqueous wastes, hazardous solely due to organic constituents listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (2)(B) and which contain less than 750 ppm total of these constituents. (There is no volume limit for this wastestream.) Treatment using:**
   - ☐ a. Phase separation by filtration, centrifugation, or gravity settling, but excluding super critical fluid extraction.
   - ☐ b. Adsorption.

3. **Sludges resulting from wastewater treatment, dusts, solid metal objects, and metal workings which are hazardous solely due to the presence of constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which, for dusts only, contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Physical processes which constitute treatment only because they change the physical properties of the waste, such as filtration, centrifugation, gravity settling, grinding, shredding, crushing, or compacting.
   - ☐ b. Drying to remove water.
   - ☐ c. Separation based on differences in physical properties, such a size, magnetism, or density.

4. **Alum, gypsum, lime, sulfur, or phosphate sludges. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.

5. **Special wastes listed in Title 22, CCR, Section 66261.120 that meet the criteria in Title 22, CCR, Section 66261.122 which is hazardous solely due to the constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.
   - ☐ c. Screening to separate components based on size.
   - ☐ d. Separation based on differences in physical properties, such as size, magnetism, or density.

6. **Special wastes classified under Title 22, CCR, Section 66261.124 as special wastes, except asbestos, which is hazardous solely due to the constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.
   - ☐ c. Magnetic separation.

7. **Soils contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2)(A). The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Screening to separate components based on size.
   - ☐ b. Magnetic separation.

8. **Oil mixed with water and oil/water separation sludges. (There is no volume limit for this wastestream.) Treatment using:** (NOTE: Some used oil/water separation is allowed under the CEL category.)
   - ☒ a. Phase separation by filtration, centrifugation, or gravity settling, but excluding super critical fluid extraction, including the use of demulsifiers and flocculants. Heat can be used, but must not exceed 160 degrees Fahrenheit.
   - ☐ b. Separation based on differences in physical properties, such a size, magnetism, or density.
   - ☐ c. Reverse osmosis.

9. **Neutralization of acidic or alkaline wastes, hazardous solely due to corrosivity, or toxic only from the acid or caustic material, in elementary neutralization units.** (There is no volume limit for this wastestream.)
   - ☐ a. The waste contains less than 10 percent acid or base constituents by weight. There is no volume limit for this category.
   - ☐ b. The waste contains 10 percent or more acid or base constituents by weight and is treated in batches that do not exceed 500 gallons at one time.

10. **Not in use/exempted — formerly recovery of silver from photofinishing.**

11. **Not in use/sunsetted — formerly treatment of spent cleaners and conditioners which are hazardous solely due to copper or copper compounds. Treatment of this wastestream is no longer allowed under Conditional Authorization as of January 1, 1998. Treatment of this wastestream now requires authorization under either Permit by Rule or, if the total volume treated is less than 55 gallons per month, under Conditionally Exempt Small Quantity Treatment.**

12. **A waste stream technology combination certified by the Department pursuant to Section 25200.1.5 of the Health and Safety Code as appropriate for authorization under Conditional Authorization.**

☐ Certified Technology Number: _____

Waste and Treatment Process Combinations Form CA Instructions
(Formerly DTSC Form 1772C)

This Waste and Treatment Process Combinations page lists those waste and treatment combinations certified by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code (H&SC) §25200.1.5 for authorization under the Conditionally Authorized (CA) tier. [Note: 1.) Reactive and extremely hazardous wastes are not allowed to be treated under this tier; 2.) Except for dilute aqueous waste and oily waste, volume of hazardous waste treated must not exceed 5,000 gallons (45,000 pounds) per month.]

Complete a separate Waste and Treatment Process Combinations page for each unit. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

606. UNIT ID NUMBER - Enter the unit ID number (same as item 606 from the Onsite Hazardous Waste Treatment Notification - Unit form).

1. FACILITY ID NUMBER - This space is for agency use only.

629. WASTE AND TREATMENT PROCESS COMBINATIONS (CA) - Use this page only for a CA unit. Check the appropriate boxes to indicate the waste and treatment process(es) that pertain to the unit. If the process is a technology certified by DTSC, enter the Certified Technology Number (Cert. #). Certified technologies appropriate for authorization, and the eligible tiers, are listed below.

CERTIFIED TECHNOLOGIES

DTSC is authorized to certify hazardous waste technologies. Appropriate certified technologies may be eligible for the CE, CA or PBR onsite treatment tiers. As of April 1, 1999, there is one certified technology for these tiers. The certification is for aldehyde treatment processes and is eligible for the CESW tier. The approved technology is:

Technology	Vendor	Cert. #	Effective Date	Tier	Description
Neutralex	Scigen 333 East Gardena Blvd. Gardena, CA 90248	97-01-0024	629/97 (expires 6/29/00)	CESW	Batch treatment for 10 percent Formalin generated by medical, educational, and laboratory facilities. Chemically treats in a provided 8 liter vessel. After testing, allows for disposal to sanitary sewer.

A copy of published Certification Statements and additional updates may be obtained by contacting DTSC at (916) 322-3670 or from the Cal/EPA on-line Bulletin Board via modem at (916) 322-5041.

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS WASTE

ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – UNIT PAGE

(One page and attachments per unit)

FACILITY ID#	1.	BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
		Lawrence Berkeley National Laboratory

I. TREATMENT UNIT

UNIT ID# 606.	UNIT TYPE/TIER 607.	NUMBER OF TANKS 608.	NUMBER OF CONTAINERS/ TREATMENT AREAS 609.
FTU 004	☐ a. CESQT ☐ b. CESW	6	0
UNIT NAME 610.	☒ c. CA	**MONTHLY TREATMENT VOLUME 611.**	**UNIT OF MEASURE 612.**
Building 70A and 70F FTU	☐ d. PBR ☐ e. CEL	160,000	☐ a. Pounds ☒ b. Gallons

SPECIFIC WASTE TYPE TREATED (narrative) 613.

Acidic wastes are generated in various laboratories in Building 70A. Acids that are discharged include: hydrochloric acid, phosphoric acid, sulfuric acid, acetic acid, nitric acid, and other acids. A complete listing is found in the attachment, "Waste Stream Survey, Building 70A Waste Treatment System."

TREATMENT PROCESS DESCRIPTION (narrative) 614.

Neutralization of acidic wastes by elementry neutralization with sodium hydroxide.

(NOTE: For each treatment unit, complete and attach the appropriate Waste and Treatment Process Combinations page.)

II. BASIS FOR NOT NEEDING FEDERAL PERMIT (Check all that apply)

615.

- ☐ a. The treated waste is not a hazardous waste under federal law (California-only waste).
- ☒ b. Treated in waste water treatment units (tanks) and discharged to a publicly owned treatment works (POTW)/sewering agency or under an NPDES permit.
- ☒ c. Treatment in elementary neutralization units.
- ☐ d. Treatment in a totally enclosed treatment facility.
- ☐ e. Federal conditionally exempt small quantity generator (generated 100 kg., approximately 27 gallons, or less of hazardous waste in a calendar month).
- ☐ f. Treatment in an accumulation tank or container within 90 days for over 1,000 kg./month generators and 180 or 270 days for generators of 100 to 1,000 kg./month.
- ☐ g. Recyclable materials are reclaimed to recover silver or other precious metals.
- ☐ h. Empty container rinsing and/or treatment.
- ☐ i. Other (specify below)

III. RESIDUALS MANAGEMENT DESCRIPTION (Check all that apply)

616.

- ☒ a. Discharge non-hazardous aqueous waste to POTW or sewer.
- ☐ b. Discharge non-hazardous aqueous waste under a NPDES permit.
- ☐ c. Dispose of non-hazardous solid waste residues at an offsite location.

Residual hazardous waste hauled offsite by a registered hauler.

- ☐ d. Offsite recycling
- ☐ e. Thermal treatment
- ☐ f. Disposal to land
- ☐ g. Further treatment
- ☐ h. Other method of disposal (describe below)

SECONDARY CONTAINMENT INSTALLATION DATE (If required) 1992 617.

Onsite Hazardous Waste Treatment Notification – Unit
[(Formerly DTSC Form 1772A,B,C,D,L)]

Complete an Onsite Hazardous Waste Treatment Notification - Unit page and a Waste and Treatment Process Combinations page for each treatment unit operating at this facility. Commercial Laundries are not required to complete unit specific pages, provided that laundering is the only hazardous waste treatment activity conducted by the facility. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
606. UNIT ID NUMBER - Enter a unique number for each unit. All unit numbers must be clearly labeled on the plot plan/map.
607. UNIT TYPE / TIER - Check the appropriate box to indicate unit type under the Tiered Permitting program.
608. NUMBER OF TANKS - Enter the number of tanks used in the unit. ["Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.]
609. NUMBER OF CONTAINERS/TREATMENT AREAS - Enter the number of containers/container treatment areas used in the unit. ["Container" means any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, disposed of, or recycled.] "Treatment Area" is a location set aside and used to treat waste in containers.
610. UNIT NAME - Enter the name of the treatment unit. A treatment unit is defined as a tank, a container, or a combination of tanks or tank systems and/or containers located together that are used in sequence to treat or accumulate one or more compatible hazardous waste streams. The devices are either plumbed together or otherwise linked so as to form one system.
611. MONTHLY TREATMENT VOLUME - Enter the estimated monthly total volume of hazardous waste treated in this unit. If the volume fluctuates significantly by month, enter the maximum volume treated in any month.
612. UNIT OF MEASURE - Check a box to indicate whether the treatment volume unit of measure is pounds or gallons.
613. SPECIFIC WASTE TYPE TREATED - Describe the specific waste type(s) treated (e.g. If the waste qualifies as an aqueous waste with metals or organics, indicate the specific metals or organics).
614. TREATMENT PROCESS DESCRIPTION - Describe the treatment process(es) used. Indicate if the activities are seasonal or periodic.
615. BASIS FOR NOT NEEDING FEDERAL PERMIT - Check the reason(s) that best describe why your onsite treatment unit does not need a federal hazardous waste permit. You must indicate at least one reason to prove your eligibility for the onsite treatment tiers. If you are unsure how these exemptions apply to your operation, contact your Certified Unified Program Agency (CUPA), the DTSC Regional Office closest to you, the U.S. EPA Region IX RCRA Information Line at (415) 744-2074, or the U.S. EPA RCRA Hotline at (800) 424-9346. The eight most common reasons for not needing a federal permit are listed on this form. There is also a space to specify any other reason for exemption and a supporting regulatory citation. The following terms are defined in 40 CFR §260.10:

    Wastewater Treatment Unit - A device which: (1) is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act, and (2) receives and treats or stores an influent wastewater that is a hazardous waste or that generates and accumulates a wastewater treatment sludge that is a hazardous waste or that treats or stores a wastewater treatment sludge which is a hazardous waste, and (3) meets the definition of tank or tank system.

    Elementary Neutralization Unit - A device which (1) is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic or they are listed only for this reason, and (2) meets the definition of tank, tank system, container, transport vehicle, or vessel.

    Totally Enclosed Treatment Facility - A facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment.

    NPDES Permit - A permit issued by a regional water board allowing discharge of waste to the environment under the National Pollutant Discharge Elimination System (NPDES).
616. RESIDUALS MANAGEMENT DESCRIPTION - Check the appropriate box(es) to describe how treatment residuals are managed. If box h. is checked, describe the "other" methods in the space provided.
617. SECONDARY CONTAINMENT INSTALLATION DATE - Enter the date the secondary containment was installed.

UNIFIED PROGRAM CONSOLIDATED FORM
ONSITE TIERED PERMITTING
CONDITIONALLY AUTHORIZED (CA) PAGE
WASTE AND TREATMENT PROCESS COMBINATIONS

(One page per treatment unit. Check all that apply)

606. UNIT ID# FTU 004	1. Facility ID#	Page 6 of 45

629.

1. **Aqueous wastes, hazardous solely due to inorganic constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 1,400 ppm total of these constituents. (There is no volume limit for this wastestream.) Treatment using:**
   - ☐ a. Phase separation, including precipitation, by filtration, centrifugation, or gravity settling, including the use of demulsifiers and flocculants.
   - ☐ b. Ion exchange, including metallic replacement.
   - ☐ c. Reverse osmosis.
   - ☐ d. Adsorption.
   - ☐ e. pH adjustment of aqueous waste with a pH of between 2.0 and 12.5.
   - ☐ f. Electrowinning of solutions, unless those solutions contain hydrochloric acid.
   - ☐ g. Reduction of solutions hazardous solely due to hexavalent chromium, to trivalent chromium with sodium bisulfite, sodium metabisulfite, sodium thiosulfate, ferrous chloride, ferrous sulfate, ferrous sulfide, or sulfur dioxide. The solution contains less than 750 ppm of hexavalent chromium.

2. **Aqueous wastes, hazardous solely due to organic constituents listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (2)(B) and which contain less than 750 ppm total of these constituents. (There is no volume limit for this wastestream.) Treatment using:**
   - ☐ a. Phase separation by filtration, centrifugation, or gravity settling, but excluding super critical fluid extraction.
   - ☐ b. Adsorption.

3. **Sludges resulting from wastewater treatment, dusts, solid metal objects, and metal workings which are hazardous solely due to the presence of constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which, for dusts only, contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Physical processes which constitute treatment only because they change the physical properties of the waste, such as filtration, centrifugation, gravity settling, grinding, shredding, crushing, or compacting.
   - ☐ b. Drying to remove water.
   - ☐ c. Separation based on differences in physical properties, such a size, magnetism, or density.

4. **Alum, gypsum, lime, sulfur, or phosphate sludges. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.

5. **Special wastes listed in Title 22, CCR, Section 66261.120 that meet the criteria in Title 22, CCR, Section 66261.122 which is hazardous solely due to the constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.
   - ☐ c. Screening to separate components based on size.
   - ☐ d. Separation based on differences in physical properties, such as size, magnetism, or density.

6. **Special wastes classified under Title 22, CCR, Section 66261.124 as special wastes, except asbestos, which is hazardous solely due to the constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.
   - ☐ c. Magnetic separation.

7. **Soils contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2)(A). The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Screening to separate components based on size.
   - ☐ b. Magnetic separation.

8. **Oil mixed with water and oil/water separation sludges. (There is no volume limit for this wastestream.) Treatment using:** (NOTE: Some used oil/water separation is allowed under the CEL category.)
   - ☐ a. Phase separation by filtration, centrifugation, or gravity settling, but excluding super critical fluid extraction, including the use of demulsifiers and flocculants. Heat can be used, but must not exceed 160 degrees Fahrenheit.
   - ☐ b. Separation based on differences in physical properties, such a size, magnetism, or density.
   - ☐ c. Reverse osmosis.

9. **Neutralization of acidic or alkaline wastes, hazardous solely due to corrosivity, or toxic only from the acid or caustic material, in elementary neutralization units.** (There is no volume limit for this wastestream.)
   - ☐ a. The waste contains less than 10 percent acid or base constituents by weight. There is no volume limit for this category.
   - ☒ b. The waste contains 10 percent or more acid or base constituents by weight and is treated in batches that do not exceed 500 gallons at one time.

10. **Not in use/exempted — formerly recovery of silver from photofinishing.**

11. **Not in use/sunsetted — formerly treatment of spent cleaners and conditioners which are hazardous solely due to copper or copper compounds. Treatment of this wastestream is no longer allowed under Conditional Authorization as of January 1, 1998. Treatment of this wastestream now requires authorization under either Permit by Rule or, if the total volume treated is less than 55 gallons per month, under Conditionally Exempt Small Quantity Treatment.**

12. **A waste stream technology combination certified by the Department pursuant to Section 25200.1.5 of the Health and Safety Code as appropriate for authorization under Conditional Authorization.**

☐ Certified Technology Number: _____

Waste and Treatment Process Combinations Form CA Instructions
(Formerly DTSC Form 1772C)

This Waste and Treatment Process Combinations page lists those waste and treatment combinations certified by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code (H&SC) §25200.1.5 for authorization under the Conditionally Authorized (CA) tier. [Note: 1.) Reactive and extremely hazardous wastes are not allowed to be treated under this tier; 2.) Except for dilute aqueous waste and oily waste, volume of hazardous waste treated must not exceed 5,000 gallons (45,000 pounds) per month.]

Complete a separate Waste and Treatment Process Combinations page for each unit. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

606. UNIT ID NUMBER - Enter the unit ID number (same as item 606 from the Onsite Hazardous Waste Treatment Notification - Unit form).

1. FACILITY ID NUMBER - This space is for agency use only.

629. WASTE AND TREATMENT PROCESS COMBINATIONS (CA) - Use this page only for a CA unit. Check the appropriate boxes to indicate the waste and treatment process(es) that pertain to the unit. If the process is a technology certified by DTSC, enter the Certified Technology Number (Cert. #). Certified technologies appropriate for authorization, and the eligible tiers, are listed below.

CERTIFIED TECHNOLOGIES

DTSC is authorized to certify hazardous waste technologies. Appropriate certified technologies may be eligible for the CE, CA or PBR onsite treatment tiers. As of April 1, 1999, there is one certified technology for these tiers. The certification is for aldehyde treatment processes and is eligible for the CESW tier. The approved technology is:

Technology	Vendor	Cert. #	Effective Date	Tier	Description
Neutralex	Scigen 333 East Gardena Blvd. Gardena, CA 90248	97-01-0024	629/97 (expires 6/29/00)	CESW	Batch treatment for 10 percent Formalin generated by medical, educational, and laboratory facilities. Chemically treats in a provided 8 liter vessel. After testing, allows for disposal to sanitary sewer.

A copy of published Certification Statements and additional updates may be obtained by contacting DTSC at (916) 322-3670 or from the Cal/EPA on-line Bulletin Board via modem at (916) 322-5041.

WASTE STREAM SURVEY
BUILDING 70A WASTE TREATMENT SYSTEM

Room	Description of process	Chemicals used in process	Chemicals in waste discharge	Concentration of chemicals in discharge (max.)	Volume of discharge	Frequency of discharge	Continuous or batch
3347 3347A	Etching and processing of semiconductor materials and devices. (Ref. Paul Luke 1/30/09 & 3/13/09 e-mails)	HF, HNO_3, HCl, H_2SO_4, H_3PO_4, acetic acid, H_2O_2, NH_4F, NH_4OH, Br, methanol, isopropanol, TCE, TCA	HF, HNO_3, HCl, H_2SO_4, H_3PO_4, acetic acid, H_2O_2, NH_4F	HF: 10% HNO_3: 70% HCl: 10% H_2SO_4: 80% H_3PO_4: 80% acetic acid: 30% H_2O_2: 6% NH_4F: 30%	Generally 100 ml to 500 ml	2 discharges per week averaged over the year	Batch

WASTE STREAM SURVEY
BUILDING 70A WASTE TREATMENT SYSTEM

Room	Description of process	Chemicals used in process	Chemicals in waste discharge	Concentration of chemicals in discharge (max.)	Volume of discharge	Frequency of discharge	Continuous or batch
4405	1. Leaching Filter material to remove trace metals.	1. HCl	1. HCl,	1. HCl: 1 N	1. 12 liters	1. 6 discharges/week for 2 weeks once or twice per year	1. Batch
	2.cleaning plastic/glassware for trace metal work	1. HCl, HNO3	1. HCl, HNO3	1. HCl 10% 2. HNO3 10%	2. 5 liters	2. 2 discharges/week	2. Batch
	3. leaches of ocean particles	3. HCl	3. HCl	3. HCl < 1%	3. < 1 liters	3. 1 discharge/month	3. Batch

WASTE STREAM SURVEY
BUILDING 70A WASTE TREATMENT SYSTEM

Room	Description of process	Chemicals used in process	Chemicals in waste discharge	Concentration of chemicals in discharge (max.)	Volume of discharge	Frequency of discharge	Continuous or batch
4413	1.Phosphoric acid (H_3PO_4) is added to groundwater samples to lower the pH and convert all dissolved inorganic carbon compounds in the sample to carbon dioxide which is analyzed on the mass spectrometer.	1. H_3PO_4	1. H_3PO_4	1. H_3PO_4: < 0.4%	1. 4 liters	1. 1 discharge/week	1. Batch
	2. Phosphoric acid is used to dissolve solid carbonates to generate carbon dioxide for isotope analyses. An automated process (2A) or a manual process (2B) is utilized. (ref. Mark Conrad 11/20/06 e-mail.)	2A. H_3PO_4 2B. H_3PO_4	2A. H_3PO_4 2B. H_3PO_4	2A. H_3PO_4: 2% 2B. H_3PO_4: 5%	2A. 0.5 liters 2B. 1 liter	2A. 4 discharges/year 2B. 4 discharges/year	2A. Batch 2B. Batch

WASTE STREAM SURVEY
BUILDING 70A WASTE TREATMENT SYSTEM

Room	Description of process	Chemicals used in process	Chemicals in waste discharge	Concentration of chemicals in discharge (max.)	Volume of discharge	Frequency of discharge	Continuous or batch
4419 Noble Gas Mass Spec Lab	Acids used for digestion of natural silicate minerals	H_3PO_4, HNO_3, H_2O_2	H_3PO_4, HNO_3, H_2O_2	H_3PO_4 < 7M, HNO_3 <8 M, H_2O_2 <30%	H_3PO_4 < 200ml, HNO_3 < 200ml; H_2O_2 <200ml	No more than 2 discharges of each/week – 2-3 months/yr	All batch

Reference: Mack Kennedy's 4/14/09 e-mail.

WASTE STREAM SURVEY
BUILDING 70A WASTE TREATMENT SYSTEM

Room	Description of process	Chemicals used in process	Chemicals in waste discharge	Concentration of chemicals in discharge (max.)	Volume of discharge	Frequency of discharge	Continuous or batch
4445	Etching and cleaning of Silicon and germanium waters; oxidation of wafers in a high-temperature furnace.	HF, H_2O_2, NH_4F, H_2SO_4, HCl, HNO_3, H_3PO_4, CH_3COOH, HBF_4	HF, H_2O_2, NH_4F, H_2SO_4, HCl, HNO_3, H_3PO_4, CH_3COOH, HBF_4	HF: 7% H_2O_2: 1% H_2SO_4: 80% NH_4F: 34% HCl: 2% HNO_3: 36% H_3PO_4: 70% CH_3COOH: 10% HBF_4: 3%	Normal Processing: small amounts of acids. Batch Replenishing: 1 to 5 gallons of various mixtures Leakage in lines: 1400 gallons per day of ultra pure water	Normal Processing: maximum of twice a day at some work stations. Batch Replenishing: once a week at most for most baths	Batch for normal processing and batch replenishing Leakage in lines is continuous to ensure no growth of algae
4457	Cleaning of quartz pieces and columns	HF, HNO_3	HF, HNO_3	HF: 3% HNO_3/HF Mixture: HNO_3: 18% HF: 6%	Varies; estimated 1-3 gallons of acid; volume of water used to rinse columns up to 200 gallons	Acid is normally recycled. Acid bath may have to be dumped 6-8 times/year.	Batch

Reference: Nick Palaio's 4/13/09 e-mail

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS WASTE

ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – UNIT PAGE

(One page and attachments per unit)

FACILITY ID#	1.	BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
		Lawrence Berkeley National Laboratory

I. TREATMENT UNIT

UNIT ID# 606.	UNIT TYPE/TIER 607.	NUMBER OF TANKS 608.	NUMBER OF CONTAINERS/ TREATMENT AREAS 609.
FTU 005	☐ a. CESQT ☐ b. CESW	5	0
UNIT NAME 610.	☒ c. CA	MONTHLY TREATMENT VOLUME 611.	UNIT OF MEASURE 612.
Building 2	☐ d. PBR ☐ e. CEL	25,000	☐ a. Pounds ☒ b. Gallons

SPECIFIC WASTE TYPE TREATED (narrative) 613.

Acidic wastes are generated in various laboratories in Building 2. Acids that are discharged include: hydrochloric acid, phosphoric acid, sulfuric acid, acetic acid, nitric acid, and other acids. A listing of acid waste streams is found in the attachment, "Building 2 Fixed Treatment Unit Waste Steam Survey."

TREATMENT PROCESS DESCRIPTION (narrative) 614.

Neutralization of acidic wastes by elementry neutralization with sodium hydroxide.

(NOTE: For each treatment unit, complete and attach the appropriate Waste and Treatment Process Combinations page.)

II. BASIS FOR NOT NEEDING FEDERAL PERMIT (Check all that apply)

615.

- ☐ a. The treated waste is not a hazardous waste under federal law (California-only waste).
- ☒ b. Treated in waste water treatment units (tanks) and discharged to a publicly owned treatment works (POTW)/sewering agency or under an NPDES permit.
- ☒ c. Treatment in elementary neutralization units.
- ☐ d. Treatment in a totally enclosed treatment facility.
- ☐ e. Federal conditionally exempt small quantity generator (generated 100 kg., approximately 27 gallons, or less of hazardous waste in a calendar month).
- ☐ f. Treatment in an accumulation tank or container within 90 days for over 1,000 kg./month generators and 180 or 270 days for generators of 100 to 1,000 kg./month.
- ☐ g. Recyclable materials are reclaimed to recover silver or other precious metals.
- ☐ h. Empty container rinsing and/or treatment.
- ☐ i. Other (specify below)

III. RESIDUALS MANAGEMENT DESCRIPTION (Check all that apply)

616.

- ☒ a. Discharge non-hazardous aqueous waste to POTW or sewer.
- ☐ b. Discharge non-hazardous aqueous waste under a NPDES permit.
- ☐ c. Dispose of non-hazardous solid waste residues at an offsite location.

Residual hazardous waste hauled offsite by a registered hauler.

- ☐ d. Offsite recycling
- ☐ e. Thermal treatment
- ☐ f. Disposal to land
- ☐ g. Further treatment
- ☐ h. Other method of disposal (describe below)

SECONDARY CONTAINMENT INSTALLATION DATE (If required) 1998 617.

Onsite Hazardous Waste Treatment Notification – Unit
[(Formerly DTSC Form 1772A,B,C,D,L)]

Complete an Onsite Hazardous Waste Treatment Notification - Unit page and a Waste and Treatment Process Combinations page for each treatment unit operating at this facility. Commercial Laundries are not required to complete unit specific pages, provided that laundering is the only hazardous waste treatment activity conducted by the facility. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
606. UNIT ID NUMBER - Enter a unique number for each unit. All unit numbers must be clearly labeled on the plot plan/map.
607. UNIT TYPE / TIER - Check the appropriate box to indicate unit type under the Tiered Permitting program.
608. NUMBER OF TANKS - Enter the number of tanks used in the unit. ["Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.]
609. NUMBER OF CONTAINERS/TREATMENT AREAS - Enter the number of containers/container treatment areas used in the unit. ["Container" means any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, disposed of, or recycled.] "Treatment Area" is a location set aside and used to treat waste in containers.
610. UNIT NAME - Enter the name of the treatment unit. A treatment unit is defined as a tank, a container, or a combination of tanks or tank systems and/or containers located together that are used in sequence to treat or accumulate one or more compatible hazardous waste streams. The devices are either plumbed together or otherwise linked so as to form one system.
611. MONTHLY TREATMENT VOLUME - Enter the estimated monthly total volume of hazardous waste treated in this unit. If the volume fluctuates significantly by month, enter the maximum volume treated in any month.
612. UNIT OF MEASURE - Check a box to indicate whether the treatment volume unit of measure is pounds or gallons.
613. SPECIFIC WASTE TYPE TREATED - Describe the specific waste type(s) treated (e.g. If the waste qualifies as an aqueous waste with metals or organics, indicate the specific metals or organics).
614. TREATMENT PROCESS DESCRIPTION - Describe the treatment process(es) used. Indicate if the activities are seasonal or periodic.
615. BASIS FOR NOT NEEDING FEDERAL PERMIT - Check the reason(s) that best describe why your onsite treatment unit does not need a federal hazardous waste permit. You must indicate at least one reason to prove your eligibility for the onsite treatment tiers. If you are unsure how these exemptions apply to your operation, contact your Certified Unified Program Agency (CUPA), the DTSC Regional Office closest to you, the U.S. EPA Region IX RCRA Information Line at (415) 744-2074, or the U.S. EPA RCRA Hotline at (800) 424-9346. The eight most common reasons for not needing a federal permit are listed on this form. There is also a space to specify any other reason for exemption and a supporting regulatory citation. The following terms are defined in 40 CFR §260.10:

    Wastewater Treatment Unit - A device which: (1) is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act, and (2) receives and treats or stores an influent wastewater that is a hazardous waste or that generates and accumulates a wastewater treatment sludge that is a hazardous waste or that treats or stores a wastewater treatment sludge which is a hazardous waste, and (3) meets the definition of tank or tank system.

    Elementary Neutralization Unit - A device which (1) is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic or they are listed only for this reason, and (2) meets the definition of tank, tank system, container, transport vehicle, or vessel.

    Totally Enclosed Treatment Facility - A facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment.

    NPDES Permit - A permit issued by a regional water board allowing discharge of waste to the environment under the National Pollutant Discharge Elimination System (NPDES).
616. RESIDUALS MANAGEMENT DESCRIPTION - Check the appropriate box(es) to describe how treatment residuals are managed. If box h. is checked, describe the "other" methods in the space provided.
617. SECONDARY CONTAINMENT INSTALLATION DATE - Enter the date the secondary containment was installed.

UNIFIED PROGRAM CONSOLIDATED FORM
ONSITE TIERED PERMITTING
CONDITIONALLY AUTHORIZED (CA) PAGE
WASTE AND TREATMENT PROCESS COMBINATIONS

(One page per treatment unit. Check all that apply)

606. UNIT ID# FTU 005	1. Facility ID#	Page 13 of 45

629.

1. **Aqueous wastes, hazardous solely due to inorganic constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 1,400 ppm total of these constituents. (There is no volume limit for this wastestream.) Treatment using:**
   - ☐ a. Phase separation, including precipitation, by filtration, centrifugation, or gravity settling, including the use of demulsifiers and flocculants.
   - ☐ b. Ion exchange, including metallic replacement.
   - ☐ c. Reverse osmosis.
   - ☐ d. Adsorption.
   - ☐ e. pH adjustment of aqueous waste with a pH of between 2.0 and 12.5.
   - ☐ f. Electrowinning of solutions, unless those solutions contain hydrochloric acid.
   - ☐ g. Reduction of solutions hazardous solely due to hexavalent chromium, to trivalent chromium with sodium bisulfite, sodium metabisulfite, sodium thiosulfate, ferrous chloride, ferrous sulfate, ferrous sulfide, or sulfur dioxide. The solution contains less than 750 ppm of hexavalent chromium.

2. **Aqueous wastes, hazardous solely due to organic constituents listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (2)(B) and which contain less than 750 ppm total of these constituents. (There is no volume limit for this wastestream.) Treatment using:**
   - ☐ a. Phase separation by filtration, centrifugation, or gravity settling, but excluding super critical fluid extraction.
   - ☐ b. Adsorption.

3. **Sludges resulting from wastewater treatment, dusts, solid metal objects, and metal workings which are hazardous solely due to the presence of constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which, for dusts only, contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Physical processes which constitute treatment only because they change the physical properties of the waste, such as filtration, centrifugation, gravity settling, grinding, shredding, crushing, or compacting.
   - ☐ b. Drying to remove water.
   - ☐ c. Separation based on differences in physical properties, such a size, magnetism, or density.

4. **Alum, gypsum, lime, sulfur, or phosphate sludges. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.

5. **Special wastes listed in Title 22, CCR, Section 66261.120 that meet the criteria in Title 22, CCR, Section 66261.122 which is hazardous solely due to the constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.
   - ☐ c. Screening to separate components based on size.
   - ☐ d. Separation based on differences in physical properties, such as size, magnetism, or density.

6. **Special wastes classified under Title 22, CCR, Section 66261.124 as special wastes, except asbestos, which is hazardous solely due to the constituents, except asbestos, listed in Title 22, CCR, Section 66261.24(a)(1)(B) or (a)(2)(A) and which contain less than 750 ppm total of these constituents. The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Drying to remove water.
   - ☐ b. Phase separation by filtration, centrifugation, or gravity settling.
   - ☐ c. Magnetic separation.

7. **Soils contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2)(A). The monthly volume treated in this unit does not exceed 5,000 gallons or 45,000 pounds. Treatment using:**
   - ☐ a. Screening to separate components based on size.
   - ☐ b. Magnetic separation.

8. **Oil mixed with water and oil/water separation sludges. (There is no volume limit for this wastestream.) Treatment using:** (NOTE: Some used oil/water separation is allowed under the CEL category.)
   - ☐ a. Phase separation by filtration, centrifugation, or gravity settling, but excluding super critical fluid extraction, including the use of demulsifiers and flocculants. Heat can be used, but must not exceed 160 degrees Fahrenheit.
   - ☐ b. Separation based on differences in physical properties, such a size, magnetism, or density.
   - ☐ c. Reverse osmosis.

9. **Neutralization of acidic or alkaline wastes, hazardous solely due to corrosivity, or toxic only from the acid or caustic material, in elementary neutralization units.** (There is no volume limit for this wastestream.)
   - ☐ a. The waste contains less than 10 percent acid or base constituents by weight. There is no volume limit for this category.
   - ☒ b. The waste contains 10 percent or more acid or base constituents by weight and is treated in batches that do not exceed 500 gallons at one time.

10. **Not in use/exempted — formerly recovery of silver from photofinishing.**

11. **Not in use/sunsetted — formerly treatment of spent cleaners and conditioners which are hazardous solely due to copper or copper compounds. Treatment of this wastestream is no longer allowed under Conditional Authorization as of January 1, 1998. Treatment of this wastestream now requires authorization under either Permit by Rule or, if the total volume treated is less than 55 gallons per month, under Conditionally Exempt Small Quantity Treatment.**

12. **A waste stream technology combination certified by the Department pursuant to Section 25200.1.5 of the Health and Safety Code as appropriate for authorization under Conditional Authorization.**

☐ Certified Technology Number: _____

Waste and Treatment Process Combinations Form CA Instructions
(Formerly DTSC Form 1772C)

This Waste and Treatment Process Combinations page lists those waste and treatment combinations certified by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code (H&SC) §25200.1.5 for authorization under the Conditionally Authorized (CA) tier. [Note: 1.) Reactive and extremely hazardous wastes are not allowed to be treated under this tier; 2.) Except for dilute aqueous waste and oily waste, volume of hazardous waste treated must not exceed 5,000 gallons (45,000 pounds) per month.]

Complete a separate Waste and Treatment Process Combinations page for each unit. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

606. UNIT ID NUMBER - Enter the unit ID number (same as item 606 from the Onsite Hazardous Waste Treatment Notification - Unit form).

1. FACILITY ID NUMBER - This space is for agency use only.

629. WASTE AND TREATMENT PROCESS COMBINATIONS (CA) - Use this page only for a CA unit. Check the appropriate boxes to indicate the waste and treatment process(es) that pertain to the unit. If the process is a technology certified by DTSC, enter the Certified Technology Number (Cert. #). Certified technologies appropriate for authorization, and the eligible tiers, are listed below.

CERTIFIED TECHNOLOGIES

DTSC is authorized to certify hazardous waste technologies. Appropriate certified technologies may be eligible for the CE, CA or PBR onsite treatment tiers. As of April 1, 1999, there is one certified technology for these tiers. The certification is for aldehyde treatment processes and is eligible for the CESW tier. The approved technology is:

Technology	Vendor	Cert. #	Effective Date	Tier	Description
Neutralex	Scigen 333 East Gardena Blvd. Gardena, CA 90248	97-01-0024	629/97 (expires 6/29/00)	CESW	Batch treatment for 10 percent Formalin generated by medical, educational, and laboratory facilities. Chemically treats in a provided 8 liter vessel. After testing, allows for disposal to sanitary sewer.

A copy of published Certification Statements and additional updates may be obtained by contacting DTSC at (916) 322-3670 or from the Cal/EPA on-line Bulletin Board via modem at (916) 322-5041.

Building 2 Fixed Treatment Unit Waste Stream Survey

Room	Description of Process	Chemicals Used in Process	Chemicals in Waste Discharge	Concentration of Chemicals in Discharge (MAX)	Average volume of Discharge (Gallons/day)	Frequency of Discharge	Continuous or Batch
102	Cleaning of glassware and teflon equipment	H2SO4, HNO3, HCl, KOH, Solvents	H2SO4, HNO3, HCl	HNO3=1% H2SO4=1% HCl=6%	20	3-10 per week	Batch
133	Cleaning and preparing silicon and germanium samples	HNO3, HF, TCE, Methanol, Acetone	HNO3, HF	HNO3=10% HF=7%	0.1	1 per week	Batch
137	Cleaning silicon wafers for lithography	NH4OH, H2O2, HCl, HF	H2O2, HCl, HF	(1) H2O2=4.2% (2) HCl =3.8% H202=12.5%	(1) 1.0 (2) 1.0	3 per week for ea.	Batch
137	Etching of silicon wafers	KOH, H2SO4, H2O2	H2SO4, H2O2	H2SO4=20% H2O2=10%	1.0	2 per week	Batch
216	Sample preparation - cutting, cleaning, etching	HCl, HF, HNO3, H2SO4, Acetic acid	HNO3, HF, Acetic acid	HNO3=10% CH3CHOOH=15% HF=7%	0.3	2-3 per week	Batch
224	Germanium Etching	HNO3, HT, Pd, Cr, Methanol	HNO3, HF	HNO3=7% HF=6%	0.5	3 per week	Batch
236	Cleaning wafers for lithography	HF, H3PO4, Chlorobenzene	HF, H3PO4	HF=7% H3PO4=5%	0.2	1 per week	Batch
229	Etching silicon wafers	HNO3, HF, NH40H, HCl, H202, Methanol, TCE	HNO3, HF, HCl	HNO3=15% HF=2.5% HCl=5%	3.4	2 per month	Batch
260A	Germanium crystal growth	HNO3, HF, Methanol	HNO3, HF	HNO3=10% HF=7%	1	1 per week	Batch

Building 2 Fixed Treatment Unit Waste Stream Survey

Room	Description of Process	Chemicals Used in Process	Chemicals in Waste Discharge	Concentration of Chemicals in Discharge (MAX)	Average volume of Discharge (Gallons/day)	Frequency of Discharge	Continuous or Batch
261A	Etching gallium arsenide, quartz, & silicon in crystal growth experiments	HNO3, HF, HCl, H2SO4, KOH, NaOH, Methanol, Acetone, TCE, 1,1,1-TCA	HNO3, HF, HCl, H2SO4, H2O2	H2SO4=15% H2O2=15% HNO3=10% HF=7% HCl=5%	1	HCl/HNO3/HF = 2 per month HF = 2 per week H2SO4 = 4 per week	Batch
263A	Sample preparation - cutting, cleaning, etching	HCl, HF, HNO3, H2SO4, Acetic acid	HNO3, HF, Acetic acid	CH3CHOOH=15% HNO3=10% HF=7%	0.2	2-3 per week	Batch
340	Cleaning of glass coverslips for single molecule studies using confocal microscopy	HF	HF	HF=5%	0.25	5 days per week	Batch
422	Cleaning silicon nitride	HCL, H2SO4, H2O2, NaOH, KOH	HCL, H2SO4	H2SO4=15% HCL=6%	0.02	1-2 per week	Batch

NOTE: the "Volume of Discharge" column represents the volume of waste that is discharged to acid sinks. Also see "Classification of Hydrofluoric Acid Mixtures".

Revised 2/10/98. Rooms 322 & 338 no longer discharge acid waste. 3/4/10.

CLASSIFICATION OF HYDROFLUORIC ACID MIXTURES

BACKGROUND:

On December 17, 1993, Mr. David McGraw, Director of Environment, Health & Safety Division at Lawrence Berkeley Laboratory, requested a determination on whether dilute solutions of hydrofluoric acid are considered extremely hazardous wastes from Mr. James Strock, Director of California Environmental Protection Agency. (DIR93-151). Mr. Strock routed the letter to Mr. Ronald Pilorin, Chief of the Waste Evaluation Unit, Cal-EPA. Mr. Pilorin responded to Mr. McGraw on January 20, 1993.

In Mr. Pilorin's letter he noted,

> "As you are well aware, there are no identified or approved testing methods to determine whether a waste which contains a water reactive substance such as hydrofluoric ... acid would be considered to be water reactive." He further states, "Section 66262.11, 22 CCR, states that a 'generator may determine that the waste from his particular facility or operation is not a hazardous waste [or an extremely hazardous waste, R.P.] by either: (1) testing the waste,...; or (2) applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used and the [hazardous waste or extremely hazardous waste, R.P.] characteristics,....' In absence of test methods identified within the extremely hazardous waste criteria, **ANY** test methods or assessment techniques can be used to satisfy the requirement for knowledge about the waste. Any other source of information may be used for this purpose as well. Unfortunately, at this time the Department does not have the staff or resources to immediately develop a specific test method." (emphasis added)

KNOWLEDGE OF THE WASTE:

From a survey of the users of the fixed treatment unit at building 2 (FTU 005) it has been determined that the highest percent of hydrofluoric acid, at the point of generation, is under 10% hydrofluoric acid. Typically, the hydrofluoric acid volume is 500 milliliters or less.

A report prepared by a certified professional chemical engineer at Sampson Engineering Associates (SAE) entitled, "Hydrofluoric Acid Hazardous/Extremely Hazardous Waste Classification", concludes that, "...liquids containing HF [hydrofluoric acid] at less than 38.2 weight percent concentration (it may be possible to demonstrate this conclusion for 47 weight percent solutions [SAE]) should be regulated as hazardous, not extremely hazardous."

Our past experience with solutions of less than 10% hydrofluoric acid also show that these solutions are not water reactive and therefore do not meet extremely hazardous waste criteria.

CONCLUSION:

Solutions of hydrofluoric acid less than 38.2% hydrofluoric acid are not extremely hazardous. These waste solutions will be managed as a hazardous waste.

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS WASTE

ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – UNIT PAGE

(One page and attachments per unit)

FACILITY ID#	1.	BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
		Lawrence Berkeley National Laboratory

I. TREATMENT UNIT

UNIT ID# 606.	UNIT TYPE/TIER 607.	NUMBER OF TANKS 608.	NUMBER OF CONTAINERS/ TREATMENT AREAS 609.
FTU 006	☐ a. CESQT ☐ b. CESW ☐ c. CA ☒ d. PBR ☐ e. CEL	17	0
UNIT NAME 610.		MONTHLY TREATMENT VOLUME 611.	UNIT OF MEASURE 612.
Building 77 Ultra High Vacuum Cleaning Facility		10,000	☐ a. Pounds ☒ b. Gallons

SPECIFIC WASTE TYPE TREATED (narrative) 613.

Aqueous waste and sludge containing metals listed in 22 CCR 66261.24(a)(2).

TREATMENT PROCESS DESCRIPTION (narrative) 614.

Metals precipitation, pH adjustment, and sludge dewatering. See attached, "Process Description, Ultra High Vacuum Cleaning Facility & Fixed Treatment Unit FTU 006" for a a more detailed description of the treatment process.

(NOTE: For each treatment unit, complete and attach the appropriate Waste and Treatment Process Combinations page.)

II. BASIS FOR NOT NEEDING FEDERAL PERMIT (Check all that apply)

615.

- ☐ a. The treated waste is not a hazardous waste under federal law (California-only waste).
- ☒ b. Treated in waste water treatment units (tanks) and discharged to a publicly owned treatment works (POTW)/sewering agency or under an NPDES permit.
- ☐ c. Treatment in elementary neutralization units.
- ☐ d. Treatment in a totally enclosed treatment facility.
- ☐ e. Federal conditionally exempt small quantity generator (generated 100 kg., approximately 27 gallons, or less of hazardous waste in a calendar month).
- ☐ f. Treatment in an accumulation tank or container within 90 days for over 1,000 kg./month generators and 180 or 270 days for generators of 100 to 1,000 kg./month.
- ☐ g. Recyclable materials are reclaimed to recover silver or other precious metals.
- ☐ h. Empty container rinsing and/or treatment.
- ☐ i. Other (specify below)

III. RESIDUALS MANAGEMENT DESCRIPTION (Check all that apply)

616.

- ☒ a. Discharge non-hazardous aqueous waste to POTW or sewer.
- ☐ b. Discharge non-hazardous aqueous waste under a NPDES permit.
- ☐ c. Dispose of non-hazardous solid waste residues at an offsite location.

Residual hazardous waste hauled offsite by a registered hauler.

- ☐ d. Offsite recycling
- ☐ e. Thermal treatment
- ☒ f. Disposal to land
- ☒ g. Further treatment
- ☐ h. Other method of disposal (describe below)

SECONDARY CONTAINMENT INSTALLATION DATE (If required) 1990 617.

Onsite Hazardous Waste Treatment Notification – Unit
[(Formerly DTSC Form 1772A,B,C,D,L)]

Complete an Onsite Hazardous Waste Treatment Notification - Unit page and a Waste and Treatment Process Combinations page for each treatment unit operating at this facility. Commercial Laundries are not required to complete unit specific pages, provided that laundering is the only hazardous waste treatment activity conducted by the facility. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
606. UNIT ID NUMBER - Enter a unique number for each unit. All unit numbers must be clearly labeled on the plot plan/map.
607. UNIT TYPE / TIER - Check the appropriate box to indicate unit type under the Tiered Permitting program.
608. NUMBER OF TANKS - Enter the number of tanks used in the unit. ["Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.]
609. NUMBER OF CONTAINERS/TREATMENT AREAS - Enter the number of containers/container treatment areas used in the unit. ["Container" means any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, disposed of, or recycled.] "Treatment Area" is a location set aside and used to treat waste in containers.
610. UNIT NAME - Enter the name of the treatment unit. A treatment unit is defined as a tank, a container, or a combination of tanks or tank systems and/or containers located together that are used in sequence to treat or accumulate one or more compatible hazardous waste streams. The devices are either plumbed together or otherwise linked so as to form one system.
611. MONTHLY TREATMENT VOLUME - Enter the estimated monthly total volume of hazardous waste treated in this unit. If the volume fluctuates significantly by month, enter the maximum volume treated in any month.
612. UNIT OF MEASURE - Check a box to indicate whether the treatment volume unit of measure is pounds or gallons.
613. SPECIFIC WASTE TYPE TREATED - Describe the specific waste type(s) treated (e.g. If the waste qualifies as an aqueous waste with metals or organics, indicate the specific metals or organics).
614. TREATMENT PROCESS DESCRIPTION - Describe the treatment process(es) used. Indicate if the activities are seasonal or periodic.
615. BASIS FOR NOT NEEDING FEDERAL PERMIT - Check the reason(s) that best describe why your onsite treatment unit does not need a federal hazardous waste permit. You must indicate at least one reason to prove your eligibility for the onsite treatment tiers. If you are unsure how these exemptions apply to your operation, contact your Certified Unified Program Agency (CUPA), the DTSC Regional Office closest to you, the U.S. EPA Region IX RCRA Information Line at (415) 744-2074, or the U.S. EPA RCRA Hotline at (800) 424-9346. The eight most common reasons for not needing a federal permit are listed on this form. There is also a space to specify any other reason for exemption and a supporting regulatory citation. The following terms are defined in 40 CFR §260.10:

    Wastewater Treatment Unit - A device which: (1) is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act, and (2) receives and treats or stores an influent wastewater that is a hazardous waste or that generates and accumulates a wastewater treatment sludge that is a hazardous waste or that treats or stores a wastewater treatment sludge which is a hazardous waste, and (3) meets the definition of tank or tank system.

    Elementary Neutralization Unit - A device which (1) is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic or they are listed only for this reason, and (2) meets the definition of tank, tank system, container, transport vehicle, or vessel.

    Totally Enclosed Treatment Facility - A facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment.

    NPDES Permit - A permit issued by a regional water board allowing discharge of waste to the environment under the National Pollutant Discharge Elimination System (NPDES).
616. RESIDUALS MANAGEMENT DESCRIPTION - Check the appropriate box(es) to describe how treatment residuals are managed. If box h. is checked, describe the "other" methods in the space provided.
617. SECONDARY CONTAINMENT INSTALLATION DATE - Enter the date the secondary containment was installed.

UNIFIED PROGRAM CONSOLIDATED FORM
ONSITE TIERED PERMITTING
PERMIT BY RULE (PBR) PAGE
WASTE AND TREATMENT PROCESS COMBINATIONS

(One page per treatment unit. Check all that apply)

606. UNIT ID# FTU 006	1. Facility ID#	Page 18 of 45

630.

1. **Aqueous wastes containing hexavalent chromium may be treated by the following process:**
   - ☐ a. Reduction of hexavalent chromium to trivalent chromium with sodium bisulfite, sodium metabisulfite, sodium thiosulfate, ferrous sulfate, ferrous sulfide or sulfur dioxide provided both pH and addition of the reducing agent are automatically controlled.

2. **Aqueous wastes containing metals listed in Title 22, CCR, Section 66261.24 (a)(2) and/or fluoride salts may be treated by the following technologies:**
   - ☒ a. pH adjustment or neutralization.
   - ☒ b. Precipitation or crystallization.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.
   - ☐ d. Ion exchange.
   - ☐ e. Reverse osmosis.
   - ☐ f. Metallic replacement.
   - ☐ g. Plating the metal onto an electrode.
   - ☐ h. Electrodialysis
   - ☐ i. Electrowinning or electrolytic recovery
   - ☐ j. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ k. Evaporation.
   - ☐ l. Adsorption

3. **Aqueous wastes with total organic carbon less than 10% as measured by EPA Method 9060 and less than 1% total volatile organic compounds as measured by EPA Method 8240 may be treated by the following technologies::**
   - ☐ a. Phase separation by filtration, centrifugation or gravity settling, but excluding super critical fluid extraction.
   - ☐ b. Adsorption.
   - ☐ c. Distillation.
   - ☐ d. Biological processes conducted in tanks or containers and utilizing naturally occurring microorganisms.
   - ☐ e. Photodegradation using ultraviolet light, with or without the addition of hydrogen peroxide or ozone, provided the treatment is conducted in an enclosed system.
   - ☐ f. Air stripping or steam stripping.

4. **Sludges, dusts, solid metal objects and metal workings which contain or are contaminated with metals listed in Title 22, CCR, Section 66261.24 (a)(2) and/or fluoride salts may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☒ b. Physical processes which change only the physical properties of the waste such as grinding, shredding, crushing or compacting.
   - ☒ c. Drying to remove water.
   - ☐ d. Separation based on differences in physical properties such as size, magnetism or density.

5. **Alum, gypsum, lime, sulfur or phosphate sludges may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Drying to remove water.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.

6. **Wastes identified in Title 22, CCR, Section 66261.120, that meet the criteria and requirements for special waste classification in Section 66261.122 may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Drying to remove water.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.
   - ☐ d. Screening to separate components based on size.
   - ☐ e. Separation based on differences in physical properties such as size, magnetism or density.

7. **Wastes, except asbestos, which have been classified by the Department as special wastes pursuant to Title 22, CCR, Section 66261.124, may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Drying to remove water.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.
   - ☐ d. Magnetic separation.

8. **Inorganic acid or alkaline wastes may be treated by the following technology:**
   - ☐ a. pH adjustment or neutralization.

9. **Soils contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2), (Persistent and Bioaccumulative Toxic Substances) may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Screening to separate components based on size.
   - ☐ c. Magnetic separation.

10. **Used oil, unrefined oil waste, mixed oil, oil mixed with water and oil/water separation sludges may be treated by the following technologies:**
    - ☐ a. Phase separation by filtration, centrifugation or gravity settling, but excluding super critical fluid extraction.
    - ☐ b. Distillation.
    - ☐ c. Neutralization.
    - ☐ d. Separation based on differences in physical properties such as size, magnetism or density.
    - ☐ e. Reverse osmosis.
    - ☐ f. Biological processes conducted in tanks or containers and utilizing naturally occurring microorganisms.

11. **Containers of 110 gallons or less capacity which are not constructed of wood, paper, cardboard, fabric, or any other similar absorptive material, which have been emptied as specified in Title 40 of the Code of Federal Regulations, section 261.7 or inner liners removed from empty containers that once held hazardous waste or hazardous material and which are not excluded from regulation may be treated by the following technologies provided the treated containers and rinseate are managed in compliance with applicable requirements.**
    - ☐ a. Rinsing with a suitable liquid capable of dissolving or removing the hazardous constituents which the container held.
    - ☐ b. Physical processes such as crushing, shredding, grinding or puncturing, that change only the physical properties of the container or inner liner, provided the container or inner liner is first rinsed and the rinseate is removed from the container or inner liner.

12. **Multi-component resins may be treated by the following process:**
    - ☐ a. Mixing the resin components in accordance with the manufacturer's instructions.

13. **A waste stream technology combination certified by the Department pursuant to Section 25200.1.5 of the Health and Safety Code as appropriate for authorization under Permit by Rule.**
    - ☐ Certified Technology Number: _____

Waste and Treatment Process Combinations Form PBR Instructions
(Formerly DTSC Form 1772D)

This Waste and Treatment Process Combinations page lists those waste and treatment combinations certified by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code (H&SC) §25200.1.5 for authorization under the Permit by Rule (PBR) tier. (Note: Reactive and extremely hazardous wastes are not allowed to be treated under this tier.)

Complete a separate Waste and Treatment Process Combinations page for each unit. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

606. UNIT ID NUMBER - Enter the unit ID number (same as item 606 from the Onsite Hazardous Waste Treatment Notification - Unit form).

1. FACILITY ID NUMBER - This space is for agency use only.

630. WASTE AND TREATMENT PROCESS COMBINATIONS (PBR) - Use this page only for a PBR unit. Check the appropriate boxes to indicate the waste and treatment process(es) that pertain to the unit. If the process is a technology certified by DTSC, enter the Certified Technology Number (Cert. #). Certified technologies appropriate for authorization, and the eligible tiers, are listed below.

CERTIFIED TECHNOLOGIES

DTSC is authorized to certify hazardous waste technologies. Appropriate certified technologies may be eligible for the CE, CA or PBR onsite treatment tiers. As of April 1, 1999, there is one certified technology for these tiers. The certification is for aldehyde treatment processes and is eligible for the CESW tier. The approved technology is:

Technology	Vendor	Cert. #	Effective Date	Tier	Description
Neutralex	Scigen 333 East Gardena Blvd. Gardena, CA 90248	97-01-0024	629/97 (expires 6/29/00)	CESW	Batch treatment for 10 percent Formalin generated by medical, educational, and laboratory facilities. Chemically treats in a provided 8 liter vessel. After testing, allows for disposal to sanitary sewer.

A copy of published Certification Statements and additional updates may be obtained by contacting DTSC at (916) 322-3670 or from the Cal/EPA on-line Bulletin Board via modem at (916) 322-5041.

Process Description
Ultra High Vacuum Cleaning Facility &
Fixed Treatment Unit FTU 006
LBNL - Building 77

The Ultra High Vacuum Cleaning Facility (UHVCF) at building 77 conducts treatment of aluminum and non-aluminum metal parts through cleaning and/or application of a satin finish (desmut bath and rinse). An estimated maximum of 10,000 gallons/month of wastewater associated with these various processes are treated in the Fixed Treatment Unit, FTU 006. The wastewater is generated from rinse tanks and process equipment pieces within the UHVCF.

An acid waste is generated by six flow-through rinse tanks. The effluent from the rinse tanks flows to a dedicated acid sump and then is pumped to FTU 006 for treatment. These rinse tanks rinse parts which come from the following baths:

- chromic/nitric acid bright dip bath
- sulfuric/nitric acid bright dip bath
- hydrochloric acid bath (pickling)
- phosphoric/sulfuric acid bath (stainless steel electropolish)
- sodium bisulfate bath (oxide remover, desmut)
- hydrofluoric acid bath
- electroless nickel bath
- blue anodize bath
- black anodize bath
- iridite 14-2 bath
- nickel acetate seal bath
- sulfuric acid anodize bath
- ferric chloride etch rinse water (Chemcut Etcher)

An alkaline waste, typically below pH 12 at the point of generation, is generated from two flow-through rinse tanks. The effluent from the rinse tanks flows to a dedicated caustic sump and then is pumped to FTU 006 for treatment. These rinse tanks rinse parts which come from the following baths:

- sodium hydroxide bath (caustic etch)
- sodium hydroxide/acetylsalicylic acid/zinc oxide bath (B.N. cleaner)

An additional alkaline waste from Building 77H, typically below pH 12 at the point of generation, is generated from a couple of processes: Riston Stripper and Silk-Screening Cleaner. Parts are rinsed from these two processes in the sink in Building 77H which flows to a caustic sump (sump #2) in Building 77, room 156, and then is pumped to FTU 006 for treatment. The alkaline waste from Building 77 H is generated from the following process:

- Potassium Hydroxide (Riston Stripper)
- Sodium Hydroxide (Silk-Screening cleaner)

Process Description
Ultra High Vacuum Cleaning Facility &
Fixed Treatment Unit FTU 006
LBNL - Building 77

Additional non-routine bench top processes may also contribute to the acid/metals waste stream. A non-routine bench top process could involve nickel plating a small part in a 250 milliliter beaker and then dipping the part in a rinse water bath (which drains to the acid sump) for cleaning. Another non-routine bench top process could involve brush plating a small area (e.g. 4 square inches) of a large part to repair that part. This large part would then be dipped into a rinse water bath (which drains to the acid sump) for cleaning.

The Fixed Treatment Unit, FTU 006, provides the following treatment to rinse water:

- Sodium metabisulfite and sodium hydroxide are added automatically for hexavalent chromium reduction.
- Neutralization of the wastewater occurs through automatic pH adjustment.
- Metals removal occurs through flocculation with a polyelectrolyte and clarification.
- Sludge is dewatered in a filter press.
- Filter cake is dried in a low temperature, closed loop air handling system (J-Mate Batch Dryer).

The Fixed Treatment Unit, FTU 006, treats two waste streams coming from the B77 UHVCF. One waste stream contains metals, hexavalent chromium, and typically has a pH below 2 (acid sump). The second waste stream contains a mixture of bases (caustic sump).

Tank 4, an acid rinse storage tank, receives incoming acid rinse water from the B77 UHVCF acid sump. The acid wastewater from Tank 4 flows to Tank 5A, where the acid waste is neutralized with sodium hydroxide and hexavalent chromium is reduced with the addition of sodium metabisulfite. The acid wastewater flows from Tank 5A to Tank 5B. Tank 5B provides further neutralization with sodium hydroxide and further reduction of hexavalent chromium with sodium metabisulfite. Tank 3 receives incoming alkaline waste from the B77 caustic sump. The alkaline wastewater from Tank 3 flows to Tank 6, where the alkaline wastewater is neutralized with sulfuric acid.

After pH adjustment, the wastewater from Tank 5B flows into Tank 6 and Tank 6 flows into Tank 7, a flocculation tank, where, with the addition of a flocculating agent and a polyelectrolyte coagulant, the dissolved metals begin to form a flocculent. The wastewater/flocculent flows into Tank 8, a clarifier, where the flocculent is thickened and removed. The removed flocculent or sludge flows to a filter press, where the sludge is dewatered. The water from the filter press is pumped back to Tank 4 (the acid rinse storage tank), where the treatment process begins, and is then treated to remove any metals.

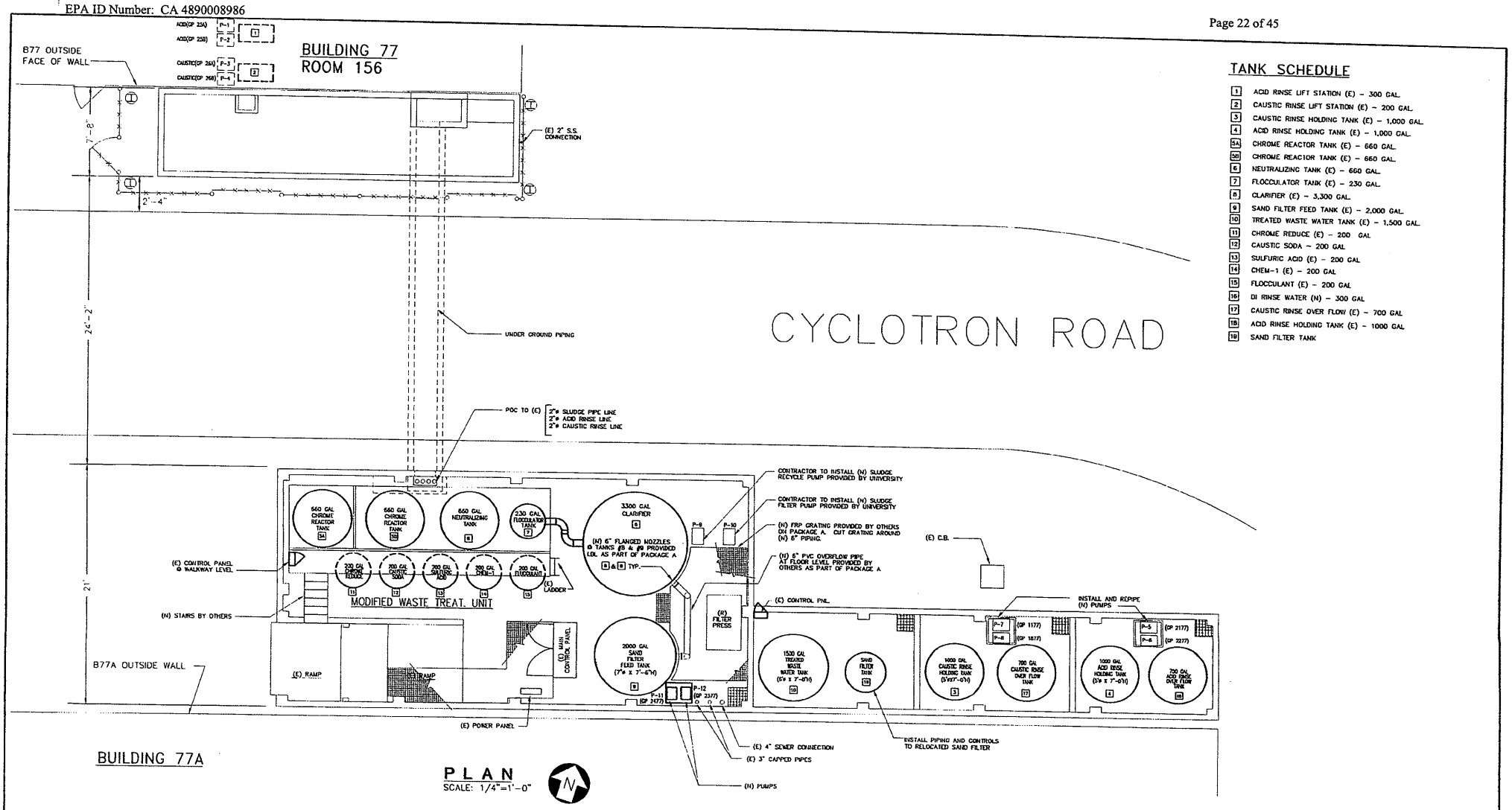
The treated wastewater exits Tank 8 and flows to Tank 9, an effluent storage tank. The treatment system has been designed to meet East Bay Municipal Utility District (EBMUD) discharge limits once the treated wastewater leaves Tank 9. However, a sand filter (Tank 19), which will reduce metal concentration further, has been placed between Tank 9 and the point of sewer discharge. For maintenance purposes, the sand filter may be bypassed if necessary. The sand filter is the first piece of equipment required for a future recycling system that will recycle all wastewater back to the B77 UHVCF. The sand filter

Process Description
Ultra High Vacuum Cleaning Facility &
Fixed Treatment Unit FTU 006
LBNL - Building 77

(Tank 19) is backwashed into Tank 10 during B77 UHVCF off hours. The backwash from Tank 10 is pumped to Tank 3 and then to Tank 6 & 7, where neutralization and then flocculation to precipitate metals occurs.

To ensure contaminant levels do not exceed permissible levels established in EBMUD's discharge requirements, wastewater discharged to EBMUD is periodically sampled and analyzed according to a schedule determined annually upon EBMUD permit renewal, currently four times per year.

This treatment process generates a sludge which contains metals. The sludge is dewatered in a filter press. The resulting filter cake is then put in a low heat batch dryer (US Filter, J-Mate, model J-203) to further remove water. The dried filter cake, a residual hazardous waste, typically contains cadmium, chromium, and lead. The filter cake is collected in a 55-gallon drum for transportation. The waste drum of filter cake is picked up by Waste Management staff and taken to the Hazardous Waste Handling Facility (HWHF). The filter cake waste is stored at the HWHF until analytical test results are received to fully characterize the waste. Then the waste drum is prepared for shipment off-site by Waste Management staff so that the waste may undergo further treatment. Shipment off-site is by a registered hazardous waste hauler. An estimated maximum of 200 pounds of filter cake is generated per year.



TANK SCHEDULE

1	ACID RINSE LIFT STATION (E) – 300 GAL.
2	CAUSTIC RINSE LIFT STATION (E) – 200 GAL.
3	CAUSTIC RINSE HOLDING TANK (E) – 1,000 GAL.
4	ACID RINSE HOLDING TANK (E) – 1,000 GAL.
5A	CHROME REACTOR TANK (E) – 660 GAL.
5B	CHROME REACTOR TANK (E) – 660 GAL.
6	NEUTRALIZING TANK (E) – 660 GAL.
7	FLOCCULATOR TANK (E) – 230 GAL.
8	CLARIFIER (E) – 3,300 GAL.
9	SAND FILTER FEED TANK (E) – 2,000 GAL.
10	TREATED WASTE WATER TANK (E) – 1,500 GAL.
11	CHROME REDUCE (E) – 200 GAL
12	CAUSTIC SODA – 200 GAL
13	SULFURIC ACID (E) – 200 GAL
14	CHEM-1 (E) – 200 GAL
15	FLOCCULANT (E) – 200 GAL
16	DI RINSE WATER (N) – 300 GAL
17	CAUSTIC RINSE OVER FLOW (E) – 700 GAL
18	ACID RINSE HOLDING TANK (E) – 1000 GAL
19	SAND FILTER TANK

THIS DRAWING SUPERSEDED VENDOR's DRAWING NO. 169-B-M2

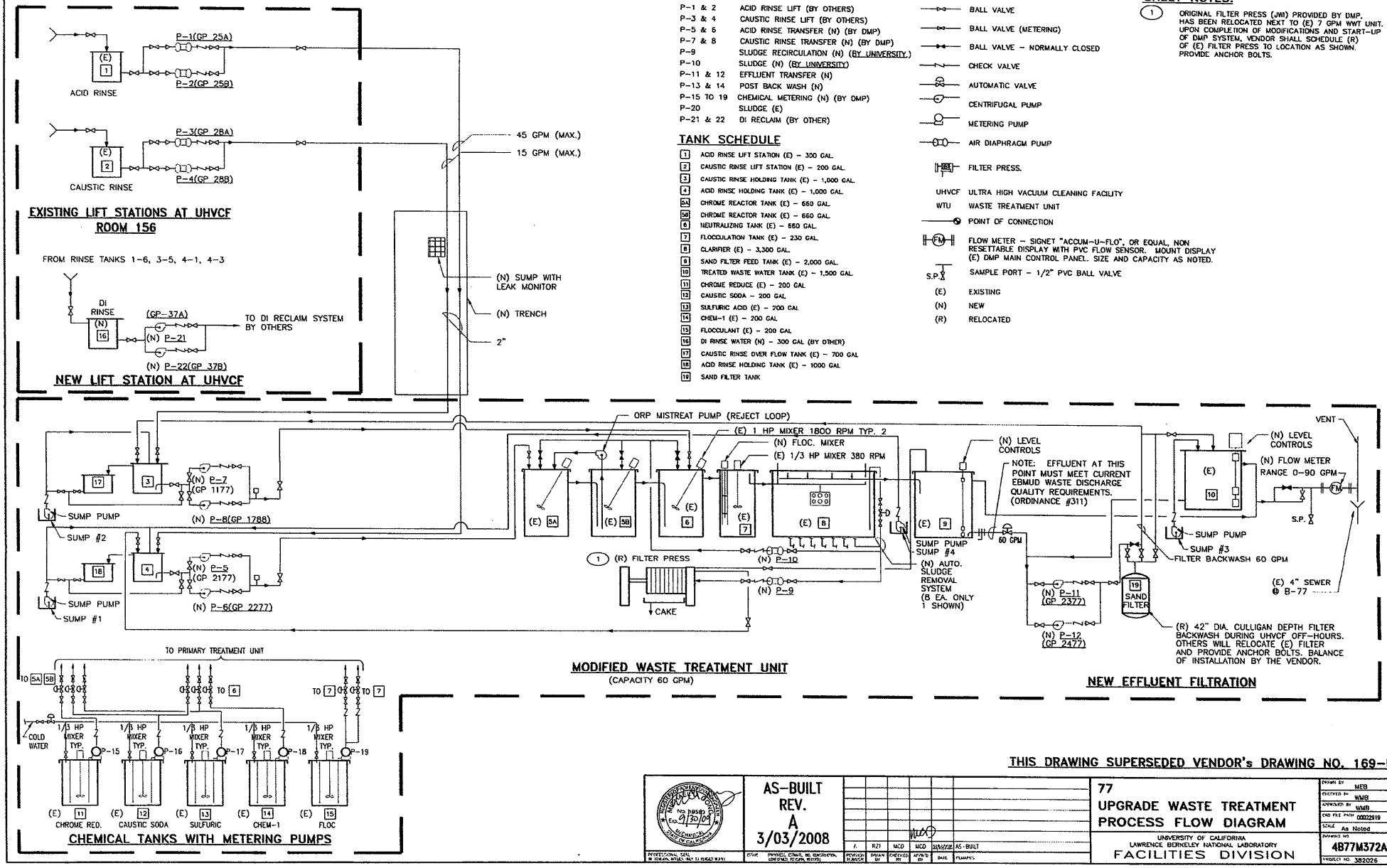
AS-BUILT REV. A 03/03/2008

REVISION NUMBER	DRAWN BY	CHECKED BY	APPROVED BY	DATE	REMARKS
A	RZT	MCD	MCD	03/03/08	AS-BUILT

77
UPGRADE WASTE TREATMENT
NEW PLAN

UNIVERSITY OF CALIFORNIA
LAWRENCE BERKELEY NATIONAL LABORATORY
FACILITIES DIVISION

DRAWN BY	MEB	DATE 2/20/1995
CHECKED BY	WMB	2/20/1995
APPROVED BY	WMB	2/20/1995
CAD FILE PATH	00022018	
SCALE	As Noted	
DRAWING NO.	4B77M371A	SHEET M-2 OF
PROJECT NO.	382020	



PUMP SCHEDULE:

P-1 & 2	ACID RINSE LIFT (BY OTHERS)
P-3 & 4	CAUSTIC RINSE LIFT (BY OTHERS)
P-5 & 6	ACID RINSE TRANSFER (N) (BY DMP)
P-7 & 8	CAUSTIC RINSE TRANSFER (N) (BY DMP)
P-9	SLUDGE RECIRCULATION (N) (BY UNIVERSITY.)
P-10	SLUDGE (N) (BY UNIVERSITY)
P-11 & 12	EFFLUENT TRANSFER (N)
P-13 & 14	POST BACK WASH (N)
P-15 TO 19	CHEMICAL METERING (N) (BY DMP)
P-20	SLUDGE (E)
P-21 & 22	DI RECLAIM (BY OTHER)

TANK SCHEDULE

1. ACID RINSE LIFT STATION (E) - 300 GAL.
2. CAUSTIC RINSE LIFT STATION (E) - 200 GAL.
3. CAUSTIC RINSE HOLDING TANK (E) - 1,000 GAL.
4. ACID RINSE HOLDING TANK (E) - 1,000 GAL.
5A. CHROME REACTOR TANK (E) - 660 GAL.
5B. CHROME REACTOR TANK (E) - 660 GAL.
6. NEUTRALIZING TANK (E) - 660 GAL.
7. FLOCCULATION TANK (E) - 230 GAL.
8. CLARIFIER (E) - 3,300 GAL.
9. SAND FILTER FEED TANK (E) - 2,000 GAL.
10. TREATED WASTE WATER TANK (E) - 1,500 GAL.
11. CHROME REDUCE (E) - 200 GAL.
12. CAUSTIC SODA - 200 GAL.
13. SULFURIC ACID (E) - 200 GAL.
14. CHEM-1 (E) - 200 GAL.
15. FLOCCULANT (E) - 200 GAL.
16. DI RINSE WATER (N) - 300 GAL (BY OTHER)
17. CAUSTIC RINSE OVER FLOW TANK (E) - 700 GAL
18. ACID RINSE HOLDING TANK (E) - 1000 GAL
19. SAND FILTER TANK

LEGEND:

- BALL VALVE
- BALL VALVE (METERING)
- BALL VALVE - NORMALLY CLOSED
- CHECK VALVE
- AUTOMATIC VALVE
- CENTRIFUGAL PUMP
- METERING PUMP
- AIR DIAPHRAGM PUMP
- FILTER PRESS.
- UHVCF — ULTRA HIGH VACUUM CLEANING FACILITY
- WTU — WASTE TREATMENT UNIT
- POINT OF CONNECTION
- FM — FLOW METER - SIGNET "ACCUM-U-FLO", OR EQUAL, NON RESETTABLE DISPLAY WITH PVC FLOW SENSOR. MOUNT DISPLAY (E) DMP MAIN CONTROL PANEL. SIZE AND CAPACITY AS NOTED.
- S.P. — SAMPLE PORT - 1/2" PVC BALL VALVE
- (E) — EXISTING
- (N) — NEW
- (R) — RELOCATED

SHEET NOTES:

1. ORIGINAL FILTER PRESS (JWI) PROVIDED BY DMP, HAS BEEN RELOCATED NEXT TO (E) 7 GPM WWT UNIT. UPON COMPLETION OF MODIFICATIONS AND START-UP OF DMP SYSTEM, VENDOR SHALL SCHEDULE (R) OF (E) FILTER PRESS TO LOCATION AS SHOWN. PROVIDE ANCHOR BOLTS.

THIS DRAWING SUPERSEDED VENDOR's DRAWING NO. 169-B-M3

AS-BUILT REV. A 3/03/2008

REVISION NUMBER	DRAWN BY	CHECKED BY	APPROVED BY	DATE	REMARKS
1.	RZI	MCD	MCD	3/3/2008	AS-BUILT

77
UPGRADE WASTE TREATMENT PROCESS FLOW DIAGRAM

UNIVERSITY OF CALIFORNIA
LAWRENCE BERKELEY NATIONAL LABORATORY
FACILITIES DIVISION

DRAWN BY	MEB	2/20/1995
CHECKED BY	WMB	2/20/1995
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CAD FILE PATH	00022919	
SCALE	As Noted	
DRAWING NO	4B77M372A	
PROJECT NO.	382026	
SHEET	M-3 1 OF 1	

Strangio and Associates
CIVIL & ENVIRONMENTAL ENGINEERS
1789 COTTLE AVE.
SAN JOSE, CA 95125

(408) 978-9604 FAX (408) 448-5284

3-7-96

Mr. Pablo Orozco, Project Manager
Operation Division, Facilities Department
Lawrence Berkeley Laboratory
1 Cyclotron Road
Berkeley, Ca. 94720

Ref: Certification of Containment and Tankage for PBR Authorization

Dear Mr. Orozco:

Based on my onsite visits and examination of the containment and tankage(DMP Waste Water Treatment System) located at Building 77 as well as design drawings I found the following conditions.

For the purposes of this certification the treatment system consists of the transfer tankage, pumps, piping, and containment of the units which transfer wastewater to the treatment system as well as the descrete treatment system and it containment.

The containment consists of coated concrete vaults of sufficient size to contain the volumes required under the containment quidelines. The vaults are located under an overhanging roofs, and all the areas are equipped with a fire suppression sprinkler system consisting of area sprinklers as well as duct sprinklers(where applicable).

The treatment area tanks are all constructed of fiberglass/epoxy with builtin earthquake restraining clips. They were fabricated and installed approximately 10 years ago, however they were never put into use. They appear to be in a like new condition and can be expected to have an extended service life. It would be prudent to carry out periodic inspections to be assured that there is no delamination, or exposed fibers that need to be recoated.

The attached stamped list constitute the tanks which are a part of this certification under the following regulations:

Title 22, Code of California Regulations(CCR):

Section 6626.175(c) Containment

The containment system as presently configured is suitably designed to contain and control leaks,spills,,and sprinkler flows.

Section 66265.192(a)(1) Design Standards
Meets the required design standards

Section 66265.192(a)(2) Hazardous Characteristics of Waste

The systems are compatible with the chemicals being treated.

Section 66265.192(a)(3) Corrosion Protection

Meets all regulatory requirements and should not be adversely affected in any way.

Section 66265.192(a)(4) Underground Protection

Appears to meet regulatory requirements based on the inspection.

Section 66265.192(a)(5) Foundation and Seismic Design

Appears to meet regulatory requirements based on the inspection.

Section 66265.193(c)(2) Compatibility, Strength, and Thickness

The structural integrity of the concrete containment structure appears to meet regulatory requirements based on the inspection.

Section 66265.193(c)(3) Leak Detection and Alarm

Appears to meet regulatory requirements based on inspection.

Section 66265.193(e)(2) Volume and Draining of Secondary Containment

Adequate volume is provided.

Section 66265.193(e)(2) Freedom from Gaps and Cracks in the Secondary Containment

Gaps and cracks previously noted have been repaired and the coating now meets the regulatory requirements.

I hereby certify that the referenced system and containment meets the requirements of Title 22.(See attached Tank List)

Yours Truly

William Strangio, D.Sc., P.E.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM STRANGIO
No. C21,832
CIVIL
STATE OF CALIFORNIA

TANKAGE IN MAIN CONTAINMENT

Tank Number		MAT.	CONDITION
5 - Chrome Treatment Tank	- 600 gal	FG	Good
6 - Neutralizing Tank	- 680 gal	"	"
7 - Flocculation Tank	- 230 gal	"	"
8 - Clarifier	- 3,300 gal	"	"
9 - Effluent Storage	- 2,000 gal	"	"
Total Volume in this area	- 6,810 gal		

TANKAGE IN FILTER AREA

10 - Backwash storage	- 1,500 gal	"	"
Filter	- 200 gal	Steel	New
Total volume in this area	- 1,700 gal		

TANKAGE IN ACID RINSE AREA

3 - Acid rinse storage	- 1,000 gal	FG	Good

TANKAGE IN CAUSTIC RINSE STORAGE

4 - Caustic rinse storage	- 1,000 gal	"	"

TANKAGE IN UHVF SHOP

ACID - Diliute Rinse	- 130 gal	Polypro	New
CAUSTIC - Dilute Rinse	- 130 gal	"	"
DI RINSE - Dilute Rinse	- 130 gal	"	"

	STORAGE GAL	AREA SF	SPRINKLER GALS(in 20 min)
MAIN CONTAINMENT AREA	5245	701	2103
BACKWASH STORAGE CON.	2623	117	351
ACID RINSE STOR. CON.	2480	111	333
CAUSTIC RINSE STOR. CON.	2241	100	300
UHVF SHOP CON	10790	1500	8500

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9-21-99

Mr. Lonnie Simonian Project Manager
Operation Division, Facilities Department
Lawrence Berkeley Laboratory
1 Cyclotron Road
Berkeley, Ca. 94720

Ref: Certification of Additional Tankage for PBR Authorization - Bldg.77

Dear Mr.Simonian:

Based on my onsite visit of 9-18-99, and a detailed examination of the four tanks not previously certified of the tankage which constitutes a portion of the DMP provided Waste Water Treatment System, located at Building 77, as well as a review of system drawings I found the following conditions.

For the purposes of this certification, the additional four tanks consists of: an existing, but not actively used tank which has been re-piped and equipped to perform an addition stage of Chrome Reduction, there by increasing the nominal treatment capacity. The second tank consists of an existing tank which was already in service(and previously certified) which has been modified by the addition of a settling cone and the addition of sludge removal piping through the tank wall. The third and fourth tanks, were the addition of two existing tanks(unused) to serve the purpose of providing more storage capacity as "overflow" tanks, thereby increasing the margin of safety for storage of wastewater flows.

It should be pointed out that when this Building was previously certified in March of 1996, the tankage mentioned above was included in that certification of containment and tankage, however all four tanks are being used for different purposes or have been modified in some way.

The attached stamped list constitute the tanks which are a part of this certification under the following regulations: Title 22, Code of California Regulations(CCR):

Section 66265.175(c) Containment - The containment system as presently configured is suitably designed to contain and control leaks, spills, and sprinkler flows.

Section 66265.192(a)(1) Design Standards - Meets the required design standards

Section 66265.192(a)(2) Hazardous Characteristics of Waste -The systems are compatible with the chemicals being treated.

Section 66265.192(a)(3) Corrosion Protection-Meets all regulatory requirements and should not be adversely affected in any way.

Section 66265.192(a)(4) Underground Protection - Appears to meet regulatory requirements based on the inspection.

Section 66265.192(a)(5) Foundation and Seismic Design - Appears to meet regulatory requirements based on the inspection.

Section 66265.192(k) Tank System Assessment - The tanks are described on the attached pages and comply with the information requested.

Section 66265.193(c)(2) Compatibility, Strength, and Thickness - The structural integrity of the concrete containment structure appears to meet regulatory requirements based on the inspection.

Section 66265.193(c)(3) Leak Detection and Alarm - Appears to meet regulatory requirements based on inspection.

Section 66265.193(e)(2) Volume and Draining of Secondary Containment - Adequate volume is provided.

Section 66265.193(e)(2) Freedom from Gaps and Cracks in the Secondary Containment - Gaps and cracks previously noted have been repaired and the coating now meets the regulatory requirements.

I hereby certify that the referenced system and containment meets the requirements of Title 22. (See attached Tank List)

Yours Truly

William Strangio, D.Sc., P.E.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM STRANGIO
No. C21,832
9-02
CIVIL
STATE OF CALIFORNIA

cc. Robert Fox

TANK CERTIFICATION INSPECTION REPORT
SEPTEMBER 1999

TANK NAME - Chrome Reactor Tank - T 5A

MANUFACTURER - Red Ewald Co.

COMPANY SERIAL NUMBER - #20842

NOMINAL CAPACITY - 660 gallons

DIMENSIONS - 58" dia. X 54" H to rim

YEAR of MANUF. - 1989

DESCRIPTION - The tank is a laminated fiberglass and epoxy resin open top cylindrical vertical tank, which is equipped with four(4) holdown clips. The nominal wall thickness is 1/2", with bottom edge banding of approximately 1" thickness where the holddown clips are located. The upper edge of the tank has a 2" wide rim, to which is attached a polypro sectional tank cover. Influent waste pipes and recirculation lines enter the tank through the upper cover. There is one(1) 4" diameter line leaving the side of the tank for connection to Tank 5 B. The tank exterior is painted grey and is labeled with colored labels of sufficient size. The manufacturer has attached a stainless steel identification plate to the tank. The tank is in excellent condition, with no evidence of delamination or degradation of any type.

Both the tank materials and the connecting piping are composed of materials which are impervious to long term exposures to the wastewater components and the treatment chemicals

The tank can be expected to have an extended service life of an additional 10 to 15 years, even though it is now 10 years old.

Periodic inspections(on a yearly basis) should be a standard practice. to determine the tanks condition and also the state of the piping connected to the tank(which is in like new condition).

The tank is located within the main secondary containment berm which houses most of the treatment system components. It is supported by and anchored to metal stands(which in turn are anchored to the base slab), which provides for gravity flow through the system to a post clarification holding tank. The secondary containment berm is equipped with sensors to detect liquid leaks.

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TANK NAME - Clarifier Tank MANUFACTURER - Red Ewald Co.

COMPANY SERIAL NUMBER - #20901 NOMINAL CAPACITY - 3300 gallons

DIMENSIONS - 107" dia. X 84" H to rim YEAR of MANUF. - 1989

DESCRIPTION - The tank is a laminated fiberglass and epoxy resin open top cylindrical vertical tank, which is equipped with eight(8) hold down clips. The nominal wall thickness is 3/4", with bottom edge banding of approximately 11/4" thickness where the holddown clips are located. Because of the height of the tank side wall, the tank restraints are anchored directly to the coated concrete base slab. The upper edge of the tank has a 3" wide rim from which the tanks outlet weir is suspended. Influent waste pipes and effluent pipes are attached to the tank walls at height of 40" from grade. There are two(2)3" diameter blind flanged outlets on opposite sides of the tank, and two(2) 6" diameter lines located at approximately 90 degree from each other which constitute the influent and effluent lines. In addition there are two(2") diameter sludge lines at the bottom edge of the tank. The tank exterior is painted grey and is labeled with colored labels of sufficient size. The manufacturer has attached a stainless steel identification plate to the tank. The tank is in excellent condition, with no evidence of delamination or degradation of any type. The tank can be expected to have an extended service life of an additional 10 to 15 years, even though it is now 10 years old.

Both the tank materials and the connecting piping are composed of materials which are impervious to long term exposures to the wastewater components and the treatment chemicals.

Just prior to the certification inspection a cone insert had been added to the interior of the tank to improve the removal of the settling sludge. The cone was fabricated of an epoxy/fiberglass laminate. It is expected that the cone shall have a service life identical to the tank.

Periodic inspections(on a yearly basis) should be a standard practice. to determine the tanks condition and also the state of the piping connected to the tank(which is presently in a like new condition).

TANK NAME - ACID RINSE OVERFLOW TANK T 18 MANUF. - Red Ewald Co.

COMPANY SERIAL NUMBER - #20837 NOMINAL CAPACITY - 730 gallons

DIMENSIONS - 60" dia. X 60" H to rim YEAR of MANUF. - 1989

DESCRIPTION - The tank is a laminated fiberglass and epoxy resin open top cylindrical vertical

REGISTERED PROFESSIONAL ENGINEER WILLIAM STRANGIO No. C21,832 9-02 CIVIL

tank, which is equipped with four(4) holdown clips, which hold the tank directly to the coated concrete base slab. The nominal wall thickness is 1/2", with bottom edge banding of approximately 1" thickness where the holdown clips are located. The upper edge of the tank has a 2" wide rim, to which is attached a polypro sectional tank cover. An Influent waste overflow line enters the tank through the upper cover. There is one(1) 1 1/2" diameter line leaving the side of the tank near the bottom for connection to the transfer pumps. The tank exterior is painted grey and is labeled with colored labels of sufficient size. The manufacturer has attached a stainless steel identification plate to the tank. The tank is in excellent condition, with no evidence of delamination or degradation of any type. The tank can be expected to have an extended service life of an additional 10 to 15 years, even though it is now 10 years old.

Both the tank materials and the connecting piping are composed of materials which are impervious to long term exposures to the wastewater components and the treatment chemicals

Periodic inspections(on a yearly basis) should be a standard practice. to determine the tanks condition and also the state of the piping connected to the tank(which is in a like new condition).

As described by its title the tank serves the purpose of containing any "overflows" beyond the capacity of the primary receiver tank. Both tanks are located inside their own secondary containment berm, which is equipped with liquid sensors, to detect spills of liquids into the secondary containment.

TANK NAME - CAUSTIC RINSE OVERFLOW TANK T 11 MANUF. - Red Ewald Co.

COMPANY SERIAL NUMBER - #20836 NOMINAL CAPACITY - 730 gallons

DIMENSIONS - 60" dia. X 60" H to rim YEAR of MANUF. - 1989

DESCRIPTION - The tank is a laminated fiberglass and epoxy resin open top cylindrical vertical tank, which is equipped with four(4) holdown clips, which hold the tank directly to the coated concrete base slab. The nominal wall thickness is 1/2", with bottom edge banding of approximately 1" thickness where the holdown clips are located. The upper edge of the tank has a 2" wide rim, to which is attached a polypro sectional tank cover. An Influent waste overflow line enters the tank through the upper cover. There is one(1) 1 1/2" diameter line leaving the side of the tank near the bottom for connection to the transfer pumps. The tank exterior is painted grey and is labeled with colored labels of sufficient size. The manufacturer has attached a stainless steel identification plate to the tank. The

REGISTERED PROFESSIONAL ENGINEER WILLIAM STRAMGIO No. C21,832 9-02

tank is in excellent condition, with no evidence of delamination or degradation of any type. The tank can be expected to have an extended service life of an additional 10 to 15 years, even though it is now 10 years old.

Both the tank materials and the connecting piping are composed of materials which are impervious to long term exposures to the wastewater components and the treatment chemicals

Periodic inspections(on a yearly basis) should be a standard practice. to determine the tanks condition and also the state of the piping connected to the tank(which is in a like new condition).

As described by its title the tank serves the purpose of containing any "overflows" beyond the capacity of the primary receiver tank. Both tanks are located inside their own secondary containment berm, which is equipped with liquid sensors, to detect spills of liquids into the secondary containment.

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS WASTE

ONSITE HAZARDOUS WASTE TREATMENT NOTIFICATION – UNIT PAGE

(One page and attachments per unit)

FACILITY ID#	1.	BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
		Lawrence Berkeley National Laboratory

I. TREATMENT UNIT

UNIT ID# 606.	UNIT TYPE/TIER 607.	NUMBER OF TANKS 608.	NUMBER OF CONTAINERS/ TREATMENT AREAS 609.
FTU 007	☐ a. CESQT ☐ b. CESW ☐ c. CA ☒ d. PBR ☐ e. CEL	4	4
UNIT NAME 610.		MONTHLY TREATMENT VOLUME 611.	UNIT OF MEASURE 612.
Building 67 Molecular Foundry FTU		8500	☐ a. Pounds ☒ b. Gallons

SPECIFIC WASTE TYPE TREATED (narrative) 613.

Inorganic acid and alkaline wastes.

TREATMENT PROCESS DESCRIPTION (narrative) 614.

Neutralization by pH adjustment. For a detailed process description see, "Process Description, Collection and Treatment of Acidic and Alkaline Waste, Molecular Foundry Nanofabrication Facility, November 29, 2007."

(NOTE: For each treatment unit, complete and attach the appropriate Waste and Treatment Process Combinations page.)

II. BASIS FOR NOT NEEDING FEDERAL PERMIT (Check all that apply) 615.

- ☐ a. The treated waste is not a hazardous waste under federal law (California-only waste).
- ☒ b. Treated in waste water treatment units (tanks) and discharged to a publicly owned treatment works (POTW)/sewering agency or under an NPDES permit.
- ☒ c. Treatment in elementary neutralization units.
- ☐ d. Treatment in a totally enclosed treatment facility.
- ☐ e. Federal conditionally exempt small quantity generator (generated 100 kg., approximately 27 gallons, or less of hazardous waste in a calendar month).
- ☐ f. Treatment in an accumulation tank or container within 90 days for over 1,000 kg./month generators and 180 or 270 days for generators of 100 to 1,000 kg./month.
- ☐ g. Recyclable materials are reclaimed to recover silver or other precious metals.
- ☐ h. Empty container rinsing and/or treatment.
- ☐ i. Other (specify below)

III. RESIDUALS MANAGEMENT DESCRIPTION (Check all that apply) 616.

- ☒ a. Discharge non-hazardous aqueous waste to POTW or sewer.
- ☐ b. Discharge non-hazardous aqueous waste under a NPDES permit.
- ☐ c. Dispose of non-hazardous solid waste residues at an offsite location.

Residual hazardous waste hauled offsite by a registered hauler.

- ☐ d. Offsite recycling
- ☐ e. Thermal treatment
- ☐ f. Disposal to land
- ☐ g. Further treatment
- ☐ h. Other method of disposal (describe below)

SECONDARY CONTAINMENT INSTALLATION DATE (If required) 617.

Onsite Hazardous Waste Treatment Notification – Unit
[(Formerly DTSC Form 1772A,B,C,D,L)]

Complete an Onsite Hazardous Waste Treatment Notification - Unit page and a Waste and Treatment Process Combinations page for each treatment unit operating at this facility. Commercial Laundries are not required to complete unit specific pages, provided that laundering is the only hazardous waste treatment activity conducted by the facility. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

1. FACILITY ID NUMBER - This space is for agency use only.
3. BUSINESS NAME - Enter the complete Facility Name.
606. UNIT ID NUMBER - Enter a unique number for each unit. All unit numbers must be clearly labeled on the plot plan/map.
607. UNIT TYPE / TIER - Check the appropriate box to indicate unit type under the Tiered Permitting program.
608. NUMBER OF TANKS - Enter the number of tanks used in the unit. ["Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.]
609. NUMBER OF CONTAINERS/TREATMENT AREAS - Enter the number of containers/container treatment areas used in the unit. ["Container" means any device that is open or closed, and portable in which a material can be stored, handled, treated, transported, disposed of, or recycled.] "Treatment Area" is a location set aside and used to treat waste in containers.
610. UNIT NAME - Enter the name of the treatment unit. A treatment unit is defined as a tank, a container, or a combination of tanks or tank systems and/or containers located together that are used in sequence to treat or accumulate one or more compatible hazardous waste streams. The devices are either plumbed together or otherwise linked so as to form one system.
611. MONTHLY TREATMENT VOLUME - Enter the estimated monthly total volume of hazardous waste treated in this unit. If the volume fluctuates significantly by month, enter the maximum volume treated in any month.
612. UNIT OF MEASURE - Check a box to indicate whether the treatment volume unit of measure is pounds or gallons.
613. SPECIFIC WASTE TYPE TREATED - Describe the specific waste type(s) treated (e.g. If the waste qualifies as an aqueous waste with metals or organics, indicate the specific metals or organics).
614. TREATMENT PROCESS DESCRIPTION - Describe the treatment process(es) used. Indicate if the activities are seasonal or periodic.
615. BASIS FOR NOT NEEDING FEDERAL PERMIT - Check the reason(s) that best describe why your onsite treatment unit does not need a federal hazardous waste permit. You must indicate at least one reason to prove your eligibility for the onsite treatment tiers. If you are unsure how these exemptions apply to your operation, contact your Certified Unified Program Agency (CUPA), the DTSC Regional Office closest to you, the U.S. EPA Region IX RCRA Information Line at (415) 744-2074, or the U.S. EPA RCRA Hotline at (800) 424-9346. The eight most common reasons for not needing a federal permit are listed on this form. There is also a space to specify any other reason for exemption and a supporting regulatory citation. The following terms are defined in 40 CFR §260.10:

    Wastewater Treatment Unit - A device which: (1) is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act, and (2) receives and treats or stores an influent wastewater that is a hazardous waste or that generates and accumulates a wastewater treatment sludge that is a hazardous waste or that treats or stores a wastewater treatment sludge which is a hazardous waste, and (3) meets the definition of tank or tank system.

    Elementary Neutralization Unit - A device which (1) is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic or they are listed only for this reason, and (2) meets the definition of tank, tank system, container, transport vehicle, or vessel.

    Totally Enclosed Treatment Facility - A facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment.

    NPDES Permit - A permit issued by a regional water board allowing discharge of waste to the environment under the National Pollutant Discharge Elimination System (NPDES).
616. RESIDUALS MANAGEMENT DESCRIPTION - Check the appropriate box(es) to describe how treatment residuals are managed. If box h. is checked, describe the "other" methods in the space provided.
617. SECONDARY CONTAINMENT INSTALLATION DATE - Enter the date the secondary containment was installed.

UNIFIED PROGRAM CONSOLIDATED FORM
ONSITE TIERED PERMITTING
PERMIT BY RULE (PBR) PAGE
WASTE AND TREATMENT PROCESS COMBINATIONS

(One page per treatment unit. Check all that apply)

606. UNIT ID# FTU 007	1. Facility ID#	Page 34 of 45

630.

1. **Aqueous wastes containing hexavalent chromium may be treated by the following process:**
   - ☐ a. Reduction of hexavalent chromium to trivalent chromium with sodium bisulfite, sodium metabisulfite, sodium thiosulfate, ferrous sulfate, ferrous sulfide or sulfur dioxide provided both pH and addition of the reducing agent are automatically controlled.

2. **Aqueous wastes containing metals listed in Title 22, CCR, Section 66261.24 (a)(2) and/or fluoride salts may be treated by the following technologies:**
   - ☐ a. pH adjustment or neutralization.
   - ☐ b. Precipitation or crystallization.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.
   - ☐ d. Ion exchange.
   - ☐ e. Reverse osmosis.
   - ☐ f. Metallic replacement.
   - ☐ g. Plating the metal onto an electrode.
   - ☐ h. Electrodialysis
   - ☐ i. Electrowinning or electrolytic recovery
   - ☐ j. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ k. Evaporation.
   - ☐ l. Adsorption

3. **Aqueous wastes with total organic carbon less than 10% as measured by EPA Method 9060 and less than 1% total volatile organic compounds as measured by EPA Method 8240 may be treated by the following technologies::**
   - ☐ a. Phase separation by filtration, centrifugation or gravity settling, but excluding super critical fluid extraction.
   - ☐ b. Adsorption.
   - ☐ c. Distillation.
   - ☐ d. Biological processes conducted in tanks or containers and utilizing naturally occurring microorganisms.
   - ☐ e. Photodegradation using ultraviolet light, with or without the addition of hydrogen peroxide or ozone, provided the treatment is conducted in an enclosed system.
   - ☐ f. Air stripping or steam stripping.

4. **Sludges, dusts, solid metal objects and metal workings which contain or are contaminated with metals listed in Title 22, CCR, Section 66261.24 (a)(2) and/or fluoride salts may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Physical processes which change only the physical properties of the waste such as grinding, shredding, crushing or compacting.
   - ☐ c. Drying to remove water.
   - ☐ d. Separation based on differences in physical properties such as size, magnetism or density.

5. **Alum, gypsum, lime, sulfur or phosphate sludges may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Drying to remove water.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.

6. **Wastes identified in Title 22, CCR, Section 66261.120, that meet the criteria and requirements for special waste classification in Section 66261.122 may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Drying to remove water.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.
   - ☐ d. Screening to separate components based on size.
   - ☐ e. Separation based on differences in physical properties such as size, magnetism or density.

7. **Wastes, except asbestos, which have been classified by the Department as special wastes pursuant to Title 22, CCR, Section 66261.124, may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Drying to remove water.
   - ☐ c. Phase separation by filtration, centrifugation or gravity settling.
   - ☐ d. Magnetic separation.

8. **Inorganic acid or alkaline wastes may be treated by the following technology:**
   - ☒ a. pH adjustment or neutralization.

9. **Soils contaminated with metals listed in Title 22, CCR, Section 66261.24(a)(2), (Persistent and Bioaccumulative Toxic Substances) may be treated by the following technologies:**
   - ☐ a. Chemical stabilization using silicates and/or cementitious types of reactions.
   - ☐ b. Screening to separate components based on size.
   - ☐ c. Magnetic separation.

10. **Used oil, unrefined oil waste, mixed oil, oil mixed with water and oil/water separation sludges may be treated by the following technologies:**
    - ☐ a. Phase separation by filtration, centrifugation or gravity settling, but excluding super critical fluid extraction.
    - ☐ b. Distillation.
    - ☐ c. Neutralization.
    - ☐ d. Separation based on differences in physical properties such as size, magnetism or density.
    - ☐ e. Reverse osmosis.
    - ☐ f. Biological processes conducted in tanks or containers and utilizing naturally occurring microorganisms.

11. **Containers of 110 gallons or less capacity which are not constructed of wood, paper, cardboard, fabric, or any other similar absorptive material, which have been emptied as specified in Title 40 of the Code of Federal Regulations, section 261.7 or inner liners removed from empty containers that once held hazardous waste or hazardous material and which are not excluded from regulation may be treated by the following technologies provided the treated containers and rinseate are managed in compliance with applicable requirements.**
    - ☐ a. Rinsing with a suitable liquid capable of dissolving or removing the hazardous constituents which the container held.
    - ☐ b. Physical processes such as crushing, shredding, grinding or puncturing, that change only the physical properties of the container or inner liner, provided the container or inner liner is first rinsed and the rinseate is removed from the container or inner liner.

12. **Multi-component resins may be treated by the following process:**
    - ☐ a. Mixing the resin components in accordance with the manufacturer's instructions.

13. **A waste stream technology combination certified by the Department pursuant to Section 25200.1.5 of the Health and Safety Code as appropriate for authorization under Permit by Rule.**
    - ☐ Certified Technology Number: _____

Waste and Treatment Process Combinations Form PBR Instructions
(Formerly DTSC Form 1772D)

This Waste and Treatment Process Combinations page lists those waste and treatment combinations certified by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code (H&SC) §25200.1.5 for authorization under the Permit by Rule (PBR) tier. (Note: Reactive and extremely hazardous wastes are not allowed to be treated under this tier.)

Complete a separate Waste and Treatment Process Combinations page for each unit. Please number all pages of your submittal. (Note: Numbering of these instructions follows the UPCF data element numbers on the form.)

606. UNIT ID NUMBER - Enter the unit ID number (same as item 606 from the Onsite Hazardous Waste Treatment Notification - Unit form).

1. FACILITY ID NUMBER - This space is for agency use only.

630. WASTE AND TREATMENT PROCESS COMBINATIONS (PBR) - Use this page only for a PBR unit. Check the appropriate boxes to indicate the waste and treatment process(es) that pertain to the unit. If the process is a technology certified by DTSC, enter the Certified Technology Number (Cert. #). Certified technologies appropriate for authorization, and the eligible tiers, are listed below.

CERTIFIED TECHNOLOGIES

DTSC is authorized to certify hazardous waste technologies. Appropriate certified technologies may be eligible for the CE, CA or PBR onsite treatment tiers. As of April 1, 1999, there is one certified technology for these tiers. The certification is for aldehyde treatment processes and is eligible for the CESW tier. The approved technology is:

Technology	Vendor	Cert. #	Effective Date	Tier	Description
Neutralex	Scigen 333 East Gardena Blvd. Gardena, CA 90248	97-01-0024	629/97 (expires 6/29/00)	CESW	Batch treatment for 10 percent Formalin generated by medical, educational, and laboratory facilities. Chemically treats in a provided 8 liter vessel. After testing, allows for disposal to sanitary sewer.

A copy of published Certification Statements and additional updates may be obtained by contacting DTSC at (916) 322-3670 or from the Cal/EPA on-line Bulletin Board via modem at (916) 322-5041.

Process Description
Collection and Treatment of Acidic and Alkaline Waste
Molecular Foundry Nanofabrication Facility
November 29, 2007

The waste collection and treatment system for the Molecular Foundry will process acid and alkaline waste from the wet process stations located on the second level, Nanofabrication Facility. In general, the wet process stations are used for etching and rinsing wafers. Etching removes the portions of the wafer that are not needed for that application. Wafers will vary in size from 4" to 8" in diameter, and multiple wafers may be handled in wafer "carriers" that stack the wafers vertically. The wafers come to the wet process station after having been coated, exposed and developed. Etching consists of placing the wafer into the container (tank, beaker or watch glass) of etchant, allowing the etchant to erode the substrate, and then stopping the operation by rinsing in water. Rinsing consists of filling the rinse tank with water, draining it, and refilling and draining multiple times, each time the rinse water contains less etchant (typically three cycles are used).

Periodically the etchant will need to be changed, which consists of removing the acid or alkaline etchant from the tank/beaker/watch glass using a water aspirator, and then refilling with fresh etchant.

Initially there will be two wet process stations connected to the collection and treatment system – one in which acidic etchants are used, and one in which alkaline etchants are used. The acidic etchants station contains two tanks in which the etchant is placed, and two separate rinse tanks. The alkaline etchants station contains one tank in which the etchant is placed, and one separate rinse tank. In addition, wet process stations include open benchtops in which small procedures may take place in beaker or watch-glass size quantities, and has an open lab sink as well.

Acidic etchants that may be used include but are not limited to the following:

- Hydrochloric acid (concentrated) (pKa = -7)
- Hydrofluoric acid (concentrated or 10% as Buffered Oxide Etchant) (pKa = 3.2)
- Nitric acid (concentrated) (pKa = -2)
- Phosphoric acid (concentrated) (pKa = 2.15)
- Piranha etch [3:1 concentrated sulfuric acid : hydrogen peroxide (typically 30%) solution]

Alkaline etchants that may be used include but are not limited to the following:

- Potassium hydroxide (approximately 40%, ~7.13 M) (pKb = <<0)

Details

Etch tanks, beakers and watch glasses are emptied using a water aspirator connected to a "stinger". The stinger is inserted into the container, and the vacuum created by the water aspirator lifts the etchant from the container, dissolves it into the running water, and sends the diluted etchant to the collection system.

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One Cyclotron Road, BLDG 85B0198 |Berkeley, California 94720-8282 |Tel: 510.486.7327 |Fax: 510.486.6603

The dilution ratio is a minimum 6:1 water:etchant, and can be configured higher[1]. Fresh water flush follows the etchant down the collection system.

Water rinses from the rinse cycle are sent directly to the collection system from a drain at the bottom of the rinse tank.

All connections to the collection system are controlled by valves. The aspiration, flush, and rinse cycles will be automated by controllers in the wet process stations, and the wet process stations will be interlocked so that only one station can deliver acid or alkaline waste to the collection system at a time. This will assure that the collection system has been thoroughly flushed so that potentially incompatible reactions do not occur within the collection system. In addition, these controllers will be programmed to prevent any tank dump or rinse cycle if the high level switch on the waste treatment system influent surge tank is activated.

Quantities and volumes represent maximum volumes:

- Volume of etch tank with a rinse insert: 9.5" D x 7.25" L x 8" W = .319 cubic feet = 2.39 gallons.
- Aspiration: assume water:etchant ratio of 6:1
- Post-aspiration flush: 3 pulses of 30 seconds @ 2.0 gpm, each followed by 40 seconds gravity flow, total volume = 1.5 minutes x 2.0 gpm = 3.0 gallons.
- Rinse: assume rinse tank size identical to etch tank, 3 rinses @ 2.39 gal/rinse = 7.2 gal
- Etchant dumps: assume 2/day acid, 1/day alkaline per bench, plus miscellaneous beakers of smaller quantities
- Rinse cycles: assume 4/day per bench (multiple batches can use the same etchant)
- Sink water: assume short duration, small quantity, deminimus relative to the programmed process flow.

Daily Average flow:

Acid: 2.39 gal x 7 (aspiration dilution) x 2/day x 1 bench =	33.5 gal
Alkali: 2.39 gal x 7 (aspiration dilution) x 1/day x 1 bench =	16.7 gal
Flush: (3.0 gal x 2/day) + (3.0 gal x 1/day) =	9.0 gal
Rinse: 7.2 gal x 4/day/bench x 2 benches =	57.4 gal
Total	116.6 gal

Average inflow (8-hour day) = 116.6 gal/480 min = 0.243 gpm

Hourly Peak Flow: Assume that in the peak hour the following occurs:

Two acid etches, each followed by a rinse cycle	
7.2 gal x 2 =	14.4 gal
One acid tank dump followed by a flush cycle	
(2.39 x 7) + 3.0	19.7 gal
One alkali etch followed by a rinse cycle	

[1] The 6:1 ratio has been assumed in these calculations as it is conservative. In all cases analyzed, a higher ratio will result in safer conditions.

7.2 x 1 = 7.2 gal

One alkali tank dump followed by a flush cycle

(2.39 x 7) + 3.0 19.7 gal

61.0 gal

Hourly process capability: 60 min x 5 gpm = 300 gal exceeds peak inflow.

Influent pH

Influent pH will be the pH of the aspirated tank dump, considering the flush. Minimum influent pH will be for hydrochloric and nitric acids (since pKa < 0, assume complete dissociation; phosphoric and hydrofluoric (especially buffered HF) are weaker acids). Maximum influent pH will be for 40% KOH solution.

Nitric: $HNO_3 \rightarrow H^+ + NO_3^-$ Reagent grade nitric acid is approx. 70% w/v

- D = 1.40 g/ml
- 1.40 g/ml x 0.70 = 0.980 g HNO3/ml
- 0.980 g/ml x 1000 ml/L x 1 mole/63.01 g = 15.56 mole/L
- At 6:1 dilution, conc = 2.22 mol/L (Note: this translates to 10 % w/v)
- Assume [HCl] ~ [H+] and pH = -log[H+]
- [H+] = 2.2, pH ~ 0

Hydrochloric: $HCl \rightarrow H^+ + Cl^-$ Reagent grade hydrochloric acid is approx. 37% w/v

- D = 1.19 g/ml
- 1.19 g/ml x 0.37 = 0.440 g HCl/ml
- 0.440 g/ml x 1000 ml/L x 1 mole/36.465 g = 12.07 mol/L
- At 6:1 dilution, conc = 1.7 mole/L
- Assume [HCl] ~ [H+] and pH = -log[H+]
- [H+] = 1.7, pH ~ 0

Potassium Hydroxide: $KOH \rightarrow K^+ + OH^-$

- 40% KOH = 400 g KOH/L
- 400 g/L x 1 mole/56.095 g = 7.131 mol/L
- At 6:1 dilution, conc = 1.02 mole/L
- Assume [KOH] ~ [OH^-], pOH = -log[OH^-] and pH = 14 - p[OH]
- [OH^-] = 1.02, pOH ~ 0, pH ~ 14

Temperature limitations

Influent temperature

Worst case is Pirhana etch @ 120°C

- Assume etch bath = 120°C = 393°K = 248°F
- Assume aspiration water = 13°C = 286°K = 55°F
- Average temperature is [(6 x 286) + 393]/7 = 301°K = 28.3°C = 83°F
- Assume water flush = 13°C = 286°K = 55°F

Temperature rise in influent surge tank

Lawrence Berkeley National Laboratory
One Cyclotron Road, BLDG 85B0198 |Berkeley, California 94720-8282 |Tel: 510.486.7327 |Fax: 510.486.6603

The worst case reasonable scenario is a discharge of Piranha solution (H_2SO_4/H_2O_2 3:1 acid) with two alkali (assume KOH) discharges and three flush cycles (flush after each discharge). A second but more likely scenario is a discharge of two HCL solutions and one discharge of a KOH solution with three flush cycles (flush after each discharge).

Assumptions that have been made in these calculations:

- The influent surge tank contains only product and flush water, no rinse (dilute) water;
- The influent surge tank begins at a temperature of approx. 72°F (22°C, 295°K);
- There is no heat lost through the wall of the influent surge tank during any neutralization reaction; all heat generated is absorbed by the liquid;
- The molar enthalpy of neutralization for a strong acid is -58.1 kJ/mole of hydrogen ion and 1kcal = 4.184kJ; and
- The specific heat of all liquids is assumed to be the same as pure water, ie, 1°C-L/kcal. The difference in specific heat between pure water and the dilute solutions considered here is deminimus.

1. One discharge of Piranha solution (H_2SO_4/H_2O_2 3:1 acid) with two alkali (assume KOH) discharges and three flush cycles (flush after each discharge).

   - Commercial H_2SO_4 is 18M (or 36N); a 3:1 mixture equals 13.5 M H_2SO_4. When discharged at 6:1 aspiration, H_2SO_4 concentration equals 1.93 M.
   - 16.7 gal (63.2 L) of 1.93 M H_2SO_4 → 122 moles H_2SO_4 → 244 moles H^+
   - 33.5 gal (126.8 L) of 1.02M KOH → 129 moles KOH
     - Heat of neutralization is limited by 129 moles of KOH; 57.5 moles of H_2SO_4 remain unneutralized
     - Followed by 3.0 gal (11.4 L) clean water flush/discharge = 34.1 L
   - 129 moles x -58.1 kJ/mole x 1 kcal/4.184 kJ = 1791 kcal liberated
   - Resultant mixture temperature without consideration of reaction heat is
     - [(63.2 L x 301°K)+(126.8 L x 295°K)+(34.1 L x 286°K)]/224.1 L = 295°K = 71.9°F
   - Reaction heat results in a temperature rise of
     - 1791 kcal x 1°C-L/kcal x 1.8 °F/°C x 1/224.1 L = <u>17.0°F</u>

   This scenario would result in a net concentration of unneutralized H_2SO_4 *acid of 0.26 moles/L at a temperature of approximately (71.9+17.0)= 88.9°F. Per the IPLEX Chemical Resistance Guide, polypropylene (surge tank walls are ½" polypropylene) shows high resistance at 140°F to 37% (12M) hydrochloric acid, 85% (14.7M) phosphoric acid, 10% (1.9M) sulfuric acid, and limited resistance to 20% (4.4M) nitric acid. Resistance to the much more dilute nitric acid is anticipated to be superior to that of the more concentrated form (this is confirmed by other chemical resistance charts). The chemical resistance of polypropylene exceeds that required by the resulting unneutralized* H_2SO_4 *acid.*

2. The more typical scenario is two discharges of HCL solutions and one discharge of a KOH solution with three flush cycles (flush after each discharge).

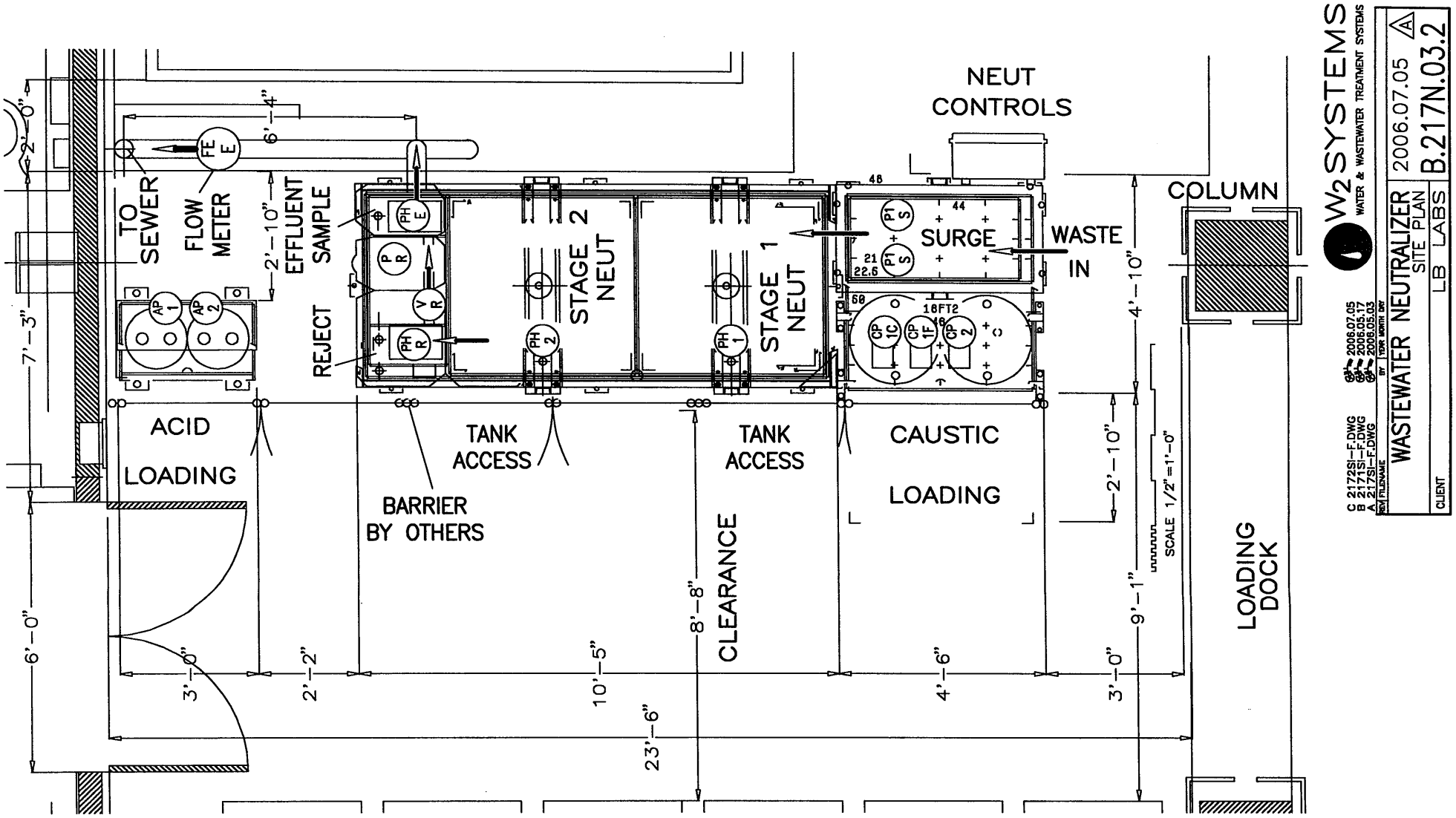
   - 126.8 L of 2M HCl → 253.6 moles HCl
   - 63.2 L of 1.02M KOH → 64.5 moles KOH
     - Heat of neutralization is limited by 64.5 moles of KOH; 189.1 moles of HCl remain unneutralized
     - Followed by 3.0 gal (11.4 L) clean water flush/discharge = 34.1 L
   - 64.5 moles x -58.1 kJ/moles x 1 kcal/4.184 kJ = 896 kcal liberated
   - Resultant mixture temperature without consideration of reaction heat is
     - [(126.8 x 295°K) + (63.2 x 295 °K) + (34.1 x 286°K)]/224.1 = 294°K = 68.9°F
   - Reaction heat results in a temperature rise of
     - 896 kcal x 1°C-L/kcal x 1.8 °F/°C x 1/224.1 L = 7.2°F

This scenario would result in a net concentration of unneutralized HCl acid of 0.84 moles/L at a temperature of approximately (68.9+7.2)=76.1°F. Per the IPLEX Chemical Resistance Guide, polypropylene shows high resistance at 140°F to 37% (12M) hydrochloric acid.

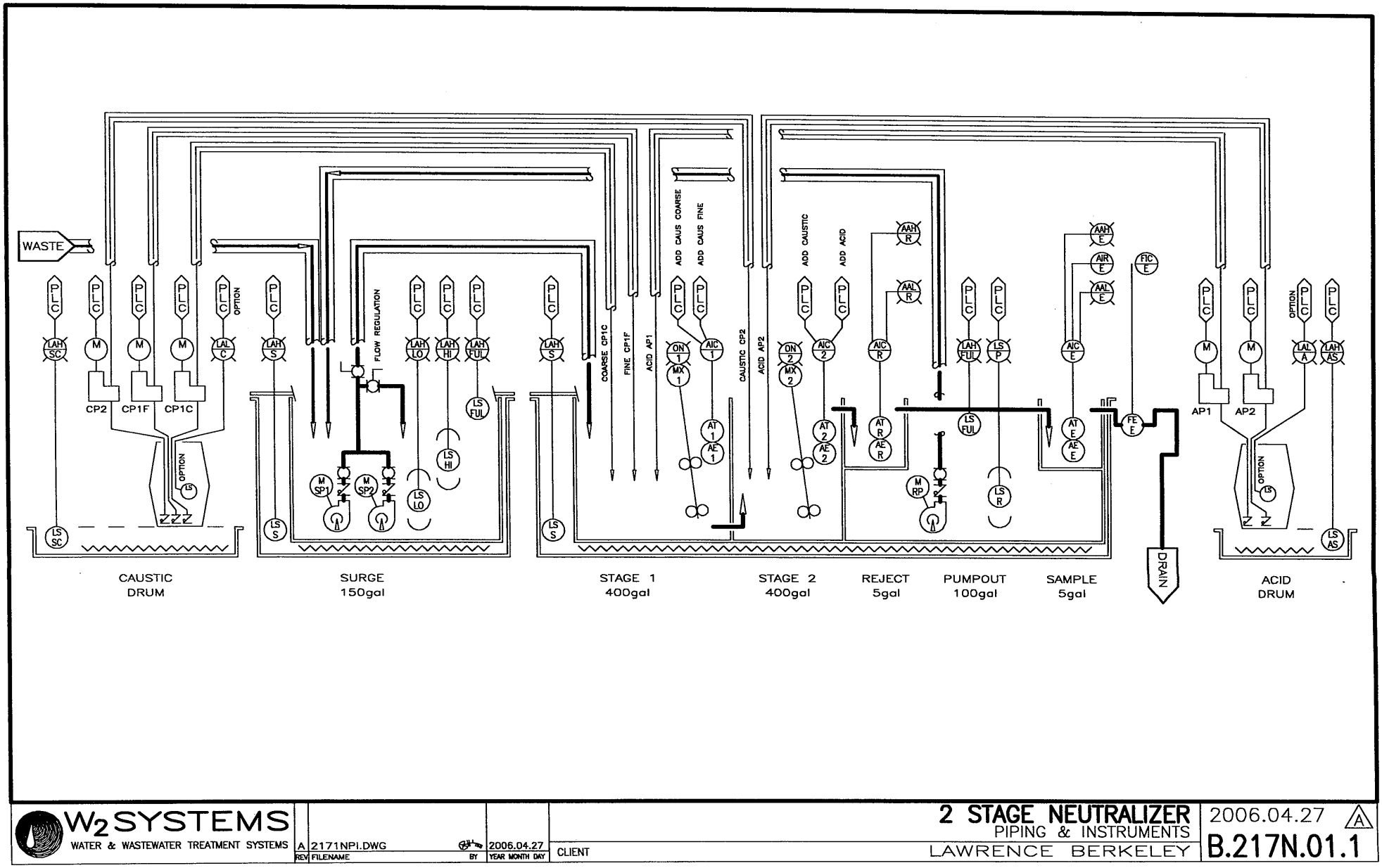
Reference:	John Seabury P.E. CIH, "Preliminary Process Description, Collection and Treatment of Acidic and Alkaline Waste, Molecular Foundry Nanofabrication Facility V.1.6 August 23, 2005"

Lawrence Berkeley National Laboratory
One Cyclotron Road, BLDG 85B0198 |Berkeley, California 94720-8282 |Tel: 510.486.7327 |Fax: 510.486.6603

5217 SURGE AND NEUTRALIZER



5217 SURGE AND NEUTRALIZER



W2 SYSTEMS
WATER & WASTEWATER TREATMENT SYSTEMS

REV	FILENAME	BY	YEAR MONTH DAY	CLIENT
A	2171NPI.DWG		2006.04.27	

2 STAGE NEUTRALIZER
PIPING & INSTRUMENTS
LAWRENCE BERKELEY

2006.04.27 A
B.217N.01.1

ENSR | AECOM

Hazardous Waste Tank Certification – FTU-007
Nanofabrication Wastewater Treatment System
Lawrence Berkeley National Laboratory
Berkeley, California

Summary: The caustic wastewater treatment system for the Nanofabrication Laboratory waste (designated FTU-007) operated by Lawrence Berkeley National Laboratory (the Berkeley Lab) in Berkeley, California, meets the applicable tank standards for storage and elementary neutralization of hazardous wastes per Title 22 of the California Code of Regulations, sections 66265.190 et seq.

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Steven J. Tighe, P.E.
Chemical Engineer No. CH5980
Senior Project Manager
ENSR Corporation

Date: 7/31/07

REGISTERED PROFESSIONAL ENGINEER
STEVEN J. TIGHE
CH 5980
EXP. 9/30/08
CHEMICAL
STATE OF CALIFORNIA

Certification Valid Through: July 31, 2012

Lawrence Berkeley National Laboratory
Prior Enforcement History

Notice of Violation#: A50801
Effective date of Compliance and Settlement Agreement: June 30, 2009
Agency: State of California
Bay Area Air Quality District
939 Ellis Street
San Francisco, CA 94109

Summary:

On June 30, 2009, Lawrence Berkeley National Laboratory (Berkeley Lab) received an administrative penalty of $300 from the State of California's Bay Area Air Quality Management District for failure to meet the April 1, 2009 deadline for the Phase II EVR Upgrade in violation of District Regulation 8-7-302. On February 11, 2009, the Berkeley Lab applied for an exemption to operate exempt from Phase II vapor recovery requirements. This exemption was approved on March 6, 2009 by the Bay Area Air Quality District. However, existing Phase II vapor recovery equipment had to be replaced with non-vapor recovery equipment by the April 1, 2009 deadline and the Berkeley Lab was unable to have the non-vapor recovery equipment installed by this date and subsequently entered into this compliance agreement.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT
SINCE 1955

OFFICE OF DISTRICT COUNSEL
Phone: (415) 749-4920
Fax: (415) 749-5103

July 13, 2009

Ned Borglin
Environment, Health & Safety Division
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 85B0198
Berkeley, CA 94720

Re: Phase II EVR Upgrade Compliance Agreement

Dear Ned Borglin:

Enclosed please find a copy of the fully executed Compliance and Settlement Agreement between the Bay Area Air Quality Management District and you providing you an extension of the deadline to complete your installation of the Phase II enhanced vapor recovery (EVR) system at your facility.

Also enclosed is the notice of violation issued by the District for not having met the April 1, 2009 deadline, in violation of District Regulation 8-7-302.1. The District has received and appreciates your timely submission of your civil monetary penalty payment in full settlement of the violation.

We are also enclosing for your information a copy of a blank District-approved form for the monthly report that you must fill out and submit each month to keep the District apprised of your progress toward completion of the upgrade. Paragraph 5 of your Agreement specifies the deadline to submit your first monthly report. We suggest you make copies of this blank form for use over the duration of your Agreement. You may also download additional copies of the form at: http://www.baaqmd.gov/enf/evr_phase_ii_monthly_progress_report_4-15-09.pdf.

Thank you for your cooperation and efforts to complete this important project.

Very truly yours,

Mutual Settlement Staff
Legal Division

Enclosures

06-29-09P12:08 RCVD

COMPLIANCE AND SETTLEMENT AGREEMENT BETWEEN THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT AND THE UNIVERSITY OF CALIFORNIA, AS MANAGEMENT AND OPERATING CONTRACTOR FOR LAWRENCE BERKELEY NATIONAL LABORATORY

This Compliance and Settlement Agreement (the "Agreement") is entered into as of the date of execution by and between the University of California, as management and operating contractor for the Lawrence Berkeley National Laboratory ("UC LBNL") and the BAY AREA AIR QUALITY MANAGEMENT DISTRICT ("DISTRICT"), hereinafter collectively referred to as the "Parties."

RECITALS

WHEREAS, the DISTRICT is the regional agency with primary responsibility for the control of air pollution from stationary sources, such as gasoline dispensing facilities ("GDFs"), in the San Francisco Bay Area air basin; and

WHEREAS, pursuant to its responsibility, the DISTRICT issues permits to operate GDFs and regulates GDFs located within the DISTRICT's jurisdiction; and

WHEREAS, GDFs are a source of volatile organic compounds ("VOCs") in the form of gasoline vapors; and

WHEREAS, gasoline contains over two hundred hydrocarbon compounds, one of which is benzene, a known carcinogen; and

WHEREAS, VOCs are organic compounds that evaporate quickly into the atmosphere and that, reacting with nitrogen oxides (NOx) in sunlight, create ground level ozone; and

WHEREAS, ground level ozone is the primary component of photochemical smog, and smog aggravates respiratory diseases, reduces visibility, causes eye irritation, and damages vegetation; and

WHEREAS, according to the United States Environmental Protection Agency ("EPA"), "[e]xposure to ozone for 6 to 7 hours, even at relatively low concentrations, significantly reduces lung function and induces respiratory inflammation in normal, healthy people during periods of moderate exercise," (EPA, "Ozone (O3)," AIRTrends 1995 Summary, updated October 13, 2006); and

WHEREAS, UC LBNL, operates a GDF located at One Cyclotron Road, Berkeley, California, Site No. C6134 ("Facility"); and

WHEREAS, the Facility includes one 10,000-gallon underground storage tank and one dispensing nozzle and has an annual gasoline throughput of less than six hundred thousand gallons; and

Lawrence Berkeley National Laboratory

Permit by Rule Annual Report

for

Building 67 FTU 007
Building 77 FTU 006
Building 25 FTU 002

Calendar Year 2010

Prepared by: _____

Robert Fox, Environmental Specialist,
EH&S Division

Date: 3/17/11

Introduction:

On June 28, 2005, the City of Berkeley requested that the Lawrence Berkeley National Laboratory (Berkeley Lab) supply a report for its two Permit by Rule fixed treatment units with the annual Hazardous Materials Business Plan submission. This was the first request that the Berkeley Lab had received from the City of Berkeley to supply a Permit by Rule report as described in California Code of Regulations, Title 22, Section 67450.3(c)(10). According to this section of Code, this report is only required when specifically requested by the CUPA.

Below is the reporting information for three Permit by Rule Fixed Treatment Units (FTU) for FTUs located at Building 77, Building 25, and Building 67. The Building 67 FTU came on line in December 2008. From September 20, 2010 through October 1, 2010 the Building 25 FTU went through closure. All remaining chemicals and wastes were removed. The treatment system – tanks and above ground piping – were decontaminated, cut into manageable pieces, and removed. A Closure Report was submitted to the City of Berkeley on January 24, 2011.

22 CCR 67450.3(c)(10)(A) – Serial numbers of FTUs:	Building 67, FTU 007; Building 77, FTU 006; and Building 25, FTU 002
22 CCR 67450.3(c)(10)(B) – Mailing Address:	Lawrence Berkeley National Laboratory One Cyclotron Road, Mail Stop 85B0198 Berkeley, CA 94720 Attention: Mr. Robert Fox
22 CCR 67450.3(c)(10)(C)- Name, title & telephone number of each FTU contact:	Building 67, FTU 007 Contact: Erin Wood, Nanofabrication Facility Clean Room Technician, (510) 486-5907 Building 77, FTU 006 Contact: Ed Tully, Ultra High Vacuum Cleaning Facility Supervisor, (510) 486-5907 Building 25, FTU 002 Contact: Ed Tully, Ultra High Vacuum Cleaning Facility Supervisor, (510) 486-5907
22 CCR 67450.3(c)(10)(D) – Name and address of facility:	Lawrence Berkeley National Laboratory One Cyclotron Road Berkeley, CA 94720
22 CCR 67450.3(c)(10)(E) – Facility ID number:	US EPA ID Number: CA 4890008986

22 CCR 67450.3(c)(10)(F)- Number of days each FTU was operated:	Building 67, FTU 007 Operated 40 days in calendar year 2010. Building 77, FTU 006 Operated 88 days in calendar year 2010. Building 25, FTU 002 Operated 9 days in calendar year 2010.
22 CCR 67450.3(c)(10)(G) – Quantity of hazardous waste treated by each FTU:	Building 67, FTU 007 16,007 gallons of aqueous acidic or alkaline waste were treated in calendar year 2010. Building 77, FTU 006 19,366 gallons of aqueous acidic waste containing metals and aqueous alkaline waste were treated in calendar year 2010. Building 25, FTU 002 4,272 gallons of aqueous acidic waste containing metals were treated in calendar year 2010.
22 CCR 67450.3(c)(10)(H) – The composition and hazardous characteristics of the influent hazardous wastes:	Building 67, FTU 007 Aqueous inorganic acid and alkaline wastes hazardous due to pH. Building 77, FTU 006 Aqueous waste containing metals listed in 22CCR 66261.24(a)(2), hazardous due to metals content and pH. Building 25, FTU 002 Aqueous waste containing metals listed in 22CCR 66261.24(a)(2), hazardous due to metals content and pH.
22 CCR 67450.3(c)(10)(I) – The treatment method(s) used for each hazardous waste treated by each FTU:	Building 67, FTU 007 The treatment method used includes: neutralization by pH adjustment. Building 77, FTU 006 The treatment methods used include: metals precipitation, pH adjustment, sludge dewatering, and sludge drying. Building 25, FTU 002 The treatment methods used include: metals precipitation, pH adjustment, and sludge dewatering.

22 CCR 67450.3(c)(10)(J) – The quantity, composition and hazardous characteristic(s) of any treatment effluent or residual discharged from each FTU to a POTW:	Building 67, FTU 007 16,007 gallons of aqueous acidic or alkaline waste were treated in calendar year 2010. Building 77, FTU 006 19,366 gallons of aqueous acidic waste containing metals and aqueous alkaline waste were treated in calendar year 2010. Building 25, FTU 002 4,272 gallons of aqueous acidic waste containing metals were treated in calendar year 2010. Note: All discharges met East Bay Municipal Utility District permit discharge limits.
22 CCR 67450.3(c)(10)(K) - The quantity, composition and hazardous characteristic(s) and disposition of any treatment effluent or residual that was not discharged to a POTW:	Building 67, FTU All effluent was discharged to the POTW, East Bay Municipal Utility District. Building 77, FTU 006 All effluent was discharged to the POTW, East Bay Municipal Utility District. No sludge was disposed of in 2010. Building 25, FTU 002 <u>Operations:</u> 10.07 Kg – dewatered sludge containing metals. (reference: Container # C168809, HWHF receipt date: 6/7/10) 10.98 Kg – filter bags and tubes with traces of heavy metals. (reference: Container #C165226, HWHF receipt date: 1/27/10) <u>Closure:</u> 5180 lbs – Metal for recycling. (reference: Bill of Lading #48873-SIMS-01, date: 10/1/10) 1880 lbs – Non-regulated trash (construction debris & plastic). (reference: Waste Tracking #48873-rep-01, date: 10/1/10) 385 gallons – Hazardous Waste N.O.S. (water contaminated with lead) (reference: manifest tracking #003899834JJK, date 11/2/10) 9.08 Kg – Filter bags and tubes with trace of heavy metals. (reference: container #C171727, HWHF receipt date: 9/30/10) 37.85 Liters – GW-18A Flocculant. (reference: container #C171729, HWHF receipt date: 9/30/10) 18.93 Liters – 95% Sodium Hydroxide balance water. (reference: container #C171730, HWHF receipt date: 9/30/11)

Potter Street

March 2011

Lawrence Berkeley National Laboratory

#1 Cyclotron Road

Berkeley, CA 94720

March 17, 2011
DIR-11-011

Mr. Nabil Al-Hadithy
City of Berkeley
Toxics Management Division
2118 Milvia Street
Berkeley, CA 94704

Dear Mr. Al-Hadithy:

We are enclosing our annual submittal of Lawrence Berkeley National Laboratory's (LBNL's) "Hazardous Materials Business Plan" to cover activities in the leased space at 717 Potter Street (Building 977). During most of 2010, LBNL occupies approximately 75% of the assigned space (~72,000 square feet) within Building 977 consisting of research laboratories and support space.

Please note the following with respect to the enclosed documents:

LBNL is a federal facility owned by the Department of Energy (DOE). In certain areas of environmental regulation, Congress has directed federal facilities to comply with state and local requirements and pay reasonable service charges. In the area of hazardous materials planning and reporting, however, while DOE facilities must comply with federal Emergency Planning and Community Right-to-Know Act (EPCRA) requirements pursuant to an Executive Order, no waiver of federal sovereign immunity from state and local regulation has occurred. Despite the lack of a sovereign immunity waiver, LBNL voluntarily complies with state requirements for hazardous materials planning and reporting. The attached report provides the information required by the state regulations.

(1) Hazardous materials are reported if they meet or exceed state thresholds, aggregated by building.

(2) Radioactive materials reporting is consistent with state requirements. State requirements provide for reporting of radioactive materials that are handled in quantities for which an emergency plan would be required according to the Nuclear Regulatory Commission (NRC) or the State of California, Department of Heath Services (DHS) regulations. There are no radioactive materials at LBNL for which such an emergency plan would be required. All radioactive materials, including those in mixed waste, have been considered for this reporting category.

(3) Hazardous waste reporting also is consistent with state requirements. Waste quantities located at the Hazardous Waste Handling facility have been aggregated, and quantities exceeding the state threshold are reported. Volumes of mixed waste have been considered for this reporting category due to their hazardous waste component.

(4) Appendix A and Appendix B are the only two forms required by the California Code of Regulations, Title 19. Additional information included in the submittal is being presented voluntarily.

We trust that this information will assist your office in serving the needs of the community regarding hazardous material disclosure information.

Please feel free to contact Jack Salazar (510) 486-6571 directly should you have any questions or wish to discuss this matter further.

Sincerely,

Jack J. Salazar
Deputy Division Director
Environment, Health and Safety Division

JJS/CLF

Enclosures

cc: Kim Abbott, U.S. Department of Energy, Berkeley Site Office
Dan Lunsford, Berkeley Lab Emergency Management
Ron Pauer, Berkeley Lab Environmental Services Group Leader
Paul Blodgett, Berkeley Lab Health and Safety Deputy
Nancy Rothermich, Berkeley Lab Waste Management Group Leader
Gary Piermattei, Fire Prevention Program

Certification Statement

City of Berkeley, Toxics Management Division
2118 Milvia Street, Suite 300
Berkeley, CA 94704
(510) 981-7460 FAX (510) 981-7470

Hazardous Materials Business Plan (HMBP) Certification Statement

For Dept Use Only – Log In/Date Stamp

I. IDENTIFICATION

FACILITY ID # 1

BUSINESS NAME (Same as Facility Name or DBA-Doing Business As) 3
E.O. Lawrence Berkeley National Laboratory Building 977-Berkeley West Biocenter

BUSINESS SITE ADDRESS 717 Potter Street 103

CITY Berkeley 104 | CA | ZIP CODE 94710 - 2722 105

II. CERTIFICATION STATEMENT

Check the appropriate boxes below and sign the certification statement.

☐ INITIAL SUBMITTAL: This new HMBP is being submitted for the following:
- ☐ New facility
- ☐ Change of ownership
- ☐ Change of business address

☐ ANNUAL CERTIFICATION: I have personally reviewed the HMBP currently on file with your agency, dated _____, and hereby certify, *under penalty of perjury,* that:
- The information contained in the most recent HMBP submission is complete, accurate and up to date.
- A copy of the facility's most current Business Owner/Operator Identification page is being submitted with this certification form.
- The facility has not begun handling any hazardous materials/hazardous wastes that are not currently listed on the most recently submitted Hazardous Materials Inventory forms.
- There have been no significant changes (100% increase or decrease) in the quantities of any previously reported hazardous materials/hazardous wastes as reported on the most recently submitted Hazardous Materials Inventory forms.
- The facility's annual waste amounts reported on the most recently submitted Hazardous Materials Inventory forms are accurate and expected to be the same in the next year.
- This certification is <u>not</u> being made to meet annual inventory submission requirements of EPCRA. (EPCRA requires complete annual submission of the inventory, United States Code Title 42, Section 11022).

☑ CERTIFICATION OF CHANGES/REVISIONS: This is to certify that the HMBP has been reviewed and revisions, amendments and/or additions are necessary and are being submitted with this document. The following areas of the HBMP are affected:
- ☐ Entire HMBP revision
- ☐ Business Activities page
- ☐ Business Owner/Operator Identification page
- ☑ Hazardous Materials Inventory
- ☐ Facility Site Plan/Storage Map(s)
- ☐ Emergency Response Plan/Contingency Plan
- ☐ Other (Specify): _____

I hereby certify, under penalty of perjury, that the information contained in this Hazardous Materials Business Plan is, to the best of my knowledge, true and correct. I understand that I will be required to show proof of compliance during any facility inspection conducted by City, County, State, or Federal authorities. I understand that whenever there are changes in address, ownership, business name, or operations (closure, addition of undisclosed hazardous materials or hazardous wastes, and/or contingency planning provisions), a notification of such must be made to the Toxics Management Division within 30 days of the change.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE
	March 17, 2011
NAME OF SIGNER (print)	TITLE OF SIGNER
Jack J. Salazar	Deputy Director, EH&S Division

Agency Use Only
- ☐ HMBP accepted as submitted
- ☐ HMBP requires revisions – Letter sent

HMBP ACCEPTED: ___/___/___ BY: _____

Hazardous Materials Business Plan Certification Statement Instructions

Submit the Hazardous Materials Business Plan Certification Statement each time you update the Hazardous Materials Business Plan (HMBP).

1. FACILITY ID NUMBER - This number is assigned by the CUPA or AA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
103. BUSINESS SITE ADDRESS - Enter the street address where the facility is located. No post office box numbers are allowed. This information must provide a means to geographically locate the facility.
104. CITY - Enter the city or unincorporated area in which business site is located.
105. ZIP CODE - Enter the zip code of business site. The extra 4 digit zip may also be added.

INITIAL SUBMITTAL: Check this box if you are submitting a new HMBP.
ANNUAL CERTIFICATION: Check this box if there are no changes required to your last submitted HMBP.
CERTIFICATION OF CHANGES/REVISIONS: Check this box if you are submitting changes/revisions to your HMBP.

SIGNATURE: **The Toxics Management Division will not accept any unsigned HMBPs.** Any HMBP submitted without signatures will be returned to the applicant.

Special Hazards Registration

Planning and Development Department
Toxics Management Division

SPECIAL HAZARDS REGISTRATION

According to BMC Title 15, the following special hazards require registration and compliance with the ordinance. For copies of the compliance requirements, please contact your inspector for a copy of the ordinance.

Facility Name:	E.O. Lawrence Berkeley National Laboratory – Offsite Bldg. 977	
Facility Address:	717 Potter Street, Berkeley, CA 94710	Phone: 510-486-5099

I. Etiological Agents Disclosure:

Etiological agents can be microorganisms which cause disease. The BMC defines an etiologic agent as any of the following:

1 An infectious substance, which is any viable microorganism, or its toxin, which causes or may cause disease in humans or animals, and includes those agents listed in 42 CFR Section 72.3 or the regulations of the Department of Health and Human Services, or any other agent that causes or may cause severe, disabling or fatal disease;

2 A diagnostic specimen, which is any human or animal material including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluids, being handled for purposes of diagnosis;

3 A biological product, which is any material prepared and manufactured in accordance with the provisions of 9 CFR parts 102, 103, or 104, or 21 CFR parts 312 or 600-680; and

4 A medical waste as defined in California Health and Safety Code Section 25023.2.

If your facility stores or handles an etiological agent on site, you must report the agent name, quantity and storage location to the Toxics Management Division.

Biological materials present at this building are either Risk Group 1 or Risk Group 2 materials and are handled at either Biosafety Level 1 (e.g., standard LBNL lab) or Biosafety Level 2 containment (e.g., lab with biosafety cabinet), respectively. Risk Group 1 materials are not associated with disease in healthy adult humans, while Risk Group 2 materials are associated with human disease that is rarely serious and for which interventions are often available. Common biological materials include Risk Group 1 microorganisms, established human cell cultures, attenuated (e.g., replication deficient) viral vectors, and very limited samples of human tissue. Some medical waste as defined by California Health and Safety Code 25023.2 is generated. One operation uses a limited quantity and number of Risk Group 2 human pathogens (e.g., bacteria). Diagnostic specimens, biological products, Risk Group 3 agents, Risk Group 4 agents, and select agents are not used.

II. Radioactive Materials:

Any quantity of Radioactive Materials must be reported on the Hazardous Materials Inventory-Chemical Description page of the Hazardous Materials Business Plan.

Radioactive materials reporting is consistent with state requirements. State requirements provide for reporting of radioactive materials that are handled in quantities for which an emergency plan would be required according to the Nuclear Regulatory Commission (NRC) or the State of California, Department of Health Services (DHS) regulations. There are no radioactive materials at LBNL for which such an emergency plan would be required. All radioactive materials, including those in mixed waste, have been considered for this reporting category

City of Berkeley, Toxics Management Division

UNIFIED PROGRAM CONSOLIDATED FORM – FACILITY INFORMATION

BUSINESS ACTIVITIES

I. FACILITY IDENTIFICATION

FACILITY ID #	1	EPA ID # (Hazardous Waste Only)
		CAR000161679

BUSINESS NAME (Same as Facility Name or DBA-Doing Business As) 3
E.O. Lawrence Berkeley National Laboratory - Berkeley West Biocenter

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility…	If Yes, please complete these pages of the UPCF….	
A. HAZARDOUS MATERIALS Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☑ YES ☐ NO 4	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)
B. UNDERGROUND STORAGE TANKS (USTs)		
1. Own or operate underground storage tanks?	☐ YES ☑ NO 5	UST FACILITY (Formerly SWRCB Form A) UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES ☑ NO 6	UST FACILITY UST TANK (one per tank) UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)
3. Need to report closing a UST?	☐ YES ☑ NO 7	UST TANK (closure portion –one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds: ---any tank capacity is greater than 1,320 gallons, or ---the total capacity for the facility is greater than 1,320 gallons?	☐ YES ☑ NO 8	NO FORM REQUIRED TO CUPAs
D. HAZARDOUS WASTE		
1. Generate hazardous waste?	☑ YES ☐ NO 9	EPA ID NUMBER – provide at the top of this page
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	☐ YES ☑ NO 10	RECYCLABLE MATERIALS REPORT (one per recycler)
3. Treat hazardous waste on site?	☐ YES ☑ NO 11	ONSITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Forms 1772) ONSITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A,B,C,D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES ☑ NO 12	CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)
5. Consolidate hazardous waste generated at a remote site?	☐ YES ☑ NO 13	REMOTE WASTE / CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned onsite?	☐ YES ☑ NO 14	HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)
E. LOCAL REQUIREMENTS		
1. Use or store hazardous materials or hazardous wastes in combined (aggregate) quantities equal to or greater than 55 gallons for liquids, 500 pounds for solids or 200 cubic feet for compressed gases?	☑ YES ☐ NO 15	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) OR SPREADSHEET
2. Use or store any quantity of etiological agents, radioactive materials or perchlorate materials?	☑ YES ☐ NO 15	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) OR SPREADSHEET
3. Below E.1. thresholds above, but generate any quantity of hazardous waste?	☐ YES ☑ NO 15	HAZARDOUS WASTE GENERATOR REPORTING PACKET
4. Generate any quantity of Universal Waste (mercury containing devices, non-empty aerosols, electronic devices, fluorescent tubes, batteries, mercury amalgam, etc.)?	☑ YES ☐ NO 15	SEE THE UNIVERSAL WASTE REPORTING REQUIREMENTS PAGE FOR INSTRUCTIONS
5. Generate any quantity of photochemical waste on-site (x-ray and photo imaging processors)?	☐ YES ☑ NO 15	IF STORED ONSITE, HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) OR SPREADSHEET

Business Activities

Please submit the Business Activities page, the Business Owner/Operator Identification page (OES Form 2730), and Hazardous Materials Inventory -Chemical Description pages (OES Form 2731) for all submissions. (Note: the numbering of the instructions follows the data element numbers that are on the UPCF pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, Appendix C, the Business Section of the Unified Program Data Dictionary.) Please number all pages of your submittal. This helps your CUPA or AA identify whether the submittal is complete and if any pages are separated.

1. FACILITY ID NUMBER - Leave this blank. This number is assigned by the Certified Unified Program Agency (CUPA) or Administering Agency (AA). This is the unique number which identifies your facility.
2. EPA ID NUMBER - If you generate, recycle, or treat hazardous waste, enter your facility's 12-character U.S. Environmental Protection Agency (U.S. EPA) or California Identification number. For facilities in California, the number usually starts with the letters CA. If you do not have a number, contact the Department of Toxic Substances Control (DTSC) Telephone Information Center at (916) 324-1781, (800) - 61-TOXIC or (800) 61-86942, to obtain one.
3. BUSINESS NAME - Enter the full legal name of the business. This is the same as the terms Facility Name or DBA - Doing Business As that might have been used in the past.
4. HAZARDOUS MATERIALS ONSITE - Check the box to indicate whether you have a hazardous material onsite. You have a hazardous material onsite if:
   - Your total aggregate quantities of hazardous materials stored or handled at your facility equal or exceed 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (calculated at standard temperature and pressure),
   - It is handled in quantities equal to or greater than the applicable federal threshold planning quantity for an extremely hazardous substance listed in 40 CFR Part 355, Appendix A,
   - You store or use any quantity of radioactive materials or etiological agents.

   If you have a hazardous material onsite, then you must complete the Business Owner/Operator Identification page (OES Form 2730) and the Hazardous Materials Inventory - Chemical Description page(s) (OES Form 2731), as well as an Emergency Response Plan.
5. OWN OR OPERATE UNDERGROUND STORAGE TANK (UST) - Check the appropriate box to indicate whether you own or operate USTs containing hazardous substances as defined in Health and Safety Code (HSC) Section 25316. If "YES", then you must complete one UST Facility page and UST Tank pages for each tank. You must also submit a plot plan and a monitoring program plan.
6. UPGRADE/INSTALL UST - Check the appropriate box to indicate whether you intend to install or upgrade USTs containing hazardous substances as defined in HSC Section 25316. If "YES", then you must complete the UST Installation - Certificate of Compliance page in addition to UST Facility and Tank pages, plot plan and monitoring program plan.
7. UST CLOSURE - Check the appropriate box if you are closing an UST and complete the closure portion of the UST Tank pages for each tank. (CUPAs may require additional information.)
8. OWN OR OPERATE ABOVEGROUND PETROLEUM STORAGE TANK (AST) - Check the appropriate box to indicate whether there are ASTs onsite which exceed the regulatory thresholds. (There is no UPCF page for ASTs.) This program applies to all facilities storing petroleum in aboveground tanks. Petroleum means crude oil, or any fraction thereof, which is liquid at 60 degrees Fahrenheit temperature and 14.7 pounds per square inch absolute pressure (HSC Section 25270.2 (g)). The facility must have a single tank greater than 1,320 gallons, or cumulative storage capacity greater than 1,320 gallons for all ASTs. NOT Subject to the Act (exemptions):

   An aboveground petroleum storage tank (AST) facility with one or more of the following (see HSC Section 25270.2 (k)) is not subject to this act and is exempt:
   - A pressure vessel or boiler which is subject to Division 5 of the Labor Code,
   - A storage tank containing hazardous waste if a hazardous waste facility permit has been issued for the storage tank by DTSC,
   - An aboveground oil production tank which is regulated by the Division of Oil and Gas,
   - Certain oil-filled electrical equipment including but not limited to transformers, circuit breakers, or capacitors.
9. HAZARDOUS WASTE GENERATOR - Check the appropriate box to indicate whether your facility generates hazardous waste. A generator is the person or business whose acts or processes produce a hazardous waste or who causes a hazardous substance or waste to become subject to State hazardous waste law. If your facility generates hazardous waste, you must obtain and use an EPA Identification number (ID) in order to properly transport and dispose of it. Report your EPA ID number in #2. Hazardous waste means a waste that meets any of the criteria for the identification of a hazardous waste adopted by DTSC pursuant to HSC Section 25141. "Hazardous waste" includes, but is not limited to, federally regulated hazardous waste. Federal hazardous waste law is known as the Resource Conservation and Recovery Act (RCRA). Unless explicitly stated otherwise, the term "hazardous waste" also includes extremely hazardous waste and acutely hazardous waste.
10. RECYCLE - Check the appropriate box to indicate whether your facility recycles more than 100 kilograms per month of recyclable material under a claim that the material is excluded or exempt per HSC Section 25143.2. Check "YES" and complete the Recyclable Materials Report pages, if you either recycled onsite or recycled excluded recyclable materials which were generated offsite. Check "NO" if you only send recyclable materials to an offsite recycler. You do not need to report.
11. ONSITE HAZARDOUS WASTE TREATMENT - Check the appropriate box to indicate whether your facility engages in onsite treatment of hazardous waste. "Treatment" means any method, technique, or process which is designed to change the physical, chemical, or biological character or composition of any hazardous waste or any material contained therein, or removes or reduces its harmful properties or characteristics for any purpose. "Treatment" does not include the removal of residues from manufacturing process equipment for the purposes of cleaning that equipment. Amendments (effective 1/1/99) add exemptions from the definition of treatment for certain processes under specific, limited conditions. Refer to HSC Section 25123.5 (b) for these specific exemptions. Treatment of certain laboratory hazardous wastes do not require authorization. Refer to HSC Section 25200.3.1 for specific information. Please contact your CUPA to determine if any exemptions apply to your facility. If your facility engages in onsite treatment of hazardous waste then complete the Onsite Hazardous Waste Treatment Notification - Facility page and one set of Onsite Hazardous Waste Treatment Notification - Unit pages with waste and treatment process information for each unit.
12. FINANCIAL ASSURANCE - Check the appropriate box to indicate whether your facility is subject to financial assurance requirements for closure of an onsite treatment unit. Unless they are exempt, Permit by Rule (PBR) and Conditionally Authorized (CA) operations are required to provide financial assurance for closure costs (per 22 CCR Section 67450.13 (b) and HSC Section 25245.4). If your facility is subject to financial assurance requirements or claiming an exemption, then complete the Certification of Financial Assurance page.
13. REMOTE WASTE CONSOLIDATION SITE - Check the appropriate box to indicate whether your facility consolidates hazardous waste generated at a remote site. Answer "YES" if you are a hazardous waste generator that collects hazardous waste initially at remote sites and subsequently transports the hazardous waste to a consolidation site you also operate. You must be eligible pursuant to the conditions in HSC Section 25110.10. If your facility consolidates hazardous waste generated at a remote site, then complete the Remote Waste Consolidation Site Annual Notification page.
14. HAZARDOUS WASTE TANK CLOSURE - Check the appropriate box to indicate whether the tank being closed would be classified as hazardous waste after its contents are removed. Classification could be based on:
   - Your knowledge of the tank and its contents
   - Testing of the tank
   - The mixture rule
   - The listed wastes in 40 CFR 261.31 or 40 CFR 261.32.
   - Inability to remove hazardous materials stored in the tank.

   If the tank being closed would be classified as hazardous waste after its contents are removed, then you must complete the Hazardous Waste Tank Closure Certification page.
15. LOCAL REQUIREMENTS - Some CUPAs or AAs may require additional information. Check with your CUPA before submitting the UPCF to determine if any supplemental information is required.

Business Owner/ Operator Identification

City of Berkeley, Toxics Management Division

UNIFIED PROGRAM CONSOLIDATED FORM -- FACILITY INFORMATION

BUSINESS OWNER/OPERATOR IDENTIFICATION

Page ___ of ___

I. IDENTIFICATION

FACILITY ID# 1	BEGINNING DATE 100: 01/01/2011	ENDING DATE 101: 12/31/2011	
BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3: E.O. Lawrence Berkeley National Laboratory - Building 977	BUSINESS PHONE 102: 510-486-5099		
BUSINESS SITE ADDRESS 103: 717 Potter Street			
CITY 104: Berkeley	CA	ZIP CODE 105: 94710-2722	
DUN & BRADSTREET 106: 62-693-4998	SIC CODE (4 digit #) 107: 8731		
COUNTY 108: Alameda			
BUSINESS OPERATOR NAME 109: University of California	BUSINESS OPERATOR PHONE 110: (510) 486-5514		

II. BUSINESS OWNER

OWNER NAME 111: U.S. Dept. of Energy-Lawrence Berkeley National Laboratory Site Office	OWNER PHONE 112: (510) 486-4353	
OWNER MAILING ADDRESS 113: One Cyclotron Road, Mail Stop 90R1023		
CITY 114: Berkeley	STATE 115: CA	ZIP CODE 116: 94720

III. ENVIRONMENTAL CONTACT

CONTACT NAME 117: Ronald O. Pauer	CONTACT PHONE 118: (510) 486-7614	
CONTACT MAILING ADDRESS 119: One Cyclotron Road, Mail Stop 85B0198		
CITY 120: Berkeley	STATE 121: CA	ZIP CODE 122: 94720

IV. EMERGENCY CONTACTS

-PRIMARY-	-SECONDARY-
NAME 123: Emergency Contact Team	NAME 128: Rocky Saunders
TITLE 124: LBNL 24/7 Emergency Contact Team	TITLE 129: Emergency Services Manager
BUSINESS PHONE 125: Non-emergency (510) 486-4050	BUSINESS PHONE 130: (510) 486-7032
24-HOUR PHONE 126: Emergency (510) 486-6999	24-HOUR PHONE 131: (510) 812-1517 cell
PAGER # 127:	PAGER # 132: N/A

ADDITIONAL LOCALLY COLLECTED INFORMATION:

* Landlord (Wareham Development) Security Officers also patrol site. Phone Numbers 510-734-4786 & 510-367-7800

*Wareham Development Contact: Chris Barlow at 415-457-4964

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE 134: March 17, 2011	NAME OF DOCUMENT PREPARER 135: Candace L. Flores
NAME OF SIGNER (print) 136: Jack J. Salazar	TITLE OF SIGNER 137: Deputy Director, EH&S Division	

Business Owner/Operator Identification

Please submit the Business Activities page, the Business Owner/Operator Identification page (OES Form 2730), and Hazardous Materials - Chemical Description pages (OES Form 2731) for all hazardous materials inventory submissions. For the inventory to be considered complete this page must be signed by the appropriate individual. (Note: the numbering of the instructions follows the data element numbers that are on the UPCF pages. These data element numbers are used for electronic submission and are the same as the numbering used in 27 CCR, Appendix C, the Business Section of the Unified Program Data Dictionary.)

Please number all pages of your submittal. This helps your CUPA or AA identify whether the submittal is complete and if any pages are separated.

1. FACILITY ID NUMBER - This number is assigned by the CUPA or AA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
100. BEGINNING DATE - Enter the beginning year and date of the report. (YYYYMMDD)
101. ENDING DATE - Enter the ending year and date of the report. (YYYYMMDD)
102. BUSINESS PHONE - Enter the phone number, area code first, and any extension.
103. BUSINESS SITE ADDRESS - Enter the street address where the facility is located. No post office box numbers are allowed. This information must provide a means to geographically locate the facility.
104. CITY - Enter the city or unincorporated area in which business site is located.
105. ZIP CODE - Enter the zip code of business site. The extra 4 digit zip may also be added.
106. DUN & BRADSTREET - Enter the Dun & Bradstreet number for the facility. The Dun & Bradstreet number may be obtained by calling (610) 882-7748 or by Internet.
107. SIC CODE - Enter the primary Standard Industrial Classification Code number for primary business activity. NOTE: If code is more than 4 digits, report only the first four.
108. COUNTY - Enter the county in which the business site is located.
109. BUSINESS OPERATOR NAME - Enter the name of the business operator.
110. BUSINESS OPERATOR PHONE - Enter business operator phone number, if different from business phone, area code first, and any extension.
111. OWNER NAME - Enter name of business owner, if different from business operator.
112. OWNER PHONE - Enter the business owner's phone number if different from business phone, area code first, and any extension.
113. OWNER MAILING ADDRESS - Enter the owner's mailing address if different from business site address.
114. OWNER CITY - Enter the name of the city for the owner's mailing address.
115. OWNER STATE - Enter the 2 character state abbreviation for the owner's mailing address.
116. OWNER ZIP CODE - Enter the zip code for the owner's address. The extra 4 digit zip may also be added.
117. ENVIRONMENTAL CONTACT NAME - Enter the name of the person, if different from the Business Owner or Operator, who receives all environmental correspondence and will respond to enforcement activity.
118. CONTACT PHONE - Enter the phone number, if different from Owner or Operator, at which the environmental contact can be contacted, area code first, and any extension.
119. CONTACT MAILING ADDRESS - Enter the mailing address where all environmental contact correspondence should be sent, if different from the site address.
120. CITY - Enter the name of the city for the environmental contact's mailing address.
121. STATE - Enter the 2 character state abbreviation for the environmental contact's mailing address.
122. ZIP CODE - Enter the zip code for the environmental contact's mailing address. The extra 4 digit zip may also be added.
123. PRIMARY EMERGENCY CONTACT NAME - Enter the name of a representative that can be contacted in case of an emergency involving hazardous materials at the business site. The contact shall have FULL facility access, site familiarity, and authority to make decisions for the business regarding incident mitigation.
124. TITLE - Enter the title of the primary emergency contact.
125. BUSINESS PHONE - Enter the business number for the primary emergency contact, area code first, and any extensions.
126. 24-HOUR PHONE - Enter a 24-hour phone number for the primary emergency contact. The 24-hour phone number must be one which is answered 24 hours a day. If it is not the contact's home phone number, then the service answering the phone must be able to immediately contact the individual stated above.
127. PAGER NUMBER - Enter the pager number for the primary emergency contact, if available.
128. SECONDARY EMERGENCY CONTACT NAME - Enter the name of a secondary representative that can be contacted in the event that the primary emergency contact is not available. The contact shall have FULL facility access, site familiarity, and authority to make decisions for the business regarding incident mitigation.
129. TITLE - Enter the title of the secondary emergency contact.
130. BUSINESS PHONE - Enter the business telephone number for the secondary emergency contact, area code first, and any extension.
131. 24-HOUR PHONE - Enter a 24-hour phone number for the secondary emergency contact. The 24 hour phone number must be one which is answered 24 hours a day. If it is not the contact's home phone number, then the service answering the phone must be able to immediately contact the individual stated above.
132. PAGER NUMBER - Enter the pager number for the secondary emergency contact, if available.
133. ADDITIONAL LOCALLY COLLECTED INFORMATION - This space may be used for CUPAs or AAs to collect any additional information necessary to meet the requirements of their individual programs. Contact your local agency for guidance.
134. DATE - Enter the date that the document was signed. (YYYYMMDD)
135. NAME OF DOCUMENT PREPARER - Enter the full name of the person who prepared the inventory submittal information.
136. NAME OF SIGNER - Enter the full printed name of the person signing the page. The signer certifies to a familiarity with the information submitted and that based on the signer's inquiry of those individuals responsible for obtaining the information, all the information submitted is true, accurate and complete.

SIGNATURE OF OWNER/ OPERATOR OR DESIGNATED REPRESENTATIVE - The Business Owner/Operator, or officially designated representative of the Owner/Operator, shall sign in the space provided. This signature certifies that the signer is familiar with the information submitted and that based on the signer's inquiry of those individuals responsible for obtaining the information it is the signer's belief that the submitted information is true, accurate and complete.

137. TITLE OF SIGNER - Enter the title of the person signing the page.

Date: 3/17/2011

Non-Waste Hazardous Materials Inventory Statement

For use by Unidocs Member Agencies or where approved by your Local Jurisdiction

Business Name: E.O. Berkeley National Laboratory (LBNL) - Offsite Bldg. 977
(Same as Facility Name or DBA)

Type of Report on This Page: ☐ Add; ☐ Delete; ☒ Revise

Chemical Location: 1st & 2nd floor
(Building/Storage Area)

EPCRA Confidential Location? ☒ Yes; ☐ No
Trade Secret Information? ☐ Yes; ☒ No

Facility ID # (Agency Use Only) - -

1. Haz. Class	2. Map and Grid or Location Code	3. Common Name	4. Hazardous Components (For mixtures only) Chemical Name	% Wt.	EHS	CAS No.	5. Type and Physical State	6. Quantities Max. Daily	Average Daily	Largest Cont.	7. Units	8. Storage Codes Storage Pressure	Storage Temp.	9. Hazard Categories
2.2	Labs - first and second floor	Liquid Nitrogen (cryogenic nitrogen)			☐		☒ pure ☐ mixture	4000	3000	60.8	☒ gallons ☐ pounds ☐ cu. feet ☐ tons	☐ ambient ☒ > amb. ☐ < amb.	☐ ambient ☐ > amb. ☐ < amb. ☒ cryogenic	☐ fire ☐ reactive ☒ pressure release ☒ acute health ☐ chronic health ☐ radioactive
		CAS No.: 7440-59-7			☐ EHS		☐ solid ☒ liquid ☐ gas	Curies: (If radioactive)	Days On Site: 365	Storage Container:* L				
2.2	Labs on 1st & 2nd floor	nitrogen			☐		☒ pure ☐ mixture	4000	3450	228	☐ gallons ☐ pounds ☒ cu. feet ☐ tons	☐ ambient ☒ > amb. ☐ < amb.	☒ ambient ☐ > amb. ☐ < amb. ☐ cryogenic	☐ fire ☐ reactive ☒ pressure release ☐ acute health ☐ chronic health ☐ radioactive
		CAS No.: 7440-59-7			☐ EHS		☐ solid ☐ liquid ☒ gas	Curies: (If radioactive)	Days On Site: 365	Storage Container:* L				
2.2	Labs on first and second floor	Oxygen			☐		☒ pure ☐ mixture	50	50	50	☐ gallons ☒ pounds ☐ cu. feet ☐ tons	☐ ambient ☒ > amb. ☐ < amb.	☒ ambient ☐ > amb. ☐ < amb. ☐ cryogenic	☒ fire ☐ reactive ☒ pressure release ☐ acute health ☐ chronic health ☐ radioactive
		CAS No.: 7782-44-7			☐ EHS		☐ solid ☐ liquid ☒ gas	Curies: (If radioactive)	Days On Site: 365	Storage Container:* L				
3.2	Labs on first and second floor	Carbon Dioxide			☐		☒ pure ☐ mixture	600	400	200	☐ gallons ☒ pounds ☐ cu. feet ☐ tons	☐ ambient ☒ > amb. ☐ < amb.	☒ ambient ☐ > amb. ☐ < amb. ☐ cryogenic	☐ fire ☐ reactive ☒ pressure release ☐ acute health ☐ chronic health ☐ radioactive
		CAS No.: 124-38-9			☐ EHS		☐ solid ☒ liquid ☐ gas	Curies: (If radioactive)	Days On Site: 365	Storage Container:* L				
3.2	Labs on first and second floor	Methanol			☐		☒ pure ☐ mixture	80	72	5	☒ gallons ☐ pounds ☐ cu. feet ☐ tons	☒ ambient ☐ > amb. ☐ < amb.	☒ ambient ☐ > amb. ☐ < amb. ☐ cryogenic	☒ fire ☐ reactive ☐ pressure release ☐ acute health ☒ chronic health ☐ radioactive
		CAS No.: 67-56-1			☐ EHS		☐ solid ☒ liquid ☐ gas	Curies: (If radioactive)	Days On Site: 365	Storage Container:* M				
3.2 (with few 3.1)	1st & 2nd floor	Assorted, pure Flammable Liquids (such as ethanol) - AGGREGATE SUM			☐		☒ pure ☐ mixture	240	140	22	☒ gallons ☐ pounds ☐ cu. feet ☐ tons	☒ ambient ☐ > amb. ☐ < amb.	☒ ambient ☐ > amb. ☐ < amb. ☐ cryogenic	☒ fire ☐ reactive ☐ pressure release ☐ acute health ☐ chronic health ☐ radioactive
		CAS No.:			☐ EHS		☐ solid ☒ liquid ☐ gas	Curies: (If radioactive)	Days On Site: 365	Storage Container:* M & N				

* Storage Codes:

Code	Storage Type	Code	Storage Type	Code	Storage Type	Code	Storage Type	Code	Storage Type	Code	Storage Type
A	Aboveground Tank	D	Steel Drum	G	Carboy	J	Bag	M	Glass Bottle or Jug	P	Tank Wagon
B	Belowground Tank	E	Plastic/Non-metallic Drum	H	Silo	K	Box	N	Plastic Bottle or Jug	Q	Rail Car
C	Tank Inside Building	F	Can	I	Fiber Drum	L	Cylinder	O	Tote Bin	R	Other

If EPCRA, sign below:

Non-Waste Hazardous Materials Inventory Statement Instructions
(Modified UPCF Chemical Description Page)

\ non-waste hazardous materials stored at the facility must be listed on the Non-Waste Hazardous Materials Inventory Statement [or the Unified Program ısolidated Form (UPCF) Hazardous Materials Inventory - Chemical Description form (available on the Internet at http://www.unidocs.org)]. This form allows you .o report up to six chemicals on a single page. Do not list hazardous wastes on this form.

You must complete a separate inventory line for each individual hazardous material that you handle at your facility in an aggregate quantity subject to Hazardous Materials Business Plan reporting requirements (please refer to the Hazardous Materials Business Plan Information Sheet). The completed inventory must reflect **all** hazardous materials at your facility, reported **separately** for each building or outside storage area, with **separate** inventory lines for unique occurrences of physical state, storage temperature, or storage pressure. Trade secret materials must be listed on separate pages. Where the aggregate quantities of some hazardous materials are below the Business Plan threshold reporting quantity, report the general hazard class of the materials (e.g. "Misc. Flammable Liquids"), rather than the Common Name, and the aggregate quantity of all hazardous materials having this hazard class which individually are below the threshold reporting quantity. Make additional copies of this form if needed. Your local agency may be capable of accepting electronic reporting of this information. Contact your local agency for details.

1. DATE - In the space at the top left side of the form, enter the date this inventory statement page was prepared.
2. BUSINESS NAME - Enter the complete Facility Name.
3. TYPE OF REPORT ON THIS PAGE - Indicate whether the material is being added to the inventory, deleted from the inventory, or if the information previously submitted is being revised. (Note: You may leave this blank if you resubmit your entire inventory annually.)
4. PAGE NUMBER - Number each page of the inventory appropriately.
5. CHEMICAL LOCATION - Enter the name of the building or outside area where the hazardous materials reported on this page are handled. A chemical stored at the same pressure and temperature in multiple locations in one building or area can be reported on a single line.
6. EPCRA CONFIDENTIAL LOCATION - You must check "Yes" to keep chemical location information confidential. If you do not wish to keep chemical location information confidential check "No." If "Yes," a signature is required on the line provided at the bottom of the form.
7. TRADE SECRET INFORMATION- Check "Yes" if the information in this section is declared a trade secret, "No" if it is not. If "Yes," and the business is subject to EPCRA, disclosure of designated Trade Secret information is bound by 40 CFR and the business must submit a "Substantiation to Accompany Claims of Trade Secrecy" form to the United States Environmental Protection Agency.
8. FACILITY ID NUMBER - This number is for agency use only. Leave this space blank.
9. HAZARD CLASS - In Column 1 of the inventory table, provide the primary U.S. Department of Transportation (DOT) numerical hazard class for the material being reported on each line.
10. MAP & GRID OR LOCATION CODE - In Column 2, enter the page number of the Storage Map where the location of the hazardous material is shown, along with the grid coordinates from your Storage Map that correspond to the location of the hazardous material. If applicable, multiple grid coordinates can be listed. If you do not use a grid system, enter the Location Code shown on your Storage Map.
11. COMMON NAME, CAS NUMBER, & EHS - In Column 3, enter the following information:
    - COMMON NAME - The Common Name or Trade Name of the hazardous material or mixture (e.g. Gasoline, Acme Super Solvent).
    - EHS - If the material is considered an Extremely Hazardous Substance as defined in 40 CFR, Part 355, Appendix A, check the EHS box.
    - CAS NUMBER - Enter the Chemical Abstract Service (CAS) number for the hazardous material. For mixtures, enter the CAS number of the mixture if it has been assigned a number distinct from its components. If the mixture has no CAS number, leave this column blank and report the CAS numbers of the individual hazardous components in the appropriate section, below.
12. HAZARDOUS COMPONENTS - (Note: If the material is not a mixture, skip Column 4 and go directly to Column 5.) In column 4, enter the following information regarding Hazardous Components that make up the material listed in Column 3:
    - CHEMICAL NAME - If the Chemical Name is the same as the Common or Trade Name shown in Column 3, you may leave this space blank. If the material is a mixture, list the chemical name of each hazardous component in the mixture ranked by percent weight (refer to the MSDS or manufacturer). All hazardous components present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, must be reported. If more than five hazardous components exceed these percentages, you may attach an additional sheet of paper to report the required information.
    - % BY WEIGHT - Enter the percentage weight of each hazardous component. If a range of percentages is available, report the highest percentage in that range.
    - EHS - Check the box provided if the component of the mixture is considered an Extremely Hazardous Substance.
    - CAS NUMBER - List the Chemical Abstract Service (CAS) number for each hazardous component.
13. TYPE & PHYSICAL STATE - In column 5, identify the material type and physical state by checking the "pure" or "mixture box and the "solid", "liquid", or "gas" box.
14. QUANTITIES - In the appropriate spaces within column 6, list:
    - MAXIMUM DAILY AMOUNT* - Enter the maximum amount of the hazardous material or mixture handled in this building or outside area at any one time over the course of the year. This amount must contain, at a minimum, last year's reported inventory with the reflection of additions, deletions, or revisions projected for the current year.
    - AVERAGE DAILY AMOUNT* - Calculate the average daily amount of the hazardous material or mixture in this building or outside area. If this is a material that is new to this location, the amount should be the average daily amount you project to be on hand during the course of the year.
    - LARGEST CONTAINER* - Enter the volume of the largest container in which the material is handled at the location.
    - CURIES - If the material is radioactive, use the space provided to report the activity in curies.
    - DAYS ON SITE - Enter the total number of days (e.g. 365) during the year that the material is on site.
    - STORAGE CONTAINER - Using the container codes listed at the bottom of the inventory statement, list every type of container in which the material is stored/handled.

    * Except for Curies, units of measure must be the same as that indicated in Column 7.
15. UNITS - In column 7, check the appropriate unit of measure: gallons for liquids, pounds or tons for solids, and cubic feet for gases. If the material is a federally defined EHS and is not a mixture, all amounts must be reported in pounds.
16. STORAGE CODES - In the appropriate spaces within Column 8, list:
    - STORAGE PRESSURE - Check the box that best describes the pressure at which the material is stored: ambient (standard), > amb. (greater than ambient), < amb. (less than ambient), or cryogenic.
    - STORAGE TEMPERATURE - Check the box that best describes the temperature at which the material is stored.
17. HAZARD CATEGORIES - In column 9, check the box(es) to describe all physical, health, and radioactivity hazards associated with the hazardous material.

PHYSICAL HAZARDS	HEALTH HAZARDS
Fire: Flammable Liquids and Solids, Combustible Liquids, Pyrophorics, Oxidizers	**Acute Health (Immediate):** Toxics, Highly Toxics, Irritants, Sensitizers, Corrosives, other hazardous chemicals with an adverse effect with short-term exposure
.eactive: Unstable Reactives, Organic Peroxides, Water Reactives, Radioactives	
Pressure Release: Explosives, Compressed Gases, Blasting Agents	**Chronic Health (Delayed):** Carcinogens, other chemicals with an adverse effect with long-term exposure

Emergency Response Plan

Emergency Response Plan/Contingency Plan

The following items are elements of a comprehensive emergency response/contingency plan that meets state requirements. If your facility has a written plan, or if you are to prepare one, make sure all the elements listed are covered by your plan. Small facilities with simple operations may complete the boxes below to be in compliance with the written emergency plan requirement. Please submit a copy of your written response plan or complete and submit this form.

I. Facility Information

Facility Name: E.O. Lawrence Berkeley National Laboratory, Bldg 977 (offsite)	Phone: (510) 486-5099
Address: 717 Potter Street	
City: Berkeley	Zip: 94710-2722

II. Emergency Coordinators

Primary Coordinator	Secondary Coordinator
Name: Alameda County Fire Department	Name: Emergency Contact Team
Title: Incident Commander	Title: LBNL 24/7 Emergency Contact Team
Work Phone: (925) 447-4257	Work Phone: Non-emergency (510) 486-4050
After hours Phone: 9-911	After hours Phone: Emergency (510) 486-6999
Pager: N/A	Pager: N/A

III. Emergency Telephone Numbers and Arrangements

The emergency coordinator shall immediately notify the following whenever a release, fire, or explosion threatens human health or the environment:

Agency	Phone
Fire Department	911
State Office of Emergency Services (OES)	1-800-852-7550
City of Berkeley Toxics Management Division	(510) 981-7460 or 911
Hospital/Medical Center (if injuries)	Alta Bates Hospital (510) 204-1303
EBMUD Waste Water Treatment Facility (if to sewer)	(510) 287-1651
Hazardous Waste Contractor (if clean up needed)	Veolia Environmental Services (800) 325-2382
Bay Area Air Quality Management District	(800) 334-6367 or (415) 771-6000
Other agencies:	

Arrangements: (Please check one box)

- ☐ We have no formalized written agreements with any emergency response agency or contractor.
- ☑ We have formalized written agreements with LBNL participates in the State Mutual Aid Agreement
  Telephone: (510) 486-9911 for emergency response.

IV. Earthquake Response

Identify the areas and/or mechanical equipment or other systems that could require immediate inspection or isolation because of their vulnerability to earthquake related ground motion.

Areas/equipment identified to be inspected immediately after an earthquake:	Areas or equipment generally vulnerable to earthquake-related ground motion include chemical storage areas/cabinets, gas cylinders and dewars, waste collection and storage areas, cold storage and water systems.

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V. Emergency Equipment Inventory Table

EQUIPMENT CATEGORY	✓ if these are provided	Equipment	Location*	Description**
Personal Protective Equipment, Safety Equipment, First Aid Equipment		Chemical Protective Boots	Labs	In some spill kits as appropriate for the area.
		Chemical Protective Gloves	All labs	Nitrile.
		Safety Glasses/Goggles/Face shields	All labs	ANSI rated with side shields.
		Chemical Protective Clothing	All labs	Lab coats. Some plastic and rubber aprons.
		Hard Hats	Bldg Mgr	More than 4.
		Chemical Monitoring Equipment (describe)	None on site	Industrial Hygiene services always available from LBNL.
		First Aid Kits	Outside labs	P lus portable trauma kits in break rooms (289L & 111) and mail rooms (152 & 225A).
		Eye Wash Stations	In labs	See evacuation maps for locations.
		Safety Showers	In labs	See evacuation maps for locations.
		Cartridge Respirators and Cartridges (describe)	None on site	Industrial Hygiene services always available from LBNL.
		Self-Contained Breathing Apparatus (SCBA)	None on site	Industrial Hygiene services always available from LBNL.
		Other (describe)		The Fire Dept at Bldg 48 maintains haz material response capability/ equipment.
Fire Extinguishing Systems		Fire Extinguishers	Main corriders	Located throughout the bldgs (see evacuation maps).
		Automatic Fire Systems	Throughout	Fire detectors and sprinklers throughout.
		Fire Alarm Boxes	At exit doors	Including main internal corridor exits.
Spill Control Equipment, Decontamination Equipment		Absorbents, Neutralizers (describe)	Labs	In spill kits.
		Shovels/Brooms/Squeegees	Labs	Brooms only.
		Overpack drum/Spill drum		Fire Dept & Waste Accumulation Areas (WAAs) maintain appropriate equipment.
		Berms/Dikes (describe)	Labs	In spill kits.
		Decontamination Equipment (describe)	Labs	Safety showers and eye washes
		Gas cylinder leak repair kits (describe)	Bldg Mgr	Teflon tape, wrenches, soap for testing
		Other (describe)		
Communications and Alarm Systems		Telephones	Throughout	A site-wide communications system is maintained and connected to 911 Dispatch.
		Intercoms/PA systems		
		Portable 2 way radios	Bldg Mgr	Security Guard also.
		UST leak detection monitors		
		Chemical alarms (describe)		
Additional Equipment (Use additional pages if needed)				

* If appropriate, use the location code(s) from your Hazardous Materials Business Plan.

** Describe the equipment, such as type and quantity, and its capabilities. If applicable, specify any testing/maintenance procedures/intervals.

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VI. Evacuation Information:

Evacuation Announcement	___Bell ___PA System Other Building Emergency Teams ✓ Horn ✓ Shouting
Evacuation Route	✓ Map Other Site and Building Evacuation Plans
Assembly Area	Location: To north of building as designated on the attached map.
Re-entry Procedures	Only as authorized by the incident commander/fire department.

VII. Emergency Procedures:

Emergency Coordinator Responsibilities:

1. Whenever there is an imminent or actual emergency situation such as a explosion, fire, or release, the emergency coordinator *(or his/her designee when the emergency coordinator is on call)* shall:
   a. Identify the character, exact source, amount, and aerial extent of any released hazardous materials.
   b. Assess possible hazards to human health or the environment that may result from the explosion, fire, or release. This assessment must consider both direct and indirect effects *(e.g. the effects of any toxic, irritating, or asphyxiating gases that are generated, the effects of any hazardous surface water run-off from water or chemical agents used to control fire, etc.)*.
   c. Activate internal facility alarms or communications systems, where applicable, to notify all facility personnel.
   d. Notify appropriate local authorities *(i.e., call 911)*.
   e. Notify the State Office of Emergency Services at 1-800-852-7550.
   f. Monitor for leaks, pressure build-up, gas generation, or ruptures in valves, pipes, or other equipment shut down in response to the incident.
   g. Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous materials at the facility.

2. Before facility operations are resumed in areas of the facility affected by the incident, the emergency coordinator shall:
   a. Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from a explosion, fire, or release at the facility.
   b. Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.
   c. Ensure that all emergency equipment is cleaned, fit for its intended use, and available for use.
   d. Notify the Cal/EPA's Department of Toxic Substances Control and the City of Berkeley Toxics Management Division that the facility is in compliance with requirements 2-a and 2-b, above.

Special site specific procedures:

Emergency	Response Action
Hazardous Material & Hazardous Waste Spills/Releases:	Procedures included in the State of Calif Dept of Toxic Substances Control and Alameda County Haz Mat Plan. Note, however, that no waste will be transported between 717 Potter St. and the main LBNL site. In the event of a spill, the Blackberry Gate Security (24 hrs at 486-5472) will be contacted to initiate LBNL Emergency Contact Team (ECT) procedures for spill response backup and cleanup.
Fire	Call 9911
Explosion	Call 9911
Earthquake	Call 9911. If safe to do so, check chemical storage & waste areas, including gas cylinders.
Other	Call 9911

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Employee Training Plan

Employee Training Plan

1. Scope

This plan is designed to provide employees with training on hazardous materials and hazardous waste that will satisfy the requirements of the California Health and Safety Code Chapter 6.95 and Chapter 6.5.

Facility Name:	E.O. Lawrence Berkeley National Laboratory
Address:	717 Potter St, Berkeley CA 94710-2722
Main Activity:	Scientific Research
Building or Areas where hazardous materials/wastes are found:	See Appendix B
	See pages "Non-Waste Hazardous Materials Inventory Statement".

2. Responsibilities

The following persons are responsible for ensuring that this Training Plan is implemented:

Name/Title	Training Responsibility
Don Lucas	EH&S Assurance and Training Manager

3. Employees/New Employees

New employees are trained during orientation, before starting on a job? ☑ YES ☐ NO

New employees who handle hazardous waste are trained in hazardous waste management within six months of hire date? ☑ YES ☐ NO

4. New Assignments or Changes in Operations

In the event of new assignments or of changes in operation, affected employees are trained before the new assignment or the change in operation takes place. ☑ YES ☐ NO

5. Refresher Training

Refresher training will be provided as needed (how often). The method used will be: *(check all that apply)*

☑ Outside classes ☑ In-house classes provided by contractor

☑ Safety meetings ☑ In-house classes conducted by in-house trainers

6. Training Topics

The following table indicates the training topics covered for this facility, as indicated with a ☑. Other documentation on these training topics is maintained and are available to the inspector upon request.

All employees are trained to do the following procedures, as appropriate:	
☑	1. Initiate, activate, or recognize internal alarms and other emergency announcements.
☑	2. Notify internal or on-site emergency responders listed in the emergency response/contingency plan.
☑	3. Notify agencies listed in the emergency/contingency plan.
☑	4. Locate and review contents of written emergency response/contingency plan.
☑	5. Initiate, conduct, or follow evacuation procedures as described in the emergency response/contingency plan.
Hazardous materials/waste handlers are additionally trained in the following subjects:	
☑	1. Safe methods for handling and storage of hazardous materials and hazardous waste.
☑	2. Locations and proper use of personal protective equipment.
☑	3. Locations and proper use of fire and spill control equipment.
☑	4. Specific hazards of each chemical or waste to which they may be exposed, including the pathways of exposure (i.e. skin absorption, inhalation, ingestion).
☑	5. Follow emergency procedures for chemical/waste spills, earthquake, fire, and/or medical emergencies as described in the emergency response/contingency plan.
☑	6. Hazardous waste handlers/managers are also trained in all aspects of hazardous waste management specific to their job duties (e.g. accumulation time, storage period, labels, inspection of containers and storage areas, uniform hazardous waste manifests, etc.)

7. Emergency Response Team

This facility has a formally organized Emergency Response Team. ☑ YES ☐ NO

Emergency Response Team members are additionally trained for the following activities:	
☑	1. Personnel rescue procedures.
☑	2. Shutdown of operations.
☑	3. Liaison with emergency response agencies.
☑	4. Use, maintenance, and replacement of emergency response equipment.
☑	5. Emergency response drills are conducted, at least *(specify frequency)* [one] times a year.
☑	6. Refresher training is provided, at least annually.

8. Recordkeeping

Employee training and other records are to be maintained at the facility. These include the following:

☑	1. Record of training for each employee (date and duration of training, subject matter covered, instructor, etc.).
☑	2. Training records of current and former employees. (For current employees, records are to be retained until closure of the facility. For former employees, training records are to be retained for at least 3 years after termination of employment.
☑	3. Description of introductory and continuing training programs for each employee classification.
☑	4. Current emergency response, contingency, and/or spill response plan (for underground or aboveground tanks).
☑	5. Description and documentation of emergency response drills.
☑	6. Record of reportable/recordable accidental releases of hazardous material/waste.
☑	7. Record of inspections of hazardous material/waste storage areas.
☑	8. Record of daily inspection of hazardous waste tanks.
☑	9. Inspection procedures for identified earthquake-sensitive areas and systems in the facility.

Note: *The above list does not necessarily include every type of record required to be maintained by your facility.*

Training records are maintained in the following location: Institutional computer database; contact Jack Salazar (486-6571) for more information.