

# Los Alamos

NATIONAL LABORATORY

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

Date: April 5, 2000  
In Reply Refer To: ESH-18/WQ&H:00-0108  
Mail Stop: K497  
Telephone: (505) 665-6085

LANL  
TA-50  
NPDES (outfall 051)

Mr. Ralph Ford-Schmid  
DOE Over-Site Bureau  
New Mexico Environment Department  
2044 A Galisteo St.  
P. O. Box 26110  
Santa Fe, New Mexico 87502

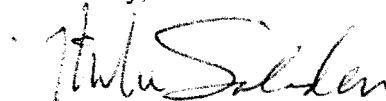
**SUBJECT: WASTE PROFILE FORMS FOR TRITIUM WASTEWATER AT  
TA-50 RLWTF**

Dear Mr. Ford-Schmid:

Per your request, enclosed are copies of the Laboratory's Waste Profile Forms (WPFs) for tritium wastewater discharging into the TA-50 Radioactive Liquid Waste Treatment Facility (TA-50 RLWTF). These waste streams are discharged through NPDES Outfall 051. Please note, the TA-50 RLWTF Waste Acceptance Criteria (WAC) prohibits the discharge of accelerator-produced tritium into the treatment facility.

Please call me at (505) 665-6085 or David Moss of the Laboratory's Radioactive Liquid Waste Group (FWO-RLW) at (505) 667-4301 if you have questions or need additional information.

Sincerely,



Mike Saladen  
NPDES Team Leader  
Water Quality and Hydrology Group

MS/tml

Enclosures: a/s

Cy: S. Yanicak, DOE-OB, White Rock, New Mexico, w/o enc.  
B. Hoditschek, NMED-SWQB, Santa Fe, New Mexico, w/enc.  
M. Johansen, DOE-LAAO, w/enc., MS A316  
D. McLain, FWO-RLW, w/o enc., MS E518  
R. Alexander, FWO-RLW, w/o enc., MS E518  
D. Moss, FWO-RLW, w/enc., MS E518  
D. Erickson, ESH-DD, w/o enc., MS K491

RECEIVED  
APR 10 2000  
DOE OVERSIGHT BUREAU



8900

LANL  
DOE  
HSA  
R. Saladen

Cy (continued):

S. Rae, ESH-18, w/o enc., MS K497  
T. Sandoval, ESH-18, w/enc., MS K497  
D. Woitte, UC-GEN, w/o enc., MS A187  
WQ&H File, w/enc., MS K497  
CIC-10, w/enc., MS A150

**LOS ALAMOS NATIONAL LABORATORY  
WASTE PROFILE SYSTEM**

**WPF #: 30118**

09-Mar-2000 10:54 AM

(Version: 2)

p. 1

Generator: **HORAK, HENRY LOUIS** MS : **C927** PH: **75768** Z#: **076175**  
 WMC: **STADELMAIER, AL** MS : **C928** PH: **79746** Z#: **095169**  
 Contact:  
 RCRA Rev: **STANTON, JAMES K.** MS : **J595** PH: **56411** Z#: **111489**  
 Status : **ACTIVE** Activation Date : **21-Jan-1999** Expiration Date: **21-Jan-2001**  
 Group : **ESATSE** TA : **33** Bldg : **000086** Room: **11**

**You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.**

Waste Accumu : **None of the Above** Site ID#

Method of Char : **Analysis/Documents Attached**

**Radiological Analysis**

**Number: attached**

Waste Type : **Process Waste/Spent Chemical/Other**

Waste Classes: **RCA Waste - RCA Waste**  
**RAD Waste - Radioactive-LL**  
**WW Info - RLWTF**  
**Classif/Sensi - N**

Waste Category: **Organic**

Waste Sources : **Housekeeping - Routine**

Waste Matrix : **Aqueous**

Matrix Type : **Homogeneous**

Waste/Proc Desc : **MOP SINK WATER USED FROM THE MOPING OF FLOORS IN FACILITY.**

Ignitability : **Not ignitable**

Corrosivity : **6.1 - 9.0**

Reactivity : **Non-reactive**

Boiling Point : **> 95 F** **> 35 C**

Toxicity Characteristic Metals : **N/A**

Toxicity Characteristic Organic Compounds: **N/A**

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
	<b>MOPWATER</b>	<b>99</b>	<b>100</b>	<b>%</b>

Waste Water Characteristics for RLWTF

Waste Production: **Reactor produced**

Radionuclide Contaminants :

Contaminant	Limit	Min	Max	Unit	Method
<b>H-3</b>		<b>2.00E-09</b>	<b>3.80E-07</b>	<b>Ci/l</b>	

Metal Contaminants:

Contaminant	Limit	Min	Max	Unit	Method
<b>ALUMINUM</b>	<b>Y</b>			<b>ppm</b>	
<b>BORON</b>	<b>Y</b>			<b>ppm</b>	
<b>COBALT</b>	<b>Y</b>			<b>ppm</b>	

**LOS ALAMOS NATIONAL LABORATORY  
WASTE PROFILE SYSTEM  
WPF #: 30118**

09-Mar-2000 10:54 AM

(Version: 2)

p.2

<b>COPPER</b>	<b>Y</b>	<b>ppm</b>
<b>VANADIUM</b>	<b>Y</b>	<b>ppm</b>
<b>ZINC</b>	<b>Y</b>	<b>ppm</b>

**Additional Contaminants:**

Contaminant	Limit	Min	Max	Unit	Method
<b>CHEMICAL OXYGEN DEMAND (COD)</b>		<b>0</b>	<b>0</b>	<b>mg/l</b>	
<b>TOTAL SUSPENDED SOLIDE (TSS)</b>		<b>0</b>	<b>40</b>	<b>mg/l</b>	
<b>TOTAL NITRATES</b>		<b>0</b>	<b>10</b>	<b>mg/l</b>	

Total Beta: 3.80E-07 Ci/l

Average daily flow when discharge occurs: 150 GAL

Maximum daily flow when discharge occurs: 165 GAL

Estimated number of days discharge will occur: 2

Estimated total volume per year discharged to the RLWC at TA-50: 330 GAL

**WASTE CHARACTERIZATION INFORMATION**

Radioactivity Category : **RADIOACTIVE-LL**

RCRA Category : **NON-HAZARDOUS WASTE**

Misc. Category : **FOR DISPOSAL AT TA-50**

Waste Classification : **LOW LEVEL FOR DISPOSAL AT TA-50**

EPA Hazardous Waste Code : N/A

# LOS ALAMOS NATIONAL LABORATORY WASTE PROFILE SYSTEM

WPF #: 20420

09-Mar-2000 10:54 AM

(Version: 5)

p.1

Generator : RUPPRECHT, WARD H      MS : C927      PH: 57335      Z#: 090828

WMC : STADELMAIER, AL      MS : C928      PH: 79746      Z#: 095169

Contact :

RCRA Rev : RODRIGUEZ, GERI      MS : J595      PH: 76259      Z#: 106799

Status : ACTIVE      Activation Date : 17-Apr-1995      Expiration Date: 17-Apr-2000

Group : ESATSE      TA : 16      Bldg : 000205      Room: 114, 116,

**You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.**

Waste Accumu : None of the Above      Site ID#

Method of Char : Knowledge of Process

Waste Type : Process Waste/Spent Chemical/Other

Waste Classes: RCA Waste - Not RCA Waste

RAD Waste - Radioactive-LL

WW Info - RLWTF

Waste Category: Not Applicable

Waste Sources : Housekeeping - Routine

Waste Matrix : Aqueous

Matrix Type : Homogeneous

Waste/Proc Desc : OI - WASTE WATER TANK SAMPLING WETF-OI-WST-08-REV1 MOPSINK EFFLUENT CONTAINING COMMERCIAL CLEANERS.

Ignitability : > 200 F      > 99.3

Corrosivity : 9.1 - 12.4

Reactivity : Non-reactive

Boiling Point : > 95 F      > 35 C

Toxicity Characteristic Metals : N/A

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
	WATER	99	100	%

Additional Information: MOPWATER IS SENT TO 1500G WW TANK IN 5 GAL. BATCHES.

Radiological Characteristics :

Radionuclide	Min	Max	Unit
GRBETA	0.000E+00	5.000E-04	CIL
H3	.0.000E+00	5.000E-04	CIL

Rad Contamination Type : VOLUME CONTAMINATION

Waste Water Characteristics for RLWTF

Waste Production:

LOS ALAMOS NATIONAL LABORATORY  
WASTE PROFILE SYSTEM  
WPF #: 20420

09-Mar-2000 10:54 AM

(Version: 5)

p.2

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category : **RADIOACTIVE-LL**

RCRA Category : **NON-HAZARDOUS WASTE**

Misc. Category : **FOR DISPOSAL AT TA-50**

Waste Classification : **LOW LEVEL FOR DISPOSAL AT TA-50**

EPA Hazardous Waste Code : **N/A**

# LOS ALAMOS NATIONAL LABORATORY WASTE PROFILE SYSTEM

WPF #: 30317

04-Apr-2000 08:23 AM

(Version: 2)

p.1

Generator: **MARTINEZ, BENNIE A.** MS : **J514** PH: **74534** Z#: **080165**  
 WMC: **MARTINEZ, BENNIE** MS : **J514** PH: **74534** Z#: **080165**  
 Contact:  
 RCRA Rev: **STANTON, JAMES K.** MS : **J595** PH: **56411** Z#: **111489**  
 Status: **ACTIVE** Activation Date : **08-Apr-1999** Expiration Date: **08-Apr-2001**  
 Group : **CST7** TA : **48** Bldg : **000001** Room: **308E, 19A**

**You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.**

Waste Accumu : **None of the Above** Site ID#  
 Method of Char : **Analysis/Documents Attached**  
 Chemical/Physical Analysis Number: **LLNL-UE-3e #4 p2-1993**  
 Radiological Analysis Number: **ER-20-5 #1**

Waste Type : **Process Waste/Spent Chemical/Other**  
 Waste Classes: **RCA Waste - RCA Waste**  
                   **RAD Waste - Radioactive-LL**  
                   **WW Info - RLWTF**  
                   **Classif/Sensi - N**

Waste Category: **Inorganic**

Waste Sources : **Investigative Derived**

Waste Matrix : **Aqueous**

Matrix Type : **Homogeneous**

Waste/Proc Desc : **FOR THE TWO SINKS IN BLDG. RC-1 (IN RMS. 308 [EAST SIDE] AND 19A) THE FOLLOWING AMOUNTS OF LIQUID ARE DUMPED DOWN THE TWO DRAINS WHICH GO TO THE TA-50 RLWTF: 55 GALLONS OF TRITIATED NEVADA TEST SITE (NTS) GROUNDWATER WASTE, 5 GALLONS OF TAP WATER, AND 2 GALLONS OF D.I. WATER (ON A MONTHLY BASIS).**

Ignitability : **Not ignitable**

Corrosivity : **6.1 - 9.0**

Reactivity : **Non-reactive**

Boiling Point : **> 95 F**            **> 35 C**

Toxicity Characteristic Metals :

Contaminant	Method	Limit	Min	Max	Unit
<b>ARSENIC</b>	<b>TOTA</b>	<b>Y</b>			<b>PPM</b>
<b>BARIUM</b>	<b>TOTA</b>	<b>Y</b>			<b>PPM</b>
<b>CADMIUM</b>	<b>AK</b>	<b>Y</b>			<b>PPM</b>
<b>CHROMIUM</b>	<b>TOTA</b>	<b>Y</b>			<b>PPM</b>
<b>LEAD</b>	<b>TOTA</b>	<b>Y</b>			<b>PPM</b>
<b>MERCURY</b>	<b>TOTA</b>	<b>Y</b>			<b>PPM</b>
<b>SELENIUM</b>	<b>TOTA</b>	<b>Y</b>			<b>PPM</b>
<b>SILVER</b>	<b>AK</b>	<b>Y</b>			<b>PPM</b>

# LOS ALAMOS NATIONAL LABORATORY WASTE PROFILE SYSTEM

WPF #: 30317

04-Apr-2000 08:23 AM

(Version: 2)

p.2

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
	<b>TRITIATED NTS GROUNDWATER WASTE</b>	<b>84</b>	<b>89</b>	<b>%</b>
	<b>TAP WATER</b>	<b>3</b>	<b>8</b>	<b>%</b>
	<b>DEIONIZED WATER</b>	<b>1</b>	<b>3</b>	<b>%</b>

Additional Information: THE RADIOLOGICAL CONSTITUENTS OF THIS WASTE CONSIST OF: 3H <= TO 1 MCI/L AND <= TO 1 NCI/L OF THE FOLLOWING RADIONUCLIDES: 241AM, 237NP, 137CS, 152EU, 154EU, 155EU, 60CO, 125SB, 239PU, AND 240PU. FOR SAMPLE ER-20-5 #1 THE MAJOR RAD CONSTITUENT LEVELS INCLUDE: 3H = 6.3 X 10E7 PCI/L, 137CS = 1.32 X 10E1 PCI/L, 60CO = 1.3 PCI/L, 152EU = 1.3 PCI/L, 154EU = 1.4 PCI/L, 155EU = 2.9X10E-1 PCI/L: SEE DATA ATTACHED

Waste Water Characteristics for RLWTF

Waste Production: Other

Radionuclide Contaminants :

Contaminant	Limit	Min	Max	Unit	Method
AS-74	Y			Ci/l	
BE-7	Y			Ci/l	
CE-141	Y			Ci/l	
CS-134	Y			Ci/l	
CS-137	Y			Ci/l	
CO-56	Y			Ci/l	
CO-57	Y			Ci/l	
CO-58	Y			Ci/l	
CO-60	Y			Ci/l	
EU-152	Y			Ci/l	
H-3		2.00E-08	1.00E-03	Ci/l	
I-133	Y			Ci/l	
MN-52	Y			Ci/l	
MN-54	Y			Ci/l	
RA-226 + 228	Y			Ci/l	
RB-83	Y			Ci/l	
RB-84	Y			Ci/l	
SC-46	Y			Ci/l	
SC-48	Y			Ci/l	
SE-75	Y			Ci/l	
NA-22	Y			Ci/l	
SR-85	Y			Ci/l	
SR-89	Y			Ci/l	
SR-90	Y			Ci/l	
SN-113	Y			Ci/l	
V-48	Y			Ci/l	
Y-88	Y			Ci/l	
ZN-65	Y			Ci/l	
AM-241	Y			Ci/l	
PU-238	Y			Ci/l	
PU-239	Y			Ci/l	
U-234	Y			Ci/l	



LOS ALAMOS NATIONAL LABORATORY  
WASTE PROFILE SYSTEM  
WPF #: 30317

04-Apr-2000 08:23 AM

(Version: 2)

p.3

Metal Contaminants:

Contaminant	Limit	Min	Max	Unit	Method
ALUMINUM	Y			ppm	
BORON	Y			ppm	
COBALT	Y			ppm	
COPPER	Y			ppm	
VANADIUM	Y			ppm	
ZINC	Y			ppm	
Total Alpha:	9.99E-09	Ci/l			
Total Beta:	1.00E-03	Ci/l			
Total Gamma:	9.99E-09	Ci/l			

Average daily flow when discharge occurs: 55 GAL

Maximum daily flow when discharge occurs: 62 GAL

Estimated number of days discharge will occur: 12

Estimated total volume per year discharged to the RLWC at TA-50: 744 GAL

WASTE CHARACTERIZATION INFORMATION

Radioactivity Category : **RADIOACTIVE-LL**

RCRA Category : **NON-HAZARDOUS WASTE**

Misc. Category : **FOR DISPOSAL AT TA-50**

Waste Classification : **LOW LEVEL FOR DISPOSAL AT TA-50**

EPA Hazardous Waste Code : **N/A**

LOS ALAMOS NATIONAL LABORATORY  
WASTE PROFILE SYSTEM  
WPF #: 26183

04-Apr-2000 08:23 AM

(Version: 3)

p.1

Generator : CARLSON, RICHARD MS : C348 PH: 73651 Z#: 082886  
 WMC : STADELMAIER, AL MS : C928 PH: 79746 Z#: 095169  
 Contact :  
 RCRA Rev : HARRIS, GORDON MS : J595 PH: 54000 Z#: 111580  
 Status : ACTIVE Activation Date : 22-May-1997 Expiration Date: 22-May-2000  
 Group : ESATSE TA : 21 Bldg : 000000 Room: 0

You are required to keep a copy of the WPF(s) in your files for at least three years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, please submit a new WPF to FWO-SWO Customer Service, and attach a copy of the WPF which is being replaced.

Waste Accumu : None of the Above Site ID#

Method of Char : Knowledge of Process

Waste Type : Process Waste/Spent Chemical/Other

Waste Classes: RCA Waste - Not RCA Waste  
 RAD Waste - Radioactive-LL  
 WW Info - RLWTF

Waste Category: Not Applicable

Waste Sources : Research/Development/Testing

Waste Matrix : Aqueous

Matrix Type : Homogeneous

Waste/Proc Desc : WASTE GENERATED BY MULTIPLE USER/GENERATORS AT TSTA AND TSFF. WASTE IS BEING DISCHARGED TO THE RADIOACTIVE LIQUID WASTE TREATMENT FACILITY (RLWTF) AT TA-21, THROUGH THE DRAINS CONNECTED TO THE COLLECTION SYSTEM. WASTE MOP WATER FROM FLOOR CLEANING, DE-CON OF TOOLS AND EQUIPMENT INTO SINKS, RELEASE OF COOLING TOWER WATER.

Ignitability : Not ignitable

Corrosivity : 6.1 - 9.0

Reactivity : Non-reactive

Boiling Point : Not applicable

Toxicity Characteristic Metals : N/A

Toxicity Characteristic Organic Compounds: N/A

Additional Chemical Constituents and Contaminants :

CAS NO	Constituent	MIN	MAX	UOM
	WATER TRITIATED	95	99	%
	ULTIMA GOLD	0	.005	%
	SEVENTY-7 DETERGENT	0	.05	%

Additional Information: AVERAGE DISPOSAL TO THE RADIOACTIVE LIQUID WASTE COLLECTION SYSTEM (RLWSC) IS 20 TO 60 GALLONS PER DAY. HOWEVER THE COOLING TOWER HAS BEEN RECENTLY CONNECTED TO THE RLWCS AS PART OF THE WASTE STREAM CORRECTION PLAN WHICH CAN RELEASE UPTO 5000 GAL ON A GIVEN DAY.

Radiological Characteristics :

Radionuclide	Min	Max	Unit
--------------	-----	-----	------

LOS ALAMOS NATIONAL LABORATORY  
WASTE PROFILE SYSTEM  
WPF #: 26183

04-Apr-2000 08:23 AM

(Version: 3)

p.2

H3 0.000E+00 2.000E-08 CIL

Rad Contamination Type : **VOLUME CONTAMINATION**

Waste Water Characteristics for RLWTF

Waste Production:

Metal Contaminants:

Contaminant	Limit	Min	Max	Unit	Method
ALUMINUM	Y			ppm	
BORON	Y			ppm	
COBALT	Y			ppm	
COPPER	Y			ppm	
VANADIUM	Y			ppm	
ZINC	Y			ppm	

Average daily flow when discharge occurs: 40 GAL

Maximum daily flow when discharge occurs: 5000 GAL

Estimated number of days discharge will occur: 260

Estimated total volume per year discharged to the RLWC at TA-50: 60000 GAL

**WASTE CHARACTERIZATION INFORMATION**

Radioactivity Category : **RADIOACTIVE-LL**

RCRA Category : **NON-HAZARDOUS WASTE**

Misc. Category : **FOR DISPOSAL AT TA-50**

Waste Classification : **LOW LEVEL FOR DISPOSAL AT TA-50**

EPA Hazardous Waste Code : N/A