Los Alamos NATIONAL LABORATORY EST.1943

ESHID-602439

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Date: MAR 0 6 2017
Symbol: EPC-DO: 17-095
LA-UR: 17-21107
Locates Action No.: N/A

Mr. John E. Kieling
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Subject: Notification of Resolved Off-site Shipment Discrepancy

Dear Mr. Kieling:

On November 9, 2016, the Permittees provided the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) an email notification which served as the three day notice per Permit Section 2.4.7(4). Permit Section 2.4.7(4) which states the Permittees shall notify the NMED-HWB in writing within three days of receipt of a notice of a waste not matching the pre-approved waste analysis certification or accompanying waste manifest from the receiving facility.

The purpose of this letter is to follow up with the NMED-HWB regarding the past waste characterization discrepancy and provide a summary of the discrepancy and corrective actions.

The Permittees shipped a regulated liquid waste container W830372 to Veolia ES Technical Solutions, LLC in Colorado on September 29, 2016 and the shipment was received on October 5, 2016. The manifest was returned to the Permittees thereafter without any discrepancies. In accordance with normal operations at the Treatment Storage and Disposal Facility (TSDF) the pH levels were verified and measured at 2.22. On November 8, 2016, the Permittees received a notification from Veolia ES Technical Solutions, LLC stating that the pH of container (W830372) was 2.22, however the waste profile indicated a pH of >12.5. Additional information is provided in Enclosed 1.

LANL has evaluated the waste characterization discrepancy and enclosed a discrepancy summary and corrective actions. Also enclosed are the Waste Profile Forms (WPF) related to the discrepancy. The waste

was originally shipped out as WPF 42757 (Enclosure 3) and then corrected in WPF 41866 (Enclosure 2) waste stream.

If you have comments or questions regarding this discrepancy, please contact Karen E. Armijo, NA-LA, at (505) 665-7314 or Mark P. Haagenstad, LANS, at (505) 665-2014.

Sincerely,

John C. Bretzke
Division Leader

Sincerely,

Karen E. Armijo
Permitting and Compliance Program Manager

JCB/KEA/MPH/PLP:am

Enclosure (s) 1: Discrepancy Summary and Corrective Actions
2: Waste Profile Form 41866
3: Waste Profile Form 42757

Copy: Laurie King, USEPA/Region 6, Dallas, TX (E-File)
Dave Cobrain, NMED/HWB, Santa Fe, NM (E-File)
Karen E. Armijo, NA-LA, (E-File)
Jody M. Pugh, NA-LA, (E-File)
Michael T. Brandt, ADESH, (E-File)
John C. Bretzke, EPC-DO, (E-File)
Steven J. Singledecker, WM-SVS, (E-File)
Jeffery Lee, DESHF-WFO, (E-File)
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ENCLOSURE 1

Discrepancy Summary and Corrective Action

EPC-DO: 17-095

LA-UR-17-21107

MAR 0 6 2017

Date: _____

Discrepancy Summary

On September 20, 2016 the Waste Management Coordinator (WMC) began accumulating waste water from an etching solutions tank located at Technical Area (TA) 22, Los Alamos National Laboratory (LANL). The area and process from which this waste originated produces a combination of sodium hydroxide, ferric chloride, and water from flushing and draining of etching solution tanks. Waste characterization Acceptable Knowledge (AK) provided by the generator indicated that the drum should have contained inorganic liquids, very dilute aqueous liquids containing more that 99% water from recirculating water with sodium hydroxide from a TA-22 etching shop tank. AK and previous screening of this waste stream indicated that it would have a pH of >12.5.

During subsequent fact finding regarding this issue, it was determined that the waste stream produced was predominantly ferric chloride when it was anticipated to only contain sodium hydroxide and water. Thus resulted in a much lower pH than expected. This waste type is an anticipated waste stream from this source and, had pH screening been performed, would have been correctly characterized under Wastes Profile Form (WPF) 41866. The Waste Management Coordinator (WMC) typically tests waste from this process but inadvertently missed this container for confirmation.

On September 29, 2016, LANL shipped container W830372 to Veolia ES Technical Solutions, LLC in Colorado. The shipment was received on October 5, 2016, and the manifest returned to LANL with no discrepancies. LANL received notification on November 8, 2016 that the pH of the waste in this container was at 2.22, however it was inadvertently characterized with a pH of >12.5 (WPF 42757).

The waste item, W830372 contained recirculating water with sodium hydroxide from a TA-22 etching shop tank. A D002 EPA Hazardous Waste Number was applied to the waste, and the WPF showed as having a pH of >12.5. This waste was shipped as UN1824, waste sodium hydroxide solution, 8, II.

Corrective Actions

The following corrective actions were implemented immediately after notification of the discrepancy to preclude a recurrence of the events described in this discrepancy summary:

- Waste shipments from TA-22 were paused until all aqueous liquid waste streams from TA-22 could be screened for pH and validated with existing WPFs. All aqueous liquid waste streams from TA-22 were screened for pH.

In addition, the following corrective actions and additional evaluations are recommended to preclude a recurrence of the events described in this discrepancy summary:

- P409, Waste Management Tools will be updated to require all aqueous hazardous waste undergo pH screening.

- Standing Order, WM-SVS-SO-14-006, WM-SVS Area L and J Pre-Screening Process will be updated until P409 and associated tools are updated to include pH screening requirements.
- Standing Order, WM-SVS-SO-14-006, WM-SVS Area L and J Pre-Screening Process will be revised to require WM-SVS to perform pH screening for waste located at Area L or J and require aqueous waste shipped directly off-site from a generator waste storage area to undergo pH screening.
- LANL will hold formally documented training on the revised pH screening standard.
- LANL will issue a lessons learned regarding the events.

ENCLOSURE 2

Waste Profile Form 41866

EPC-DO: 17-095

LA-UR-17-21107

MAR 0 6 2017

Date: _____

waste compliance and tracking system

WASTE PROFILE FORM COVER SHEET

41866
APPROVED

Waste Characterization Information

Waste Stream ID:	41866
WPF ID (Legacy):	
Waste Stream Name:	SPENT FERRIC CHLORIDE ETCHANT AND WATER.
Expiration Date:	07/29/2017
Waste Type:	Hazardous Waste
Radiological Type:	Non Radioactive
RCRA Category:	RCRA Solid Hazardous
Ancillary Types:	
Primary Composition:	Aqueous Solutions
Composition (other):	WATER;FERRIC CHLORIDE;HCL
EPA Codes:	D002 D007
Waste Acceptance:	
EPA Form Code:	W105
	Inorganic Liquids: Acidic aqueous wastes less than 5% acid (diluted but pH <2)
EPA Source Code:	G04
	Wastes from Ongoing Production and Service Processes: Etching (using caustics or other methods to remove layers or partial layers)

Waste Generation Estimates

YEAR	VOLUME
2018	600.00 gal
2017	600.00 gal
2016	600.00 gal
2015	600.00 gal

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WASTE PROFILE FORM

Reference Number

WCATS ID	Legacy WPF ID
41866	

Generator's Z Number	Waste Generator's Name *(print)*	WMC's Z Number	WMC's Name *(print)*		Generator's Phone
088282	MILLS, WILLIAM	217511	LEE, JEFFREY		5056675401
Generator's Mail Stop	**Waste Generating Group**	**Waste Stream Technical Area**	**Building**	**Room**	**WMC Phone**
P950	DET-3	22	000091	B111	5056674537

Waste Accumulation *(check only one)*

- ☐ Satellite Accumulation Area — Site No: _____
- ☐ Less-than-90 Days Storage Area — Site No: _____
- ☐ TSDF — Site No: _____
- ☐ Universal Waste Storage Area — Site No: _____
- ☐ Used Oil for Recycle — Site No: _____

ER Use Only

- ☐ ER Site — SWMU/AOC No. _____

- ☐ PCBs Storage Area — Site No: _____
- ☐ NM Special Waste — Site No: _____
- ☐ Rad Staging Area — Site No: _____
- ☐ Rad Storage Area — Site No: _____
- ☑ None of the Above — Site No: _____

Method of Characterization *(check as many as apply)*

☑ Analysis/Documents Attached	☑ Attached	Sample No: WST22-15-98287
☐ Chemical/Physical Analysis	☐ Attached	Sample No: _____
☐ Radiological Analysis	☐ Attached	Sample No: _____
☐ PCB Analysis	☐ Attached	Sample No: _____
☐ Acceptable Knowledge Documentation	☐ Attached	Documentation No: _____
☑ Material Safety Data Sheet (MSDS)	☑ Attached	Ferric Chloride Etchants MSDS

Section 1 - Waste Prevention/Minimization *(answer all questions)*

Can hazard segregation, elimination, or material substitution be used?	☐ Yes *(provide comments)*	☑ No
Can any of the materials in the waste stream be recycled or reused?	☐ Yes *(provide comments)*	☑ No
Has waste minimization been incorporated into procedures or other process controls?	☑ Yes	☐ No *(provide comments)*
Can this waste be generated outside a RCA?	☐ Yes *(provide comments)*	☐ No ☑ N/A

Comments:

Section 2 - Chemical and Physical Information

Waste Type *(check only one)*

- ☐ Unused/Unspent Chemical
- ☑ Process Waste/Spent Chemical/Other

Radiological Information

Was Waste generated in a RCA?

- ☐ Yes ☑ No
- ☑ Non-radioactive
- ☐ Radioactive - Low Level
- ☐ Radioactive - Transuranic

Waste Destination *(check one)*

- ☐ SWWS
- ☐ RLWTF
- ☐ RLWTP
- ☐ TA-16/HE
- ☐ NTS

Classified Information

- ☑ Unclassified
- ☐ Classified/Sensitive

Waste Category *(check all that apply)*

- ☑ Inorganic
- ☐ Organic
- ☐ Solvent (see instructions)
- ☐ Degreaser (see instructions)
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous Waste or Residue
- ☐ No-Longer Contained-In
- ☐ Explosive Process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (see instructions)
- ☐ Battery (see instructions)

Asbestos

- ☐ Friable
- ☐ Non-Friable

PCB Source Concentration

- ☐ PCB < 50 ppm
- ☐ PCB >= 50 - < 500 ppm
- ☐ PCB >= 500 ppm
- ☐ Hazardous Waste Contaminated Soil
- ☐ Untreated Hazardous Debris
- ☐ Commercial Solid Waste
- ☐ Other [Describe]

Other:

Waste Source *(check only one)*

Waste Source A

- ☐ Decon
- ☑ Materials Processing/Production
- ☐ Research/Development/Testing
- ☐ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (describe)

Waste Source B

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☐ Remediation/Restoration
- ☐ Repacking (secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping (non-routine)
- ☐ Spill Cleanup (non-routine)
- ☐ Non-Petroleum Tanks
- ☐ Petroleum Tanks
- ☐ Other (describe)

Other:

Waste Matrix *(check only one)*

Gas

- ☐ ≤1.5 Atmospheres Pressure
- ☐ >1.5 Atmospheres Pressure
- ☐ Liquified Compressed Gas

Liquid

- ☑ Aqueous
- ☐ Non-Aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-Aqueous

Solid

- ☐ Powder/Ash/Dust
- ☐ Solid
- ☐ Sludge
- ☐ Absorbed/Solidified Liquid
- ☐ Debris

Matrix Type *(check only one)*

- ☑ Homogeneous
- ☐ Heterogeneous

Estimate Annual Volume (m^3):

Section 3 - Process and Waste Description

Process Description:
SPENT FERRIC CHLORIDE ETCHANT FROM RENSING AND DRAINING OF THE ETCHING MACHINE.

Waste Description:
FERRIC CHLORIDE AND WATER

Section 4 - Characteristics

Ignitability *(check only one)*
- ☐ < 73 F (< 22.8 C)
- ☐ 73 - 99 F (22.8 - 37.2 C)
- ☐ 100 - 139 F (37.8 - 59.4 C)
- ☐ 140 - 200 F (60.0 - 99.3 C)
- ☐ > 200 (> 99.3 C)
- ☐ EPA Ignitable - Non-liquid
- ☐ DOT Flammable Gas
- ☐ DOT Oxidizer
- ☑ Not Ignitable

Corrosivity *(check only one)* (pH)
- ☑ <= 2.0
- ☐ 2.1 - 4.0
- ☐ 4.1 - 6.0
- ☐ 6.1 - 9.0
- ☐ 9.1 - 12.4
- ☐ >= 12.5
- ☐ Liquid Corrosive to Steel
- ☐ Non-aqueous

Reactivity *(check as many as apply)*
- ☐ RCRA Unstable
- ☐ Water Reactive
- ☐ Cyanide Bearing
- ☐ Sulfide Bearing
- ☐ Pyrophoric
- ☐ Shock Sensitive
- ☐ Explosive [Specify DOT Div.]
- ☑ Non-Reactive

Boiling Point *(check only one)*
- ☐ <= 95 F (<= 35 C)
- ☑ >95 F (> 35 C)
- ☐ Not Applicable

Identify for all contaminants listed	Characterization Method: AK	TCLP	Total	None or Non-detect	Concentration of Contaminants: Contaminant present at Minimum	Maximum	Regulatory Limit
Toxicity Characteristic Metals					(10,000 ppm = 1%)		
Arsenic	☐	☐	☑	☐	0 to	0.0556 ppm	5.0 ppm
Barium	☐	☐	☑	☐	0 to	0.16 ppm	100.0 ppm
Cadmium	☑	☐	☐	☑	to	ppm	1.0 ppm
Chromium	☐	☐	☑	☐	0 to	9.34 ppm	5.0 ppm
Lead	☑	☐	☐	☑	to	ppm	5.0 ppm
Mercury	☑	☐	☐	☑	to	ppm	0.2 ppm
Selenium	☑	☐	☐	☑	to	ppm	1.0 ppm
Silver	☐	☐	☑	☐	0 to	0.0331 ppm	5.0 ppm
Toxicity Characteristic Organics							
Benzene	☑	☐	☐	☑	to	ppm	0.5 ppm
Carbon tetrachloride	☑	☐	☐	☑	to	ppm	0.5 ppm
Chlorobenzene	☑	☐	☐	☑	to	ppm	100.0 ppm
Chloroform	☑	☐	☐	☑	to	ppm	6.0 ppm
Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
p-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
m-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
o-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
1,4-Dichlorobenzene	☑	☐	☐	☑	to	ppm	7.5 ppm
1,2-Dichloroethane	☑	☐	☐	☑	to	ppm	0.5 ppm
1,1-Dichloroethylene	☑	☐	☐	☑	to	ppm	0.7 ppm
2,4-Dinitrotoluene	☑	☐	☐	☑	to	ppm	0.13 ppm
Hexachlorobenzene	☑	☐	☐	☑	to	ppm	0.13 ppm
Hexachlorobutadiene	☑	☐	☐	☑	to	ppm	0.5 ppm
Hexachloroethane	☑	☐	☐	☑	to	ppm	3.0 ppm
Methyl ethyl ketone	☑	☐	☐	☑	to	ppm	200.0 ppm
Nitrobenzene	☑	☐	☐	☑	to	ppm	2.0 ppm
Pentachlorophenol	☑	☐	☐	☑	to	ppm	100.0 ppm
Pyridine	☑	☐	☐	☑	to	ppm	5.0 ppm
Tetrachloroethylene	☑	☐	☐	☑	to	ppm	0.7 ppm
Trichloroethylene	☑	☐	☐	☑	to	ppm	0.5 ppm
2,4,6-Trichlorophenol	☑	☐	☐	☑	to	ppm	2.0 ppm
2,4,5-Trichlorophenol	☑	☐	☐	☑	to	ppm	400.0 ppm
Vinyl chloride	☑	☐	☐	☑	to	ppm	0.2 ppm
Herbicides and Pesticides							
Chlordane	☑	☐	☐	☑	to	ppm	0.03 ppm
2,4-D	☑	☐	☐	☑	to	ppm	10.0 ppm
Endrin	☑	☐	☐	☑	to	ppm	0.02 ppm
Heptachlor (& its epoxide)	☑	☐	☐	☑	to	ppm	0.008 ppm
Lindane (gamma-BHC)	☑	☐	☐	☑	to	ppm	0.4 ppm
Methoxychlor	☑	☐	☐	☑	to	ppm	10.0 ppm
2,4,5-TP (Silvex)	☑	☐	☐	☑	to	ppm	1.0 ppm
Toxaphene	☑	☐	☐	☑	to	ppm	0.5 ppm

Section 5 - Additional Constituents and Contaminants

Additional Constituents and Contaminants. Please account for 100% of waste. Range should be given within guidelines of individual constituents. List all other constients (including inerts) not identified above and attach any applicable analysis. No chemical formula allowed in this field. Continue in Section 3 Additional information as necessary. CAS numbers are needed for all chemical constituents, for material without a CAS number, enter "No CAS Number".

CAS No.	Name of constituent	Minimum (ppm)		Maximum (ppm)
7732-18-5	WATER	300000	to	550000
7440-50-8	COPPER	10000	to	30000
7439-89-6	IRON	50000	to	160000
7439-96-5	MANGANESE	100	to	500
7440-23-5	SODIUM	100	to	1100
7440-66-6	ZINC	10	to	50
7429-90-5	ALUMINUM	10	to	40
7440-70-2	CALCIUM	10	to	60
7440-02-0	NICKEL	10	to	40
7439-95-4	Magnesium	10	to	30
7440-09-7	Potassium	10	to	40
7439-98-7	Molybdenum	10	to	30
7440-31-5	Tin	10	to	40
7440-48-4	Cobalt	10	to	30
7705-08-0	Ferric chloride	300000	to	500000
7647-01-0	Hydrochloric acid	10	to	10000
7440-24-6	Strontium	10	to	30
7440-62-2	Vanadium	10	to	30
14808-60-7	Quartz	1	to	100
-----	Silicon Dioxide	1	to	100
	Total of max. ranges of this section and page 2			125.22 in %

Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below

Section 6 - Work Control Documentation

Do the procedures for this process cover how to manage this waste? ☑ Yes ☐ No *(provide comments)*

Do the procedures for this process address controls to prevent changes to waste constituents and concentrations or addition or removal of waste to/from containers? ☑ Yes ☐ No *(provide comments)*

Comments:

Section 7 - Packaging and Storage Control

Describe how the waste will be packaged in according to the applicable WAC.

DOT compliant container

Identify the storage management controls that will be used for this waste stream: *(check all that apply)*

☐ Tamper Indication Devices ☐ Limited use locks with log-in for waste ☑ Locked cabinet or building ☐ Other (describe)

Section 8 - Waste Certification Statements

☑ Waste appears to meet WAC attachment for: HAZ

☐ Waste stream needs exception/exemption for treatment, storage, or disposal.

☐ Waste does not meet the criteria for any known TSDF. (DOE approval is required. Contact the office of the Principle Associate Director for Weapons Programs [PADWP] for assistance.)

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the waste characterization information on this form is correct and that it meets the requirements of the applicable waste acceptance criteria. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: *WILLIAM MILLS (088282)* Date: *07/30/15 08:26 AM*

Waste Certifying Official: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *JEFFREY LEE (217511)* Date: *07/30/15 08:46 AM*

RCRA Review: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *ANDY ELICIO (118692)* Date: *07/30/15 08:56 AM*

Attachment 4 - LDR and UHC

Identify category and presence of any constituents listed below *(equal to or above limit)*.

Non-Wastewater/Wastewater Category *(check only one)*

☐ Non Wastewater ☑ Wastewater [as defined by 40 CFR 268.2(f)] ☐ Lab Pack [40 CFR 268.2(f)] **Sign Certification #1**

Notifications and Certifications - Check the appilcable boxes

Generator Requirements:

☐ This shipment contains hazardous waste contaminated soil that does not meet treatment standards **Sign Certification #2**
☐ This shipment contains untreated hazardous debris to be treated to 40 CFR 268.45 treatment standards **(No certification)**
☐ Hazardous wastes (except soil) meeting treatment standards at point of generation **Sign Certification #3**
☐ Hazardous wastes contaminated soil meeting treatment standards at point of generation **Sign Certification #4**

TSDF or Generator Treatment:

☐ TSDF treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #5**
☐ Generator treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #6**
☐ Hazardous wastes contaminated soil treated to 40 CFR 268.49 **Sign Certification #7**
☐ Wastes or residues from characteristic hazardous waste treatment meeting treatment standards and UTS **Sign Certification #8**
☐ Wastes or residues from characteristic hazardous waste treatment not meeting UTS **Sign Certification #9**
☐ Other TSDF wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #10**
☐ Other generator wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #11**

Notification of Underlying Hazardous Constituents

(Check the applicable underlying constituents above the concentration levels for D001 through D043 characterstic wastes only)

☐ ***No Underlying Hazardous Constituents in this waste stream.***

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Acenaphthene	83-32-9	0.059	3.4	34.0
☐	Acenaphthylene	208-96-8	0.059	3.4	34.0
☐	Acetone	67-64-1	0.28	160.0	1600.0
☐	Acetonitrile	75-05-8	5.6	38.0	380.0
☐	Acetophenone	98-86-2	0.01	9.7	97.0
☐	2-Acetylaminofluorene	53-96-3	0.059	140.0	1400.0
☐	Acrolein	107-02-8	0.29	N/A	N/A
☐	Acrylamide	79-06-1	19.0	23.0	230.0
☐	Acrylonitrile	107-13-1	0.24	84.0	840.0
☐	Aldicarb sulfone	1646-88-4	0.056	0.28	2.8
☐	Aldrin	309-00-2	0.021	0.066	0.66
☐	4-Aminobiphenyl	92-67-1	0.13	N/A	N/A
☐	Aniline	62-53-3	0.81	14.0	140.0
☐	o-Anisidine	90-04-0	0.01	0.66	6.6
☐	Anthracene	120-12-7	0.059	3.4	34.0
☐	Aramite	140-57-8	0.36	N/A	N/A
☐	alpha-BHC	319-84-6	0.00014	0.066	0.66
☐	beta-BHC	319-85-7	0.00014	0.066	0.66
☐	delta-BHC	319-86-8	0.023	0.066	0.66
☐	Barban	101-27-9	0.056	1.4	14.0
☐	Bendiocarb	22781-23-3	0.056	1.4	14.0
☐	Benomyl	17804-35-2	0.056	1.4	14.0
☐	Benz[a]anthracene	56-55-3	0.059	3.4	34.0
☐	Benzal chloride	98-87-3	0.055	6.0	60.0
☐	Benzene	71-43-2	0.14	10.0	100.0
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8	68.0
☐	Benzo[a]pyrene	50-32-8	0.061	3.4	34.0
☐	Benzo[ghi]perylene	191-24-2	0.0055	1.8	18.0
☐	Benzo[k]fluoranthene	207-08-9	0.11	6.8	68.0
☐	Bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2	72.0
☐	Bis(2-chloroethyl) ether	111-44-4	0.033	6.0	60.0
☐	Bis(2-chloroisopropyl) ether	39638-32-9	0.055	7.2	72.0
☐	Bis(2-ethylhexyl) phthalate	117-81-7	0.28	28.0	280.0
☐	Bromodichloromethane	75-27-4	0.35	15.0	150.0
☐	Bromomethane	74-83-9	0.11	15.0	150.0
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15.0	150.0
☐	n-Butyl alchohol	71-36-3	5.6	2.6	26.0
☐	Butyl benzyl phthalate	85-68-7	0.017	28.0	280.0
☐	Butylate	2008-41-5	0.042	1.4	14.0
☐	Carbaryl	63-25-2	0.006	0.14	1.4

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Carbendazim	10605-21-7	0.056	1.4	14.0
☐	Carbofuran	1563-66-2	0.006	0.14	1.4
☐	Carbofuran phenol	1563-38-8	0.056	1.4	14.0
☐	Carbon disulfide	75-15-0	3.8	4.8	48.0
☐	Carbon tetrachloride	56-23-5	0.057	6.0	60.0
☐	Carbosulfan	55285-14-8	0.028	1.4	14.0
☐	Chlordane	57-74-9	0.0033	0.26	2.6
☐	p-Chloro-m-cresol	59-50-7	0.018	14.0	140.0
☐	p-Chloroaniline	106-47-8	0.46	16.0	160.0
☐	Chlorobenzene	108-90-7	0.057	6.0	60.0
☐	Chlorobenzilate	510-15-6	0.1	N/A	N/A
☐	Chlorodibromomethane	124-48-1	0.057	15.0	150.0
☐	Chloroethane	75-00-3	0.27	6.0	60.0
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	N/A	N/A
☐	Chloroform	67-66-3	0.046	6.0	60.0
☐	Chloromethane	74-87-3	0.19	30.0	300.0
☐	2-Chloronaphthalene	91-58-7	0.055	5.6	56.0
☐	2-Chlorophenol	95-57-8	0.044	5.7	57.0
☐	Chloroprene	126-99-8	0.057	0.28	2.8
☐	3-Chloropropylene	107-05-1	0.036	30.0	300.0
☐	Chrysene	218-01-9	0.059	3.4	34.0
☐	p-Cresidine	120-71-8	0.01	0.66	6.6
☐	m-Cresol	108-39-4	0.77	5.6	56.0
☐	o-Cresol	95-48-7	0.11	5.6	56.0
☐	p-Cresol	106-44-5	0.77	5.6	56.0
☐	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4	14.0
☐	Cyanide (Amenable)	57-12-5*	0.86	30.0	300.0
☐	Cyanide (Total)	57-12-5	1.2	590.0	5900.0
☐	Cyclohexanone	108-94-1	0.36	0.75	7.5
☐	2,4-D	94-75-7	0.72	10.0	100.0
☐	o,p'-DDD	53-19-0	0.023	0.087	0.87
☐	p,p'-DDD	72-54-8	0.023	0.087	0.87
☐	o,p'-DDE	3424-82-6	0.031	0.087	0.87
☐	p,p'-DDE	72-55-9	0.031	0.087	0.87
☐	o,p'-DDT	789-02-6	0.0039	0.087	0.87
☐	p,p'-DDT	50-29-3	0.0039	0.087	0.87
☐	Di-n-butyl phthalate	84-74-2	0.057	28.0	280.0
☐	Di-n-octyl phthalate	117-84-0	0.017	28.0	280.0
☐	Di-n-propylnitrosamine	621-64-7	0.4	14.0	140.0
☐	Dibenz[a,h]anthracene	53-70-3	0.055	8.2	82.0
☐	Dibenzo[a,e]pyrene	192-65-4	0.061	N/A	N/A
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0	150.0
☐	1,2-Dibromoethane	106-93-4	0.028	15.0	150.0
☐	Dibromomethane	74-95-3	0.11	15.0	150.0
☐	1,4-Dichlorobenzene	106-46-7	0.09	6.0	60.0
☐	m-Dichlorobenzene	541-73-1	0.036	6.0	60.0
☐	o-Dichlorobenzene	95-50-1	0.088	6.0	60.0
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2	72.0
☐	1,1-Dichloroethane	75-34-3	0.059	6.0	60.0
☐	1,2-Dichloroethane	107-06-2	0.21	6.0	60.0
☐	1,1-Dichloroethylene	75-35-4	0.025	6.0	60.0
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30.0	300.0
☐	2,4-Dichlorophenol	120-83-2	0.044	14.0	140.0
☐	2,6-Dichlorophenol	87-65-0	0.044	14.0	140.0
☐	1,2-Dichloropropane	78-87-5	0.85	18.0	180.0
☐	trans-1,3-Dichloropropene	10061-02-6	0.036	18.0	180.0
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0	180.0
☐	Dieldrin	60-57-1	0.017	0.13	1.3
☐	Diethyl phthalate	84-66-2	0.2	28.0	280.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Dimethyl phthalate	131-11-3	0.047	28.0	280.0
☐	p-Dimethylaminoazobenzene	60-11-7	0.13	N/A	N/A
☐	2,4-Dimethylphenol	105-67-9	0.036	14.0	140.0
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160.0	1600.0
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3	23.0
☐	2,4-Dinitrophenol	51-28-5	0.12	160.0	1600.0
☐	2,4-Dinitrotoluene	121-14-2	0.32	140.0	1400.0
☐	2,6-Dinitrotoluene	606-20-2	0.55	28.0	280.0
☐	Dinoseb	88-85-7	0.066	2.5	25.0
☐	1,4-Dioxane	123-91-1	12.0	170.0	1700.0
☐	Diphenylamine	122-39-4	0.92	13.0	130.0
☐	1,2-Diphenylhydrazine	122-66-7	0.087	N/A	N/A
☐	Disulfoton	298-04-4	0.017	6.2	62.0
☐	Dithiocarbamates (total)	WCATS-001	0.028	28.0	280.0
☐	EPTC	759-94-4	0.042	1.4	14.0
☐	Endosulfan I	959-98-8	0.023	0.066	0.66
☐	Endosulfan II	33213-65-9	0.029	0.13	1.3
☐	Endosulfan sulfate	1031-07-8	0.029	0.13	1.3
☐	Endrin	72-20-8	0.0028	0.13	1.3
☐	Endrin aldehyde	7421-93-4	0.025	0.13	1.3
☐	Ethyl acetate	141-78-6	0.34	33.0	330.0
☐	Ethyl benzene	100-41-4	0.057	10.0	100.0
☐	Ethyl ether	60-29-7	0.12	160.0	1600.0
☐	Ethyl methacrylate	97-63-2	0.14	160.0	1600.0
☐	Ethylene oxide	75-21-8	0.12	N/A	N/A
☐	Famphur	52-85-7	0.017	15.0	150.0
☐	Fluoranthene	206-44-0	0.068	3.4	34.0
☐	Fluorene	86-73-7	0.059	3.4	34.0
☐	Fluoride	16984-48-8	35.0	N/A	N/A
☐	Formetanate hydrochloride	23422-53-9	0.056	1.4	14.0
☐	Heptachlor (& its epoxide)	76-44-8	0.0012	0.066	0.66
☐	Heptachlor epoxide	1024-57-3	0.016	0.066	0.66
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025	0.025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025	0.025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025	0.025
☐	Hexachlorobenzene	118-74-1	0.055	10.0	100.0
☐	Hexachlorobutadiene	87-68-3	0.055	5.6	56.0
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4	24.0
☐	Hexachloroethane	67-72-1	0.055	30.0	300.0
☐	Hexachloropropene	1888-71-7	0.035	30.0	300.0
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001	0.01
☐	HxCDFs (All Hexachlorodibenzo-furans)	55684-94-1	0.000063	0.001	0.01
☐	Indeno[1,2,3-cd]pyrene	193-39-5	0.0055	3.4	34.0
☐	Iodomethane	74-88-4	0.19	65.0	650.0
☐	Isobutyl alcohol	78-83-1	5.6	170.0	1700.0
☐	Isodrin	465-73-6	0.021	0.066	0.66
☐	Isosafrole	120-58-1	0.081	2.6	26.0
☐	Kepone	143-50-0	0.0011	0.13	1.3
☐	Lindane (gamma-BHC)	58-89-9	0.0017	0.066	0.66
☐	Mercury (Retort Residues)	7439-97-6*	N/A	0.2	2.0
☐	Methacrylonitrile	126-98-7	0.24	84.0	840.0
☐	Methanol	67-56-1	5.6	0.75	7.5
☐	Methapyrilene	91-80-5	0.081	1.5	15.0
☐	Methiocarb	2032-65-7	0.056	1.4	14.0
☐	Methomyl	16752-77-5	0.028	0.14	1.4
☐	Methoxychlor	72-43-5	0.25	0.18	1.8
☐	Methyl ethyl ketone	78-93-3	0.28	36.0	360.0
☐	Methyl isobutyl ketone	108-10-1	0.14	33.0	330.0
☐	Methyl methacrylate	80-62-6	0.14	160.0	1600.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Methyl methanesulfonate	66-27-3	0.018	N/A	N/A
☐	Methyl parathion	298-00-0	0.014	4.6	46.0
☐	3-Methylcholanthrene	56-49-5	0.0055	15.0	150.0
☐	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0	300.0
☐	Methylene chloride	75-09-2	0.089	30.0	300.0
☐	Metolcarb	1129-41-5	0.056	1.4	14.0
☐	Mexacarbate	315-18-4	0.056	1.4	14.0
☐	Molinate	2212-67-1	0.042	1.4	14.0
☐	N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0	170.0
☐	N-Nitrosodiethylamine	55-18-5	0.4	28.0	280.0
☐	N-Nitrosodimethylamine	62-75-9	0.4	2.3	23.0
☐	N-Nitrosodiphenylamine	86-30-6	0.92	13.0	130.0
☐	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3	23.0
☐	N-Nitrosomorpholine	59-89-2	0.4	2.3	23.0
☐	N-Nitrosopiperidine	100-75-4	0.013	35.0	350.0
☐	N-Nitrosopyrrolidine	930-55-2	0.013	35.0	350.0
☐	Naphthalene	91-20-3	0.059	5.6	56.0
☐	2-Naphthylamine	91-59-8	0.52	N/A	N/A
☐	5-Nitro-o-toluidine	99-55-8	0.32	28.0	280.0
☐	o-Nitroaniline	88-74-4	0.27	14.0	140.0
☐	p-Nitroaniline	100-01-6	0.028	28.0	280.0
☐	Nitrobenzene	98-95-3	0.068	14.0	140.0
☐	o-Nitrophenol	88-75-5	0.028	13.0	130.0
☐	p-Nitrophenol	100-02-7	0.12	29.0	290.0
☐	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005	0.05
☐	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	0.000063	0.005	0.05
☐	Oxamyl	23135-22-0	0.056	0.28	2.8
☐	Parathion	56-38-2	0.014	4.6	46.0
☐	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001	0.01
☐	PeCDFs (All Pentachlorodibenzo-furans)	30402-15-4	0.000035	0.001	0.01
☐	Pebulate	1114-71-2	0.042	1.4	14.0
☐	Pentachlorobenzene	608-93-5	0.055	10.0	100.0
☐	Pentachloroethane	76-01-7	0.055	6.0	60.0
☐	Pentachloronitrobenzene	82-68-8	0.055	4.8	48.0
☒	Pentachlorophenol	87-86-5	0.089	7.4	74.0
☐	Phenacetin	62-44-2	0.081	16.0	160.0
☐	Phenanthrene	85-01-8	0.059	5.6	56.0
☐	Phenol	108-95-2	0.039	6.2	62.0
☐	o-Phenylenediamine	95-54-5	N/A	N/A	N/A
☐	Phorate	298-02-2	0.021	4.6	46.0
☐	Phthalic acid	100-21-0	0.055	28.0	280.0
☐	Phthalic anhydride	85-44-9	0.055	28.0	280.0
☐	Physostigmine	57-47-6	0.056	1.4	14.0
☐	Physostigmine salicylate	57-64-7	0.056	1.4	14.0
☐	Promecarb	2631-37-0	0.056	1.4	14.0
☐	Pronamide	23950-58-5	0.093	1.5	15.0
☐	Propanenitrile	107-12-0	0.24	360.0	3600.0
☐	Propham	122-42-9	0.056	1.4	14.0
☐	Propoxur	114-26-1	0.056	1.4	14.0
☐	Prosulfocarb	52888-80-9	0.042	1.4	14.0
☐	Pyrene	129-00-0	0.067	8.2	82.0
☐	Pyridine	110-86-1	0.014	16.0	160.0
☐	Safrole	94-59-7	0.081	22.0	220.0
☐	Sulfide	18496-25-8	14.0	N/A	N/A
☐	2,4,5-T	93-76-5	0.72	7.9	79.0
☐	TCDDs (All Tetrachlorodi-benzo-p-dioxins)	41903-57-5	0.000063	0.001	0.01
☐	TCDFs (All Tetrachlorodibenzofurans)	30402-14-3	0.000063	0.001	0.01
☐	2,4,5-TP (Silvex)	93-72-1	0.72	7.9	79.0
☐	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0	140.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0	60.0
☐	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0	60.0
☐	Tetrachloroethylene	127-18-4	0.056	6.0	60.0
☐	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4	74.0
☐	Thiodicarb	59669-26-0	0.019	1.4	14.0
☐	Thiophanate-methyl	23564-05-8	0.056	1.4	14.0
☐	Toluene	108-88-3	0.08	10.0	100.0
☐	Total PCBs (Polychlorinated biphenyls)	1336-36-3	0.1	10.0	100.0
☐	Toxaphene	8001-35-2	0.0095	2.6	26.0
☐	Triallate	2303-17-5	0.042	1.4	14.0
☐	Tribromomethane	75-25-2	0.63	15.0	150.0
☐	2,4,6-Tribromophenol	118-79-6	0.035	7.4	74.0
☐	1,1,2-Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30.0	300.0
☐	1,2,4-Trichlorobenzene	120-82-1	0.055	19.0	190.0
☐	1,1,1-Trichloroethane	71-55-6	0.054	6.0	60.0
☐	1,1,2-Trichloroethane	79-00-5	0.054	6.0	60.0
☐	Trichloroethylene	79-01-6	0.054	6.0	60.0
☐	Trichloromonofluoromethane (R11)	75-69-4	0.02	30.0	300.0
☐	2,4,5-Trichlorophenol	95-95-4	0.18	7.4	74.0
☐	2,4,6-Trichlorophenol	88-06-2	0.035	7.4	74.0
☐	1,2,3-Trichloropropane	96-18-4	0.85	30.0	300.0
☐	Triethylamine	121-44-8	0.081	1.5	15.0
☐	Tris(2,3-dibromopropyl) phosphate	126-72-7	0.11	0.1	1.0
☐	Vernolate	1929-77-7	0.042	1.4	14.0
☐	Vinyl chloride	75-01-4	0.27	6.0	60.0
☐	Xylene	1330-20-7	0.32	30.0	300.0
☐	2,4-Xylidine	95-68-1	0.01	0.66	6.6
☐	Antimony	7440-36-0	1.9	1.15	11.5
☐	Arsenic	7440-38-2	1.4	5.0	50.0
☐	Barium	7440-39-3	1.2	21.0	210.0
☐	Beryllium	7440-41-7	0.82	1.22	12.2
☐	Cadmium	7440-43-9	0.69	0.11	1.1
☑	Chromium	7440-47-3	2.77	0.6	6.0
☑	Lead	7439-92-1	0.69	0.75	7.5
☐	Mercury	7439-97-6	0.15	0.025	0.25
☐	Nickel	7440-02-0	3.98	11.0	110.0
☐	Selenium	7782-49-2	0.82	5.7	57.0
☐	Silver	7440-22-4	0.43	0.14	1.4
☐	Thallium	7440-28-0	1.4	0.2	2.0
☐	Vanadium	7440-62-2	4.3	1.6	16.0
☑	Zinc	7440-66-6	2.61	4.3	43.0

Attachment 1 - Additional Radionuclides

Please list the supplimentary radionuclides and their concentration values.

ENCLOSURE 3

Waste Profile Form 42757

EPC-DO: 17-095

LA-UR-17-21107

Date: MAR 0 6 2017

waste compliance and tracking system

WASTE PROFILE FORM COVER SHEET

42757
APPROVED

Waste Characterization Information

Waste Stream ID:	42757
WPF ID (Legacy):	
Waste Stream Name:	RECIRCULATING WATER WITH SODIUM HYDROXIDE FROM TA-22 ETCHING SHOP TANK
Expiration Date:	02/01/2018
Waste Type:	Hazardous Waste
Radiological Type:	Non Radioactive
RCRA Category:	RCRA Solid Hazardous
Ancillary Types:	
Primary Composition:	Aqueous Solutions
Composition (other):	
EPA Codes:	D002
Waste Acceptance:	
EPA Form Code:	W101
	Inorganic Liquids: Very dilute aqueous waste containing more than 99% water (land disposal restriction defined wastewater that is not exempt under NPDES or POTW discharg
EPA Source Code:	G13
	Other Intermittent Events or Processes: Cleaning out process equipment (periodic sludge or residual removal from enclosed processes including internal scrubbing or cleaning)

Waste Generation Estimates

YEAR	VOLUME
2018	150.00 gal
2017	150.00 gal
2016	150.00 gal

Los Alamos NATIONAL LABORATORY EST. 1943

WASTE PROFILE FORM

Reference Number

WCATS ID	Legacy WPF ID
42757	

Generator's Z Number	Waste Generator's Name *(print)*	WMC's Z Number	WMC's Name *(print)*		Generator's Phone
088282	MILLS, WILLIAM	217511	LEE, JEFFREY		5056675401
Generator's Mail Stop	**Waste Generating Group**	**Waste Stream Technical Area**	**Building**	**Room**	**WMC Phone**
P950	DET-3	22	000091	B111	5056674537

Waste Accumulation *(check only one)*

- ☐ Satellite Accumulation Area — Site No: _____
- ☑ Less-than-90 Days Storage Area — Site No: 6200
- ☐ TSDF — Site No: _____
- ☐ Universal Waste Storage Area — Site No: _____
- ☐ Used Oil for Recycle — Site No: _____

ER Use Only

- ☐ ER Site — SWMU/AOC No. _____

- ☐ PCBs Storage Area — Site No: _____
- ☐ NM Special Waste — Site No: _____
- ☐ Rad Staging Area — Site No: _____
- ☐ Rad Storage Area — Site No: _____
- ☐ None of the Above — Site No: _____

Method of Characterization *(check as many as apply)*

☐ Chemical/Physical Analysis	☐ Attached	Sample No: _____
☐ Radiological Analysis	☐ Attached	Sample No: _____
☐ PCB Analysis	☐ Attached	Sample No: _____
☐ Acceptable Knowledge Documentation	☐ Attached	Documentation No: _____
☑ Material Safety Data Sheet (MSDS)	☑ Attached	Sodium Hydroxide MSDS/LAMINA

Section 1 - Waste Prevention/Minimization *(answer all questions)*

Can hazard segregation, elimination, or material substitution be used?	☐ Yes *(provide comments)*	☑ No
Can any of the materials in the waste stream be recycled or reused?	☐ Yes *(provide comments)*	☑ No
Has waste minimization been incorporated into procedures or other process controls?	☑ Yes	☐ No *(provide comments)*
Can this waste be generated outside a RCA?	☐ Yes *(provide comments)*	☐ No ☑ N/A

Comments:

Section 2 - Chemical and Physical Information

Waste Type *(check only one)*

- ☐ Unused/Unspent Chemical
- ☑ Process Waste/Spent Chemical/Other

Radiological Information

Was Waste generated in a RCA?

- ☐ Yes ☑ No
- ☑ Non-radioactive
- ☐ Radioactive - Low Level
- ☐ Radioactive - Transuranic

Waste Destination *(check one)*

- ☐ SWWS
- ☐ RLWTF
- ☐ RLWTP
- ☐ TA-16/HE
- ☐ NTS

Classified Information

- ☑ Unclassified
- ☐ Classified/Sensitive

Waste Category *(check all that apply)*

- ☑ Inorganic
- ☑ Organic
- ☐ Solvent (see instructions)
- ☐ Degreaser (see instructions)
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated Hazardous Waste or Residue
- ☐ No-Longer Contained-In
- ☐ Explosive Process
- ☐ Infectious/Medical
- ☐ Biological
- ☐ Beryllium
- ☐ Empty Container (see instructions)
- ☐ Battery (see instructions)

Asbestos

- ☐ Friable
- ☐ Non-Friable

PCB Source Concentration

- ☐ PCB < 50 ppm
- ☐ PCB >= 50 - < 500 ppm
- ☐ PCB >= 500 ppm
- ☐ Hazardous Waste Contaminated Soil
- ☐ Untreated Hazardous Debris
- ☐ Commercial Solid Waste
- ☐ Other [Describe]

Other:

Waste Source *(check only one)*

Waste Source A

- ☐ Decon
- ☐ Materials Processing/Production
- ☐ Research/Development/Testing
- ☑ Scheduled Maintenance
- ☐ Housekeeping - Routine
- ☐ Spill Cleanup - Routine
- ☐ Sampling - Routine Monitoring
- ☐ Other (describe)

Waste Source B

- ☐ Abatement
- ☐ Construction/Upgrades
- ☐ Demolition
- ☐ Decon/Decom
- ☐ Investigative Derived
- ☐ Orphan/Legacy
- ☐ Remediation/Restoration
- ☐ Repacking (secondary)
- ☐ Unscheduled Maintenance
- ☐ Housekeeping (non-routine)
- ☐ Spill Cleanup (non-routine)
- ☐ Non-Petroleum Tanks
- ☐ Petroleum Tanks
- ☐ Other (describe)

Other:

Waste Matrix *(check only one)*

Gas

- ☐ ≤1.5 Atmospheres Pressure
- ☐ >1.5 Atmospheres Pressure
- ☐ Liquified Compressed Gas

Liquid

- ☑ Aqueous
- ☐ Non-Aqueous
- ☐ Suspended Solids/Aqueous
- ☐ Suspended Solids/Non-Aqueous

Solid

- ☐ Powder/Ash/Dust
- ☐ Solid
- ☐ Sludge
- ☐ Absorbed/Solidified Liquid
- ☐ Debris

Matrix Type *(check only one)*

- ☑ Homogeneous
- ☐ Heterogeneous

Estimate Annual Volume (m^3):

Section 3 - Process and Waste Description

Process Description:
Recirculating water from TA-22 etching shop holding tank.

Waste Description:
Waste will consist of rinse water, sodium hydroxide and trace film photopolymer from draining of the recirculating tank at TA-22-91.

Section 4 - Characteristics

Ignitability *(check only one)*
- ☐ < 73 F (< 22.8 C)
- ☐ 73 - 99 F (22.8 - 37.2 C)
- ☐ 100 - 139 F (37.8 - 59.4 C)
- ☐ 140 - 200 F (60.0 - 99.3 C)
- ☐ > 200 (> 99.3 C)
- ☐ EPA Ignitable - Non-liquid
- ☐ DOT Flammable Gas
- ☐ DOT Oxidizer
- ☑ Not Ignitable

Corrosivity *(check only one)* (pH)
- ☐ <= 2.0
- ☐ 2.1 - 4.0
- ☐ 4.1 - 6.0
- ☐ 6.1 - 9.0
- ☐ 9.1 - 12.4
- ☑ >= 12.5
- ☐ Liquid Corrosive to Steel
- ☐ Non-aqueous

Reactivity *(check as many as apply)*
- ☐ RCRA Unstable
- ☐ Water Reactive
- ☐ Cyanide Bearing
- ☐ Sulfide Bearing
- ☐ Pyrophoric
- ☐ Shock Sensitive
- ☐ Explosive [Specify DOT Div.]
- ☑ Non-Reactive

Boiling Point *(check only one)*
- ☐ <= 95 F (<= 35 C)
- ☐ >95 F (> 35 C)
- ☑ Not Applicable

Identify for all contaminants listed	Characterization Method: AK	TCLP	Total	None or Non-detect	Concentration of Contaminants: Contaminant present at Minimum	Maximum	Regulatory Limit
Toxicity Characteristic Metals					(10,000 ppm = 1%)		
Arsenic	☑	☐	☐	☑	to	ppm	5.0 ppm
Barium	☑	☐	☐	☑	to	ppm	100.0 ppm
Cadmium	☑	☐	☐	☑	to	ppm	1.0 ppm
Chromium	☑	☐	☐	☑	to	ppm	5.0 ppm
Lead	☑	☐	☐	☑	to	ppm	5.0 ppm
Mercury	☑	☐	☐	☑	to	ppm	0.2 ppm
Selenium	☑	☐	☐	☑	to	ppm	1.0 ppm
Silver	☑	☐	☐	☑	to	ppm	5.0 ppm
Toxicity Characteristic Organics							
Benzene	☑	☐	☐	☑	to	ppm	0.5 ppm
Carbon tetrachloride	☑	☐	☐	☑	to	ppm	0.5 ppm
Chlorobenzene	☑	☐	☐	☑	to	ppm	100.0 ppm
Chloroform	☑	☐	☐	☑	to	ppm	6.0 ppm
Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
p-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
m-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
o-Cresol	☑	☐	☐	☑	to	ppm	200.0 ppm
1,4-Dichlorobenzene	☑	☐	☐	☑	to	ppm	7.5 ppm
1,2-Dichloroethane	☑	☐	☐	☑	to	ppm	0.5 ppm
1,1-Dichloroethylene	☑	☐	☐	☑	to	ppm	0.7 ppm
2,4-Dinitrotoluene	☑	☐	☐	☑	to	ppm	0.13 ppm
Hexachlorobenzene	☑	☐	☐	☑	to	ppm	0.13 ppm
Hexachlorobutadiene	☑	☐	☐	☑	to	ppm	0.5 ppm
Hexachloroethane	☑	☐	☐	☑	to	ppm	3.0 ppm
Methyl ethyl ketone	☑	☐	☐	☑	to	ppm	200.0 ppm
Nitrobenzene	☑	☐	☐	☑	to	ppm	2.0 ppm
Pentachlorophenol	☑	☐	☐	☑	to	ppm	100.0 ppm
Pyridine	☑	☐	☐	☑	to	ppm	5.0 ppm
Tetrachloroethylene	☑	☐	☐	☑	to	ppm	0.7 ppm
Trichloroethylene	☑	☐	☐	☑	to	ppm	0.5 ppm
2,4,6-Trichlorophenol	☑	☐	☐	☑	to	ppm	2.0 ppm
2,4,5-Trichlorophenol	☑	☐	☐	☑	to	ppm	400.0 ppm
Vinyl chloride	☑	☐	☐	☑	to	ppm	0.2 ppm
Herbicides and Pesticides							
Chlordane	☑	☐	☐	☑	to	ppm	0.03 ppm
2,4-D	☑	☐	☐	☑	to	ppm	10.0 ppm
Endrin	☑	☐	☐	☑	to	ppm	0.02 ppm
Heptachlor (& its epoxide)	☑	☐	☐	☑	to	ppm	0.008 ppm
Lindane (gamma-BHC)	☑	☐	☐	☑	to	ppm	0.4 ppm
Methoxychlor	☑	☐	☐	☑	to	ppm	10.0 ppm
2,4,5-TP (Silvex)	☑	☐	☐	☑	to	ppm	1.0 ppm
Toxaphene	☑	☐	☐	☑	to	ppm	0.5 ppm

Section 5 - Additional Constituents and Contaminants

Additional Constituents and Contaminants. Please account for 100% of waste. Range should be given within guidelines of individual constituents. List all other constients (including inerts) not identified above and attach any applicable analysis. No chemical formula allowed in this field. Continue in Section 3 Additional information as necessary. CAS numbers are needed for all chemical constituents, for material without a CAS number, enter "No CAS Number".

CAS No.	Name of constituent	Minimum (ppm)		Maximum (ppm)
7732-18-5	Water	990000	to	1000000
1310-73-2	Sodium hydroxide	30	to	60
-----	Poly film residue	1	to	1500
	Total of max. ranges of this section and page 2			100.16 in %

Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below

PH level for the waste was >12.5.

Section 6 - Work Control Documentation

Do the procedures for this process cover how to manage this waste? ☑ Yes ☐ No *(provide comments)*

Do the procedures for this process address controls to prevent changes to waste constituents and concentrations or addition or removal of waste to/from containers? ☑ Yes ☐ No *(provide comments)*

Comments:

Section 7 - Packaging and Storage Control

Describe how the waste will be packaged in according to the applicable WAC.

DOT Certified Container

Identify the storage management controls that will be used for this waste stream: *(check all that apply)*

☐ Tamper Indication Devices ☐ Limited use locks with log-in for waste ☑ Locked cabinet or building ☐ Other (describe)

Section 8 - Waste Certification Statements

☑ Waste appears to meet WAC attachment for: HAZ

☐ Waste stream needs exception/exemption for treatment, storage, or disposal.

☐ Waste does not meet the criteria for any known TSDF. (DOE approval is required. Contact the office of the Principle Associate Director for Weapons Programs [PADWP] for assistance.)

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the waste characterization information on this form is correct and that it meets the requirements of the applicable waste acceptance criteria. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: *WILLIAM MILLS (088282)* Date: *02/02/16 11:57 AM*

Waste Certifying Official: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *JEFFREY LEE (217511)* Date: *02/02/16 11:58 AM*

RCRA Review: I have reviewed this form and any associated attachments and the characterization information provided appears to be complete and accurate. I certify, to the best of my knowledge, that the waste characterization information provided by the waste generator meets the requirements of the applicable WAC.

Signature: *ROBERT MOLTER (239137)* Date: *02/02/16 12:39 PM*

Attachment 4 - LDR and U

Identify category and presence of any constituents listed below *(equal to or above limit)*.

Non-Wastewater/Wastewater Category *(check only one)*

☐ Non Wastewater ☑ Wastewater [as defined by 40 CFR 268.2(f)] ☐ Lab Pack [40 CFR 268.2(f)] **Sign Certification #1**

Notifications and Certifications - Check the appilcable boxes

Generator Requirements:

☐ This shipment contains hazardous waste contaminated soil that does not meet treatment standards **Sign Certification #2**
☐ This shipment contains untreated hazardous debris to be treated to 40 CFR 268.45 treatment standards **(No certification)**
☐ Hazardous wastes (except soil) meeting treatment standards at point of generation **Sign Certification #3**
☐ Hazardous wastes contaminated soil meeting treatment standards at point of generation **Sign Certification #4**

TSDF or Generator Treatment:

☐ TSDF treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #5**
☐ Generator treated hazardous debris meeting the alternative treatment standards of 40 CFR 268.45 **Sign Certification #6**
☐ Hazardous wastes contaminated soil treated to 40 CFR 268.49 **Sign Certification #7**
☐ Wastes or residues from characteristic hazardous waste treatment meeting treatment standards and UTS **Sign Certification #8**
☐ Wastes or residues from characteristic hazardous waste treatment not meeting UTS **Sign Certification #9**
☐ Other TSDF wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #10**
☐ Other generator wastes meeting the more stringent 40 CFR 268.40 treatment standards to be land disposed **Sign Certification #11**

Notification of Underlying Hazardous Constituents

(Check the applicable underlying constituents above the concentration levels for D001 through D043 characterstic wastes only)

☑ ***No Underlying Hazardous Constituents in this waste stream.***

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Acenaphthene	83-32-9	0.059	3.4	34.0
☐	Acenaphthylene	208-96-8	0.059	3.4	34.0
☐	Acetone	67-64-1	0.28	160.0	1600.0
☐	Acetonitrile	75-05-8	5.6	38.0	380.0
☐	Acetophenone	98-86-2	0.01	9.7	97.0
☐	2-Acetylaminofluorene	53-96-3	0.059	140.0	1400.0
☐	Acrolein	107-02-8	0.29	N/A	N/A
☐	Acrylamide	79-06-1	19.0	23.0	230.0
☐	Acrylonitrile	107-13-1	0.24	84.0	840.0
☐	Aldicarb sulfone	1646-88-4	0.056	0.28	2.8
☐	Aldrin	309-00-2	0.021	0.066	0.66
☐	4-Aminobiphenyl	92-67-1	0.13	N/A	N/A
☐	Aniline	62-53-3	0.81	14.0	140.0
☐	o-Anisidine	90-04-0	0.01	0.66	6.6
☐	Anthracene	120-12-7	0.059	3.4	34.0
☐	Aramite	140-57-8	0.36	N/A	N/A
☐	alpha-BHC	319-84-6	0.00014	0.066	0.66
☐	beta-BHC	319-85-7	0.00014	0.066	0.66
☐	delta-BHC	319-86-8	0.023	0.066	0.66
☐	Barban	101-27-9	0.056	1.4	14.0
☐	Bendiocarb	22781-23-3	0.056	1.4	14.0
☐	Benomyl	17804-35-2	0.056	1.4	14.0
☐	Benz[a]anthracene	56-55-3	0.059	3.4	34.0
☐	Benzal chloride	98-87-3	0.055	6.0	60.0
☐	Benzene	71-43-2	0.14	10.0	100.0
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8	68.0
☐	Benzo[a]pyrene	50-32-8	0.061	3.4	34.0
☐	Benzo[ghi]perylene	191-24-2	0.0055	1.8	18.0
☐	Benzo[k]fluoranthene	207-08-9	0.11	6.8	68.0
☐	Bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2	72.0
☐	Bis(2-chloroethyl) ether	111-44-4	0.033	6.0	60.0
☐	Bis(2-chloroisopropyl) ether	39638-32-9	0.055	7.2	72.0
☐	Bis(2-ethylhexyl) phthalate	117-81-7	0.28	28.0	280.0
☐	Bromodichloromethane	75-27-4	0.35	15.0	150.0
☐	Bromomethane	74-83-9	0.11	15.0	150.0
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15.0	150.0
☐	n-Butyl alchohol	71-36-3	5.6	2.6	26.0
☐	Butyl benzyl phthalate	85-68-7	0.017	28.0	280.0
☐	Butylate	2008-41-5	0.042	1.4	14.0
☐	Carbaryl	63-25-2	0.006	0.14	1.4

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Carbendazim	10605-21-7	0.056	1.4	14.0
☐	Carbofuran	1563-66-2	0.006	0.14	1.4
☐	Carbofuran phenol	1563-38-8	0.056	1.4	14.0
☐	Carbon disulfide	75-15-0	3.8	4.8	48.0
☐	Carbon tetrachloride	56-23-5	0.057	6.0	60.0
☐	Carbosulfan	55285-14-8	0.028	1.4	14.0
☐	Chlordane	57-74-9	0.0033	0.26	2.6
☐	p-Chloro-m-cresol	59-50-7	0.018	14.0	140.0
☐	p-Chloroaniline	106-47-8	0.46	16.0	160.0
☐	Chlorobenzene	108-90-7	0.057	6.0	60.0
☐	Chlorobenzilate	510-15-6	0.1	N/A	N/A
☐	Chlorodibromomethane	124-48-1	0.057	15.0	150.0
☐	Chloroethane	75-00-3	0.27	6.0	60.0
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	N/A	N/A
☐	Chloroform	67-66-3	0.046	6.0	60.0
☐	Chloromethane	74-87-3	0.19	30.0	300.0
☐	2-Chloronaphthalene	91-58-7	0.055	5.6	56.0
☐	2-Chlorophenol	95-57-8	0.044	5.7	57.0
☐	Chloroprene	126-99-8	0.057	0.28	2.8
☐	3-Chloropropylene	107-05-1	0.036	30.0	300.0
☐	Chrysene	218-01-9	0.059	3.4	34.0
☐	p-Cresidine	120-71-8	0.01	0.66	6.6
☐	m-Cresol	108-39-4	0.77	5.6	56.0
☐	o-Cresol	95-48-7	0.11	5.6	56.0
☐	p-Cresol	106-44-5	0.77	5.6	56.0
☐	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4	14.0
☐	Cyanide (Amenable)	57-12-5*	0.86	30.0	300.0
☐	Cyanide (Total)	57-12-5	1.2	590.0	5900.0
☐	Cyclohexanone	108-94-1	0.36	0.75	7.5
☐	2,4-D	94-75-7	0.72	10.0	100.0
☐	o,p'-DDD	53-19-0	0.023	0.087	0.87
☐	p,p'-DDD	72-54-8	0.023	0.087	0.87
☐	o,p'-DDE	3424-82-6	0.031	0.087	0.87
☐	p,p'-DDE	72-55-9	0.031	0.087	0.87
☐	o,p'-DDT	789-02-6	0.0039	0.087	0.87
☐	p,p'-DDT	50-29-3	0.0039	0.087	0.87
☐	Di-n-butyl phthalate	84-74-2	0.057	28.0	280.0
☐	Di-n-octyl phthalate	117-84-0	0.017	28.0	280.0
☐	Di-n-propylnitrosamine	621-64-7	0.4	14.0	140.0
☐	Dibenz[a,h]anthracene	53-70-3	0.055	8.2	82.0
☐	Dibenzo[a,e]pyrene	192-65-4	0.061	N/A	N/A
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0	150.0
☐	1,2-Dibromoethane	106-93-4	0.028	15.0	150.0
☐	Dibromomethane	74-95-3	0.11	15.0	150.0
☐	1,4-Dichlorobenzene	106-46-7	0.09	6.0	60.0
☐	m-Dichlorobenzene	541-73-1	0.036	6.0	60.0
☐	o-Dichlorobenzene	95-50-1	0.088	6.0	60.0
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2	72.0
☐	1,1-Dichloroethane	75-34-3	0.059	6.0	60.0
☐	1,2-Dichloroethane	107-06-2	0.21	6.0	60.0
☐	1,1-Dichloroethylene	75-35-4	0.025	6.0	60.0
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30.0	300.0
☐	2,4-Dichlorophenol	120-83-2	0.044	14.0	140.0
☐	2,6-Dichlorophenol	87-65-0	0.044	14.0	140.0
☐	1,2-Dichloropropane	78-87-5	0.85	18.0	180.0
☐	trans-1,3-Dichloropropene	10061-02-6	0.036	18.0	180.0
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0	180.0
☐	Dieldrin	60-57-1	0.017	0.13	1.3
☐	Diethyl phthalate	84-66-2	0.2	28.0	280.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Dimethyl phthalate	131-11-3	0.047	28.0	280.0
☐	p-Dimethylaminoazobenzene	60-11-7	0.13	N/A	N/A
☐	2,4-Dimethylphenol	105-67-9	0.036	14.0	140.0
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160.0	1600.0
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3	23.0
☐	2,4-Dinitrophenol	51-28-5	0.12	160.0	1600.0
☐	2,4-Dinitrotoluene	121-14-2	0.32	140.0	1400.0
☐	2,6-Dinitrotoluene	606-20-2	0.55	28.0	280.0
☐	Dinoseb	88-85-7	0.066	2.5	25.0
☐	1,4-Dioxane	123-91-1	12.0	170.0	1700.0
☐	Diphenylamine	122-39-4	0.92	13.0	130.0
☐	1,2-Diphenylhydrazine	122-66-7	0.087	N/A	N/A
☐	Disulfoton	298-04-4	0.017	6.2	62.0
☐	Dithiocarbamates (total)	WCATS-001	0.028	28.0	280.0
☐	EPTC	759-94-4	0.042	1.4	14.0
☐	Endosulfan I	959-98-8	0.023	0.066	0.66
☐	Endosulfan II	33213-65-9	0.029	0.13	1.3
☐	Endosulfan sulfate	1031-07-8	0.029	0.13	1.3
☐	Endrin	72-20-8	0.0028	0.13	1.3
☐	Endrin aldehyde	7421-93-4	0.025	0.13	1.3
☐	Ethyl acetate	141-78-6	0.34	33.0	330.0
☐	Ethyl benzene	100-41-4	0.057	10.0	100.0
☐	Ethyl ether	60-29-7	0.12	160.0	1600.0
☐	Ethyl methacrylate	97-63-2	0.14	160.0	1600.0
☐	Ethylene oxide	75-21-8	0.12	N/A	N/A
☐	Famphur	52-85-7	0.017	15.0	150.0
☐	Fluoranthene	206-44-0	0.068	3.4	34.0
☐	Fluorene	86-73-7	0.059	3.4	34.0
☐	Fluoride	16984-48-8	35.0	N/A	N/A
☐	Formetanate hydrochloride	23422-53-9	0.056	1.4	14.0
☐	Heptachlor (& its epoxide)	76-44-8	0.0012	0.066	0.66
☐	Heptachlor epoxide	1024-57-3	0.016	0.066	0.66
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025	0.025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025	0.025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025	0.025
☐	Hexachlorobenzene	118-74-1	0.055	10.0	100.0
☐	Hexachlorobutadiene	87-68-3	0.055	5.6	56.0
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4	24.0
☐	Hexachloroethane	67-72-1	0.055	30.0	300.0
☐	Hexachloropropene	1888-71-7	0.035	30.0	300.0
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063	0.001	0.01
☐	HxCDFs (All Hexachlorodibenzo-furans)	55684-94-1	0.000063	0.001	0.01
☐	Indeno[1,2,3-cd]pyrene	193-39-5	0.0055	3.4	34.0
☐	Iodomethane	74-88-4	0.19	65.0	650.0
☐	Isobutyl alcohol	78-83-1	5.6	170.0	1700.0
☐	Isodrin	465-73-6	0.021	0.066	0.66
☐	Isosafrole	120-58-1	0.081	2.6	26.0
☐	Kepone	143-50-0	0.0011	0.13	1.3
☐	Lindane (gamma-BHC)	58-89-9	0.0017	0.066	0.66
☐	Mercury (Retort Residues)	7439-97-6*	N/A	0.2	2.0
☐	Methacrylonitrile	126-98-7	0.24	84.0	840.0
☐	Methanol	67-56-1	5.6	0.75	7.5
☐	Methapyrilene	91-80-5	0.081	1.5	15.0
☐	Methiocarb	2032-65-7	0.056	1.4	14.0
☐	Methomyl	16752-77-5	0.028	0.14	1.4
☐	Methoxychlor	72-43-5	0.25	0.18	1.8
☐	Methyl ethyl ketone	78-93-3	0.28	36.0	360.0
☐	Methyl isobutyl ketone	108-10-1	0.14	33.0	330.0
☐	Methyl methacrylate	80-62-6	0.14	160.0	1600.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	Methyl methanesulfonate	66-27-3	0.018	N/A	N/A
☐	Methyl parathion	298-00-0	0.014	4.6	46.0
☐	3-Methylcholanthrene	56-49-5	0.0055	15.0	150.0
☐	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0	300.0
☐	Methylene chloride	75-09-2	0.089	30.0	300.0
☐	Metolcarb	1129-41-5	0.056	1.4	14.0
☐	Mexacarbate	315-18-4	0.056	1.4	14.0
☐	Molinate	2212-67-1	0.042	1.4	14.0
☐	N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0	170.0
☐	N-Nitrosodiethylamine	55-18-5	0.4	28.0	280.0
☐	N-Nitrosodimethylamine	62-75-9	0.4	2.3	23.0
☐	N-Nitrosodiphenylamine	86-30-6	0.92	13.0	130.0
☐	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3	23.0
☐	N-Nitrosomorpholine	59-89-2	0.4	2.3	23.0
☐	N-Nitrosopiperidine	100-75-4	0.013	35.0	350.0
☐	N-Nitrosopyrrolidine	930-55-2	0.013	35.0	350.0
☐	Naphthalene	91-20-3	0.059	5.6	56.0
☐	2-Naphthylamine	91-59-8	0.52	N/A	N/A
☐	5-Nitro-o-toluidine	99-55-8	0.32	28.0	280.0
☐	o-Nitroaniline	88-74-4	0.27	14.0	140.0
☐	p-Nitroaniline	100-01-6	0.028	28.0	280.0
☐	Nitrobenzene	98-95-3	0.068	14.0	140.0
☐	o-Nitrophenol	88-75-5	0.028	13.0	130.0
☐	p-Nitrophenol	100-02-7	0.12	29.0	290.0
☐	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005	0.05
☐	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	0.000063	0.005	0.05
☐	Oxamyl	23135-22-0	0.056	0.28	2.8
☐	Parathion	56-38-2	0.014	4.6	46.0
☐	PeCDDs (All Pentachlorodibenzo-p-dioxins)	36088-22-9	0.000063	0.001	0.01
☐	PeCDFs (All Pentachlorodibenzo-furans)	30402-15-4	0.000035	0.001	0.01
☐	Pebulate	1114-71-2	0.042	1.4	14.0
☐	Pentachlorobenzene	608-93-5	0.055	10.0	100.0
☐	Pentachloroethane	76-01-7	0.055	6.0	60.0
☐	Pentachloronitrobenzene	82-68-8	0.055	4.8	48.0
☐	Pentachlorophenol	87-86-5	0.089	7.4	74.0
☐	Phenacetin	62-44-2	0.081	16.0	160.0
☐	Phenanthrene	85-01-8	0.059	5.6	56.0
☐	Phenol	108-95-2	0.039	6.2	62.0
☐	o-Phenylenediamine	95-54-5	N/A	N/A	N/A
☐	Phorate	298-02-2	0.021	4.6	46.0
☐	Phthalic acid	100-21-0	0.055	28.0	280.0
☐	Phthalic anhydride	85-44-9	0.055	28.0	280.0
☐	Physostigmine	57-47-6	0.056	1.4	14.0
☐	Physostigmine salicylate	57-64-7	0.056	1.4	14.0
☐	Promecarb	2631-37-0	0.056	1.4	14.0
☐	Pronamide	23950-58-5	0.093	1.5	15.0
☐	Propanenitrile	107-12-0	0.24	360.0	3600.0
☐	Propham	122-42-9	0.056	1.4	14.0
☐	Propoxur	114-26-1	0.056	1.4	14.0
☐	Prosulfocarb	52888-80-9	0.042	1.4	14.0
☐	Pyrene	129-00-0	0.067	8.2	82.0
☐	Pyridine	110-86-1	0.014	16.0	160.0
☐	Safrole	94-59-7	0.081	22.0	220.0
☐	Sulfide	18496-25-8	14.0	N/A	N/A
☐	2,4,5-T	93-76-5	0.72	7.9	79.0
☐	TCDDs (All Tetrachlorodi-benzo-p-dioxins)	41903-57-5	0.000063	0.001	0.01
☐	TCDFs (All Tetrachlorodibenzofurans)	30402-14-3	0.000063	0.001	0.01
☐	2,4,5-TP (Silvex)	93-72-1	0.72	7.9	79.0
☐	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0	140.0

	Organic Constituents	CASRN	Wastewater Standard (mg/L)	Non Wastewater Standard (mg/kg unless noted otherwise)	Hazardous Soil 10Xs UTS (mg/kg unless noted otherwise)
☐	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0	60.0
☐	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0	60.0
☐	Tetrachloroethylene	127-18-4	0.056	6.0	60.0
☐	2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4	74.0
☐	Thiodicarb	59669-26-0	0.019	1.4	14.0
☐	Thiophanate-methyl	23564-05-8	0.056	1.4	14.0
☐	Toluene	108-88-3	0.08	10.0	100.0
☐	Total PCBs (Polychlorinated biphenyls)	1336-36-3	0.1	10.0	100.0
☐	Toxaphene	8001-35-2	0.0095	2.6	26.0
☐	Triallate	2303-17-5	0.042	1.4	14.0
☐	Tribromomethane	75-25-2	0.63	15.0	150.0
☐	2,4,6-Tribromophenol	118-79-6	0.035	7.4	74.0
☐	1,1,2-Trichloro-1,2,2,-trifluoroethane	76-13-1	0.057	30.0	300.0
☐	1,2,4-Trichlorobenzene	120-82-1	0.055	19.0	190.0
☐	1,1,1-Trichloroethane	71-55-6	0.054	6.0	60.0
☐	1,1,2-Trichloroethane	79-00-5	0.054	6.0	60.0
☐	Trichloroethylene	79-01-6	0.054	6.0	60.0
☐	Trichloromonofluoromethane (R11)	75-69-4	0.02	30.0	300.0
☐	2,4,5-Trichlorophenol	95-95-4	0.18	7.4	74.0
☐	2,4,6-Trichlorophenol	88-06-2	0.035	7.4	74.0
☐	1,2,3-Trichloropropane	96-18-4	0.85	30.0	300.0
☐	Triethylamine	121-44-8	0.081	1.5	15.0
☐	Tris(2,3-dibromopropyl) phosphate	126-72-7	0.11	0.1	1.0
☐	Vernolate	1929-77-7	0.042	1.4	14.0
☐	Vinyl chloride	75-01-4	0.27	6.0	60.0
☐	Xylene	1330-20-7	0.32	30.0	300.0
☐	2,4-Xylidine	95-68-1	0.01	0.66	6.6
☐	Antimony	7440-36-0	1.9	1.15	11.5
☐	Arsenic	7440-38-2	1.4	5.0	50.0
☐	Barium	7440-39-3	1.2	21.0	210.0
☐	Beryllium	7440-41-7	0.82	1.22	12.2
☐	Cadmium	7440-43-9	0.69	0.11	1.1
☐	Chromium	7440-47-3	2.77	0.6	6.0
☐	Lead	7439-92-1	0.69	0.75	7.5
☐	Mercury	7439-97-6	0.15	0.025	0.25
☐	Nickel	7440-02-0	3.98	11.0	110.0
☐	Selenium	7782-49-2	0.82	5.7	57.0
☐	Silver	7440-22-4	0.43	0.14	1.4
☐	Thallium	7440-28-0	1.4	0.2	2.0
☐	Vanadium	7440-62-2	4.3	1.6	16.0
☐	Zinc	7440-66-6	2.61	4.3	43.0

Attachment 1 - Additional Radionuclides

Please list the supplimentary radionuclides and their concentration values.