Clean Harbors Environmental Services, LLC
Lone Mountain Facility
Waynoka, Oklahoma

RCRA/HSWA Permit Renewal Application

Volume 1

October 1, 2020

Lone Mountain RCRA Permit Renewal Volume 1

Volume 1 Contents:

1.1 RCRA Subtitle C Form

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (Select only one.)

☑	Obtaining or updating an EPA ID number for an on-going regulated activity that will continue for a period of time. (Includes HSM activity)
☐	Submitting as a component of the Hazardous Waste Report for _____ (Reporting Year)
	☐ Site was a TSD facility and/or generator of ≥ 1,000 kg of non-acute hazardous waste, > 1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in **one or more months of the reporting year** (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☐	Submitting a new or revised Part A Form

2. Site EPA ID Number

O	K	D	0	6	5	4	3	8	3	7	6

3. Site Name

Clean Harbors Lone Mountain, LLC.

4. Site Location Address

Street Address **Approximately 5 miles east and 1 mile north of US Hwy 21 and 412**		
City, Town, or Village **Waynoka**		County **Major**
State **Oklahoma**	Country **United States**	Zip Code **73860**

5. Site Mailing Address ☐ Same as Location Address

Street Address **40355 S. County Road 236**		
City, Town, or Village **Waynoka**		
State **Oklahoma**	Country **United States**	Zip Code **73860**

6. Site Land Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary)	**562211**	C.	**562212**
B.	**562219**	D.	**484230**

8. Site Contact Information

☐ Same as Location Address

First Name **Michael**	MI **L**	Last Name **Meriwether**
Title **Facility General Manager**		
Street Address **40355 S. County Road 236**		
City, Town, or Village **Waynoka**		
State **Oklahoma**	Country **United States**	Zip Code **73860**
Email **meriwether.michael@cleanharbors.com**		
Phone **(580) 697-3520**	Ext	Fax

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner

☐ Same as Location Address

Full Name **Clean Harbors Lone Mountain, LLC.**	Date Became Owner (mm/dd/yyyy) **9/6/2002**
Owner Type ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other	
Street Address **40355 S. County Road 236**	
City, Town, or Village **Waynoka**	
State **Oklahoma**	Country **United States** / Zip Code **73860**
Email **meriwether.michael@cleanharbors.com**	
Phone **580-697-3500**	Ext / Fax
Comments	

B. Name of Site's Legal Operator

☑ Same as Location Address

Full Name **Clean Harbors Lone Mountain, LLC.**	Date Became Operator (mm/dd/yyyy) **9/6/2002**
Operator Type ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other	
Street Address	
City, Town, or Village	
State / Country / Zip Code	
Email	
Phone / Ext / Fax	
Comments	

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☑ Y ☐ N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☑	a. LQG	-Generates, in any calendar month (includes quantities imported by importer site) 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste; or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☐ Y ☑ N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. *Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.*	
☑ Y ☐ N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☑ Y ☐ N	4. Receives Hazardous Waste from Off-site	
☐ Y ☑ N	5 Recycler of Hazardous Waste	
☐	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐ Y ☑ N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	**D006**	**D011**	**D016**	**D021**	**D026**	**D031**
D002	**D007**	**D012**	**D017**	**D022**	**D027**	**D032**
D003	**D008**	**D013**	**D018**	**D023**	**D028**	**D033**
D004	**D009**	**D014**	**D019**	**D024**	**D029**	**D034**
D005	**D010**	**D015**	**D020**	**D025**	**D030**	**Cont**

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)

A. Other Waste Activities

☑ Y ☐ N	1. Transporter of Hazardous Waste—If "Yes", mark all that apply.
☑	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Underground Injection Control
☐ Y ☑ N	3. United States Importer of Hazardous Waste
☐ Y ☑ N	4. Recognized Trader—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter
☐ Y ☑ N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter

B. Universal Waste Activities

☐ Y ☑ N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If "Yes" mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☐	a. Batteries
☐	b. Pesticides
☐	c. Mercury containing equipment
☐	d. Lamps
☐	e. Other (specify) _____
☐	f. Other (specify) _____
☐	g. Other (specify) _____
☐ Y ☑ N	2. Destination Facility for Universal Waste Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☐ Y ☑ N	1. Used Oil Transporter—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Used Oil Processor and/or Re-refiner—If "Yes", mark all that apply.
☐	a. Processor
☐	b. Re-refiner
☐ Y ☑ N	3. Off-Specification Used Oil Burner
☐ Y ☑ N	4. Used Oil Fuel Marketer—If "Yes", mark all that apply.
☐	a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
☐	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☐ Y ☑ N	1. Operating under 40 CFR 266 Subpart P for the management of hazardous waste pharmaceuticals—if "Yes", mark only one. Note: See the item-by-item instructions for definitions of healthcare facility and reverse distributor.
☐	a. Healthcare Facility
☐	b. Reverse Distributor
☐ Y ☑ N	2. Withdrawing from operating under 40 CFR 266 Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is no longer an LQG or SQG.

12. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR 262 Subpart K.

☐ Y ☑ N	A. Opting into or currently operating under 40 CFR 262 Subpart K for the management of hazardous wastes in laboratories— If "Yes", mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐ Y ☑ N	B. Withdrawing from 40 CFR 262 Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐ Y ☑ N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If "Yes", you must fill out the Addendum for Episodic Generator?

14. LQG Consolidation of VSQG Hazardous Waste

☐ Y ☑ N	Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If "Yes", you must fill out the Addendum for LQG Consolidation of VSQGs hazardous waste.

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐ Y ☑ N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility.
	A. ☐ Central Accumulation Area (CAA) or ☐ Entire Facility
	B. Expected closure date: _____ mm/dd/yyyy
	C. Requesting new closure date: _____ mm/dd/yyyy
	D. Date closed : _____ mm/dd/yyyy ☐ 1. In compliance with the closure performance standards 40 CFR 262.17(a)(8) ☐ 2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)

16. Notification of Hazardous Secondary Material (HSM) Activity

☐ Y ☑ N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25), or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.

17. Electronic Manifest Broker

☐ Y ☑ N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?

18. Comments (include item number for each comment)

B. Waste Codes: Continued on attached pages 3a and 3b.

19. Certification 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 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 fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11).**

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy) **9/25/2020**
Printed Name (First, Middle Initial Last) **Matthew Sauvageau**	Title **VP Environmental Compliance**
Email **sauvageau.matthew@cleanharbors.com**	

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Printed Name (First, Middle Initial Last)	Title
Email	

Item B - Waste Codes Continued									
"D" Codes	"F" Codes	"K" Codes			"P" Codes			"U" Codes	
D001	F001	K001	K037	K108	P001	P048	P102	U001	U046
D002	F002	K002	K038	K109	P002	P049	P103	U002	U047
D003	F003	K003	K039	K110	P003	P050	P104	U003	U048
D004	F004	K004	K040	K111	P004	P051	P105	U004	U049
D005	F005	K005	K041	K112	P005	P054	P106	U005	U050
D006	F006	K006	K042	K113	P006	P056	P108	U006	U051
D007	F007	K007	K043	K114	P007	P057	P109	U007	U052
D008	F008	K008	K044	K115	P008	P058	P110	U008	U053
D009	F009	K009	K045	K116	P009	P059	P111	U009	U055
D010	F010	K010	K046	K117	P010	P060	P112	U010	U056
D011	F011		K047	K118	P011	P062	P113	U011	U057
D012	F012		K048	K123	P012	P063	P114	U012	U058
D013			K049	K124	P013	P064	P115	U014	U059
D014			K050	K125	P014	P065	P116	U015	U060
D015			K051	K126	P015	P066	P118	U016	U061
D016			K052	K131	P016	P067	P119	U017	U062
D017			K060	K132	P017	P068	P120	U018	U063
D018			K061	K136	P018	P069	P121	U019	U064
D019	F019	K011	K062	K141	P020	P070	P122	U020	U066
D020	F020	K013	K069	K142	P021	P071	P123	U021	U067
D021	F021	K014	K071	K143	P022	P072	P127	U022	U068
D022	F022	K015	K073	K144	P023	P073	P128	U023	U069
D023	F023	K016	K083	K145	P024	P074	P185	U024	U070
D024	F024	K017	K084	K147	P026	P075	P188	U025	U071
D025	F025	K018	K085	K148	P027	P076	P189	U026	U072
D026	F026	K019	K086	K149	P028	P077	P190	U027	U073
D027	F027	K020	K087	K150	P029	P078	P191	U028	U074
D028	F028	K021	K088	K151	P030	P081	P192	U029	U075
D029		K022	K093	K156	P031	P082	P194	U030	U076
D030		K023	K094	K157	P033	P084	P196	U031	U077
D031		K024	K095	K158	P034	P085	P197	U032	U078
D032	F032	K025	K096	K159	P036	P087	P198	U033	U079
D033		K026	K097	K161	P037	P088	P199	U034	U080
D034	F034	K027	K098	K169	P038	P089	P201	U035	U081
D035	F035	K028	K099	K170	P039	P092	P202	U036	U082
D036		K029	K100	K171	P040	P093	P203	U037	U083
D037	F037	K030	K101	K172	P041	P094	P204	U038	U084
D038	F038	K031	K102	K174	P042	P095	P205	U039	U085
D039	F039	K032	K103	K175	P043	P096		U041	U086
D040		K033	K104	K176	P044	P097		U042	U087
D041		K034	K105	K177	P045	P098		U043	U088
D042		K035	K106	K178	P046	P099		U044	U089
D043		K036	K107	K181	P047	P101		U045	U090

Item B- Waste Codes Continued

"U" Codes

U091	U136	U181	U234
U092	U137	U182	U235
U093	U138	U183	U236
U094	U140	U184	U237
U095	U141	U185	U238
U096	U142	U186	U239
U097	U143	U187	U240
U098	U144	U188	U243
U099	U145	U189	U244
U101	U146	U190	U246
U102	U147	U191	U247
U103	U148	U192	U248
U105	U149	U193	U249
U106	U150	U194	U271
U107	U151	U196	U278
U108	U152	U197	U279
U109	U153	U200	U280
U110	U154	U201	U328
U111	U155	U202	U353
U112	U156	U203	U359
U113	U157	U204	U364
U114	U158	U205	U367
U115	U159	U206	U372
U116	U160	U207	U373
U117	U161	U208	U387
U118	U162	U209	U389
U119	U163	U210	U394
U120	U164	U211	U395
U121	U165	U213	U404
U122	U166	U214	U409
U123	U167	U215	U410
U124	U168	U216	U411
U125	U169	U217	
U126	U170	U218	
U127	U171	U219	
U128	U172	U220	
U129	U173	U221	
U130	U174	U222	
U131	U176	U223	
U132	U177	U225	
U133	U178	U226	
U134	U179	U227	
U135	U180	U228	

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT PART A FORM

1. Facility Permit Contact

First Name	**Michael**	MI	**L**	Last Name	**Meriwether**
Title	**Facility General Manager**				
Email	**meriwether.michael@cleanharbors.com**				
Phone	**(580) 697-3520**	Ext		Fax	

2. Facility Permit Contact Mailing Address

Street Address	**40355 S. County Road 236**	
City, Town, or Village	**Waynoka**	
State **Oklahoma**	Country **United States**	Zip Code **73860**

3. Facility Existence Date (mm/dd/yyyy)

9/6/2002

4. Other Environmental Permits

A. Permit Type	B. Permit Number	C. Description
R	35470058	RCRA Part B Permit
R	OKD065438376	RCRA Post-Closure Permit
E	47002	ODEQ Disposal Plan
N	OKSC00164	Stormwater General Permit
E	96-517-0	Air Quality Permit
E	P330-18-003611	APHIS Permit to Receive Soil

5. Nature of Business

Treatment, storage and disposal of hazardous and nonhazardous waste generated by various industries and governmental agencies.

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
0	1	S	0	1	225455	G	007	Container Storage
0	2	S	0	2	1166328	G	027	Tank Storage
0	3	D	8	0	6621	A	004	Landfill
0	4	T	0	1	864000	U	002	Stabilization Units
0	5	S	0	2	3950140	G	060	Wastewater

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.		A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes									
								(1) Process Codes									(2) Process Description (if code is not entered in 7.D1))
0	1	D	0	0	1	5,000	T	S	0	1	S	0	2				
0	2	D	0	0	2	10,000	T	S	0	1	S	0	2				
0	3	D	0	0	3	5,000	T	S	0	1	S	0	2				
0	4	D	0	0	4	10,000	T	S	0	1	S	0	2				
0	5	D	0	0	5	10,000	T	S	0	1	S	0	2				
0	6	D	0	0	6	10,000	T	S	0	1	S	0	2				
0	7	D	0	0	7	10,000	T	S	0	1	S	0	2				
0	8	D	0	0	8	10,000	T	S	0	1	S	0	2				
0	9	D	0	0	9	10,000	T	S	0	1	S	0	2				
1	0	D	0	1	0	10,000	T	S	0	1	S	0	2				
1	1	D	0	1	0	10,000	T	S	0	1	S	0	2				Continued

8. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

9. Facility Drawing

All existing facilities must include a scale drawing of the facility. See instructions for more detail.

10. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. See instructions for more detail.

11. Comments

6. Continued T01 130000 U 060 Wastewater, Boiler
7. Description of Hazardous Wastes Continued on attached pages 8a through 8r.

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	D	0	0	1	5,000	T	S	0	1	S	0	2	0	0	0	
	2	D	0	0	2	10,000	T	S	0	1	S	0	2	0	0	0	
	3	D	0	0	3	5,000	T	S	0	1	S	0	2	0	0	0	
	4	D	0	0	4	10,000	T	S	0	1	S	0	2	0	0	0	
	5	D	0	0	5	10,000	T	S	0	1	S	0	2	0	0	0	
	6	D	0	0	6	10,000	T	S	0	1	S	0	2	0	0	0	
	7	D	0	0	7	10,000	T	S	0	1	S	0	2	0	0	0	
	8	D	0	0	8	10,000	T	S	0	1	S	0	2	0	0	0	
	9	D	0	0	9	10,000	T	S	0	1	S	0	2	0	0	0	
1	0	D	0	1	0	10,000	T	S	0	1	S	0	2	0	0	0	
1	1	D	0	1	1	10,000	T	S	0	1	S	0	2	0	0	0	
1	2	D	0	1	2	100	T	S	0	1	S	0	2	0	0	0	
1	3	D	0	1	3	100	T	S	0	1	S	0	2	0	0	0	
1	4	D	0	1	4	100	T	S	0	1	S	0	2	0	0	0	
1	5	D	0	1	5	100	T	S	0	1	S	0	2	0	0	0	
1	6	D	0	1	6	100	T	S	0	1	S	0	2	0	0	0	
1	7	D	0	1	7	100	T	S	0	1	S	0	2	0	0	0	
1	8	D	0	1	8	500	T	S	0	1	S	0	2	0	0	0	
1	9	D	0	1	9	500	T	S	0	1	S	0	2	0	0	0	
2	0	D	0	2	0	500	T	S	0	1	S	0	2	0	0	0	
2	1	D	0	2	1	500	T	S	0	1	S	0	2	0	0	0	
2	2	D	0	2	2	500	T	S	0	1	S	0	2	0	0	0	
2	3	D	0	2	3	500	T	S	0	1	S	0	2	0	0	0	
2	4	D	0	2	4	500	T	S	0	1	S	0	2	0	0	0	
2	5	D	0	2	5	500	T	S	0	1	S	0	2	0	0	0	
2	6	D	0	2	6	500	T	S	0	1	S	0	2	0	0	0	
2	7	D	0	2	7	500	T	S	0	1	S	0	2	0	0	0	
2	8	D	0	2	8	500	T	S	0	1	S	0	2	0	0	0	
2	9	D	0	2	9	500	T	S	0	1	S	0	2	0	0	0	
3	0	D	0	3	0	500	T	S	0	1	S	0	2	0	0	0	
3	1	D	0	3	1	500	T	S	0	1	S	0	2	0	0	0	
3	2	D	0	3	2	500	T	S	0	1	S	0	2	0	0	0	
3	3	D	0	3	3	500	T	S	0	1	S	0	2	0	0	0	
3	4	D	0	3	4	500	T	S	0	1	S	0	2	0	0	0	
3	5	D	0	3	5	500	T	S	0	1	S	0	2	0	0	0	
3	6	D	0	3	6	500	T	S	0	1	S	0	2	0	0	0	
3	7	D	0	3	7	500	T	S	0	1	S	0	2	0	0	0	
3	8	D	0	3	8	500	T	S	0	1	S	0	2	0	0	0	
3	9	D	0	3	9	500	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	D	0	4	0	500	T	S	0	1	S	0	2	0	0	0	
	2	D	0	4	1	500	T	S	0	1	S	0	2	0	0	0	
	3	D	0	4	2	500	T	S	0	1	S	0	2	0	0	0	
	4	D	0	4	3	500	T	S	0	1	S	0	2	0	0	0	
	5																
	6																
	7																
	8																
	9																
1	0																
1	1																
1	2																
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1	9																
2	0																
2	1																
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2	9																
3	0																
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7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a , etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	F	0	0	1	500	T	S	0	1	S	0	2	0	0	0	
	2	F	0	0	2	500	T	S	0	1	S	0	2	0	0	0	
	3	F	0	0	3	500	T	S	0	1	S	0	2	0	0	0	
	4	F	0	0	4	500	T	S	0	1	S	0	2	0	0	0	
	5	F	0	0	5	500	T	S	0	1	S	0	2	0	0	0	
	6	F	0	0	6	5,000	T	S	0	1	S	0	2	0	0	0	
	7	F	0	0	7	500	T	S	0	1	S	0	2	0	0	0	
	8	F	0	0	8	500	T	S	0	1	S	0	2	0	0	0	
	9	F	0	0	9	500	T	S	0	1	S	0	2	0	0	0	
1	0	F	0	1	0	500	T	S	0	1	S	0	2	0	0	0	
1	1	F	0	1	1	500	T	S	0	1	S	0	2	0	0	0	
1	2	F	0	1	2	500	T	S	0	1	S	0	2	0	0	0	
1	3	F	0	1	9	500	T	S	0	1	S	0	2	0	0	0	
1	4	F	0	2	0	500	T	S	0	1	S	0	2	0	0	0	
1	5	F	0	2	1	500	T	S	0	1	S	0	2	0	0	0	
1	6	F	0	2	2	500	T	S	0	1	S	0	2	0	0	0	
1	7	F	0	2	3	500	T	S	0	1	S	0	2	0	0	0	
1	8	F	0	2	4	500	T	S	0	1	S	0	2	0	0	0	
1	9	F	0	2	5	500	T	S	0	1	S	0	2	0	0	0	
2	0	F	0	2	6	500	T	S	0	1	S	0	2	0	0	0	
2	1	F	0	2	7	500	T	S	0	1	S	0	2	0	0	0	
2	2	F	0	2	8	500	T	S	0	1	S	0	2	0	0	0	
2	3	F	0	3	2	1,000	T	S	0	1	S	0	2	0	0	0	
2	4	F	0	3	4	1,000	T	S	0	1	S	0	2	0	0	0	
2	5	F	0	3	5	1,000	T	S	0	1	S	0	2	0	0	0	
2	6	F	0	3	7	1,000	T	S	0	1	S	0	2	0	0	0	
2	7	F	0	3	8	1,000	T	S	0	1	S	0	2	0	0	0	
2	8	F	0	3	9	10,000	T	S	0	1	S	0	2	0	0	0	
2	9																
3	0																
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7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	K	0	0	1	1,000	T	S	0	1	S	0	2	0	0	0	
	2	K	0	0	2	250	T	S	0	1	S	0	2	0	0	0	
	3	K	0	0	3	250	T	S	0	1	S	0	2	0	0	0	
	4	K	0	0	4	250	T	S	0	1	S	0	2	0	0	0	
	5	K	0	0	5	10	T	S	0	1	S	0	2	0	0	0	
	6	K	0	0	6	10	T	S	0	1	S	0	2	0	0	0	
	7	K	0	0	7	10	T	S	0	1	S	0	2	0	0	0	
	8	K	0	0	8	10	T	S	0	1	S	0	2	0	0	0	
	9	K	0	0	9	50	T	S	0	1	S	0	2	0	0	0	
1	0	K	0	1	0	50	T	S	0	1	S	0	2	0	0	0	
1	1	K	0	1	1	50	T	S	0	1	S	0	2	0	0	0	
1	2	K	0	1	3	50	T	S	0	1	S	0	2	0	0	0	
1	3	K	0	1	4	50	T	S	0	1	S	0	2	0	0	0	
1	4	K	0	1	5	50	T	S	0	1	S	0	2	0	0	0	
1	5	K	0	1	6	5	T	S	0	1	S	0	2	0	0	0	
1	6	K	0	1	7	50	T	S	0	1	S	0	2	0	0	0	
1	7	K	0	1	8	50	T	S	0	1	S	0	2	0	0	0	
1	8	K	0	1	9	100	T	S	0	1	S	0	2	0	0	0	
1	9	K	0	2	0	50	T	S	0	1	S	0	2	0	0	0	
2	0	K	0	2	1	50	T	S	0	1	S	0	2	0	0	0	
2	1	K	0	2	2	20	T	S	0	1	S	0	2	0	0	0	
2	2	K	0	2	3	50	T	S	0	1	S	0	2	0	0	0	
2	3	K	0	2	4	50	T	S	0	1	S	0	2	0	0	0	
2	4	K	0	2	5	50	T	S	0	1	S	0	2	0	0	0	
2	5	K	0	2	6	50	T	S	0	1	S	0	2	0	0	0	
2	6	K	0	2	7	50	T	S	0	1	S	0	2	0	0	0	
2	7	K	0	2	8	50	T	S	0	1	S	0	2	0	0	0	
2	8	K	0	2	9	50	T	S	0	1	S	0	2	0	0	0	
2	9	K	0	3	0	5	T	S	0	1	S	0	2	0	0	0	
3	0	K	0	3	1	50	T	S	0	1	S	0	2	0	0	0	
3	1	K	0	3	2	5	T	S	0	1	S	0	2	0	0	0	
3	2	K	0	3	3	5	T	S	0	1	S	0	2	0	0	0	
3	3	K	0	3	4	5	T	S	0	1	S	0	2	0	0	0	
3	4	K	0	3	5	5	T	S	0	1	S	0	2	0	0	0	
3	5	K	0	3	6	50	T	S	0	1	S	0	2	0	0	0	
3	6	K	0	3	7	50	T	S	0	1	S	0	2	0	0	0	
3	7	K	0	3	8	50	T	S	0	1	S	0	2	0	0	0	
3	8	K	0	3	9	50	T	S	0	1	S	0	2	0	0	0	
3	9	K	0	4	0	50	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	K	0	4	1	5	T	S	0	1	S	0	2	0	0	0	
	2	K	0	4	2	5	T	S	0	1	S	0	2	0	0	0	
	3	K	0	4	3	5	T	S	0	1	S	0	2	0	0	0	
	4	K	0	4	4	1	T	S	0	1	S	0	2	0	0	0	
	5	K	0	4	5	1	T	S	0	1	S	0	2	0	0	0	
	6	K	0	4	6	10	T	S	0	1	S	0	2	0	0	0	
	7	K	0	4	7	1	T	S	0	1	S	0	2	0	0	0	
	8	K	0	4	8	10,000	T	S	0	1	S	0	2	0	0	0	
	9	K	0	4	9	10,000	T	S	0	1	S	0	2	0	0	0	
1	0	K	0	5	0	4,000	T	S	0	1	S	0	2	0	0	0	
1	1	K	0	5	1	13,000	T	S	0	1	S	0	2	0	0	0	
1	2	K	0	5	2	5,000	T	S	0	1	S	0	2	0	0	0	
1	3	K	0	6	0	1,000	T	S	0	1	S	0	2	0	0	0	
1	4	K	0	6	1	10,000	T	S	0	1	S	0	2	0	0	0	
1	5	K	0	6	2	400	T	S	0	1	S	0	2	0	0	0	
1	6	K	0	6	9	500	T	S	0	1	S	0	2	0	0	0	
1	7	K	0	7	1	20	T	S	0	1	S	0	2	0	0	0	
1	8	K	0	7	3	20	T	S	0	1	S	0	2	0	0	0	
1	9	K	0	8	3	50	T	S	0	1	S	0	2	0	0	0	
2	0	K	0	8	4	500	T	S	0	1	S	0	2	0	0	0	
2	1	K	0	8	5	50	T	S	0	1	S	0	2	0	0	0	
2	2	K	0	8	6	100	T	S	0	1	S	0	2	0	0	0	
2	3	K	0	8	7	2,250	T	S	0	1	S	0	2	0	0	0	
2	4	K	0	8	8	5,000	T	S	0	1	S	0	2	0	0	0	
2	5	K	0	9	3	50	T	S	0	1	S	0	2	0	0	0	
2	6	K	0	9	4	50	T	S	0	1	S	0	2	0	0	0	
2	7	K	0	9	5	5	T	S	0	1	S	0	2	0	0	0	
2	8	K	0	9	6	5	T	S	0	1	S	0	2	0	0	0	
2	9	K	0	9	7	5	T	S	0	1	S	0	2	0	0	0	
3	0	K	0	9	8	5	T	S	0	1	S	0	2	0	0	0	
3	1	K	0	9	9	5	T	S	0	1	S	0	2	0	0	0	
3	2	K	1	0	0	100	T	S	0	1	S	0	2	0	0	0	
3	3	K	1	0	1	500	T	S	0	1	S	0	2	0	0	0	
3	4	K	1	0	2	500	T	S	0	1	S	0	2	0	0	0	
3	5	K	1	0	3	50	T	S	0	1	S	0	2	0	0	0	
3	6	K	1	0	4	50	T	S	0	1	S	0	2	0	0	0	
3	6	K	1	0	5	50	T	S	0	1	S	0	2	0	0	0	
3	8	K	1	0	6	20	T	S	0	1	S	0	2	0	0	0	
3	9	K	1	0	7	50	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Us this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	K	1	0	8	50	T	S	0	1	S	0	2	0	0	0	
	2	K	1	0	9	50	T	S	0	1	S	0	2	0	0	0	
	3	K	1	1	0	50	T	S	0	1	S	0	2	0	0	0	
	4	K	1	1	1	50	T	S	0	1	S	0	2	0	0	0	
	5	K	1	1	2	50	T	S	0	1	S	0	2	0	0	0	
	6	K	1	1	3	50	T	S	0	1	S	0	2	0	0	0	
	7	K	1	1	4	50	T	S	0	1	S	0	2	0	0	0	
	8	K	1	1	5	50	T	S	0	1	S	0	2	0	0	0	
	9	K	1	1	6	50	T	S	0	1	S	0	2	0	0	0	
1	0	K	1	1	7	50	T	S	0	1	S	0	2	0	0	0	
1	1	K	1	1	8	50	T	S	0	1	S	0	2	0	0	0	
1	2	K	1	2	3	50	T	S	0	1	S	0	2	0	0	0	
1	3	K	1	2	4	50	T	S	0	1	S	0	2	0	0	0	
1	4	K	1	2	5	50	T	S	0	1	S	0	2	0	0	0	
1	5	K	1	2	6	50	T	S	0	1	S	0	2	0	0	0	
1	6	K	1	3	1	50	T	S	0	1	S	0	2	0	0	0	
1	7	K	1	3	2	50	T	S	0	1	S	0	2	0	0	0	
1	8	K	1	3	6	50	T	S	0	1	S	0	2	0	0	0	
1	9	K	1	4	1	2,000	T	S	0	1	S	0	2	0	0	0	
2	0	K	1	4	2	2,000	T	S	0	1	S	0	2	0	0	0	
2	1	K	1	4	3	2,000	T	S	0	1	S	0	2	0	0	0	
2	2	K	1	4	4	2,000	T	S	0	1	S	0	2	0	0	0	
2	3	K	1	4	5	2,000	T	S	0	1	S	0	2	0	0	0	
2	4	K	1	4	7	2,000	T	S	0	1	S	0	2	0	0	0	
2	5	K	1	4	8	2,000	T	S	0	1	S	0	2	0	0	0	
2	6	K	1	4	9	50	T	S	0	1	S	0	2	0	0	0	
2	7	K	1	5	0	50	T	S	0	1	S	0	2	0	0	0	
2	8	K	1	5	1	50	T	S	0	1	S	0	2	0	0	0	
2	9	K	1	5	6	50	T	S	0	1	S	0	2	0	0	0	
3	0	K	1	5	7	50	T	S	0	1	S	0	2	0	0	0	
3	1	K	1	5	8	50	T	S	0	1	S	0	2	0	0	0	
3	2	K	1	5	9	50	T	S	0	1	S	0	2	0	0	0	
3	3	K	1	6	1	50	T	S	0	1	S	0	2	0	0	0	
3	4	K	1	6	9	50	T	S	0	1	S	0	2	0	0	0	
3	5	K	1	7	0	50	T	S	0	1	S	0	2	0	0	0	
3	6	K	1	7	1	50	T	S	0	1	S	0	2	0	0	0	
3	7	K	1	7	2	50	T	S	0	1	S	0	2	0	0	0	
3	9	K	1	7	4	50	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	K	1	7	4	50	T	S	0	1	S	0	2	0	0	0	
	2	K	1	7	5	50	T	S	0	1	S	0	2	0	0	0	
	3	K	1	7	6	50	T	S	0	1	S	0	2	0	0	0	
	4	K	1	7	7	500	T	S	0	1	S	0	2	0	0	0	
	5	K	1	7	8	500	T	S	0	1	S	0	2	0	0	0	
	6	K	1	8	1	500	T	S	0	1	S	0	2	0	0	0	
	7																
	8																
	9																
1	0																
1	1																
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7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	P	0	0	1	20	T	S	0	1	S	0	2	0	0	0	
	2	P	0	0	2	20	T	S	0	1	S	0	2	0	0	0	
	3	P	0	0	3	20	T	S	0	1	S	0	2	0	0	0	
	4	P	0	0	4	5	T	S	0	1	S	0	2	0	0	0	
	5	P	0	0	5	20	T	S	0	1	S	0	2	0	0	0	
	6	P	0	0	6	20	T	S	0	1	S	0	2	0	0	0	
	7	P	0	0	7	20	T	S	0	1	S	0	2	0	0	0	
	8	P	0	0	8	20	T	S	0	1	S	0	2	0	0	0	
	9	P	0	0	9	20	T	S	0	1	S	0	2	0	0	0	
1	0	P	0	1	0	20	T	S	0	1	S	0	2	0	0	0	
1	1	P	0	1	1	20	T	S	0	1	S	0	2	0	0	0	
1	2	P	0	1	2	20	T	S	0	1	S	0	2	0	0	0	
1	3	P	0	1	3	5	T	S	0	1	S	0	2	0	0	0	
1	4	P	0	1	4	20	T	S	0	1	S	0	2	0	0	0	
1	5	P	0	1	5	20	T	S	0	1	S	0	2	0	0	0	
1	6	P	0	1	6	20	T	S	0	1	S	0	2	0	0	0	
1	7	P	0	1	7	20	T	S	0	1	S	0	2	0	0	0	
1	8	P	0	1	8	20	T	S	0	1	S	0	2	0	0	0	
1	9	P	0	2	0	10	T	S	0	1	S	0	2	0	0	0	
2	0	P	0	2	1	5	T	S	0	1	S	0	2	0	0	0	
2	1	P	0	2	2	20	T	S	0	1	S	0	2	0	0	0	
2	2	P	0	2	3	20	T	S	0	1	S	0	2	0	0	0	
2	3	P	0	2	4	20	T	S	0	1	S	0	2	0	0	0	
2	4	P	0	2	6	20	T	S	0	1	S	0	2	0	0	0	
2	5	P	0	2	7	20	T	S	0	1	S	0	2	0	0	0	
2	6	P	0	2	8	20	T	S	0	1	S	0	2	0	0	0	
2	7	P	0	2	9	5	T	S	0	1	S	0	2	0	0	0	
2	8	P	0	3	0	5	T	S	0	1	S	0	2	0	0	0	
2	9	P	0	3	1	20	T	S	0	1	S	0	2	0	0	0	
3	0	P	0	3	3	20	T	S	0	1	S	0	2	0	0	0	
3	1	P	0	3	4	10	T	S	0	1	S	0	2	0	0	0	
3	2	P	0	3	6	20	T	S	0	1	S	0	2	0	0	0	
3	3	P	0	3	7	20	T	S	0	1	S	0	2	0	0	0	
3	4	P	0	3	8	20	T	S	0	1	S	0	2	0	0	0	
3	5	P	0	3	9	20	T	S	0	1	S	0	2	0	0	0	
3	6	P	0	4	0	20	T	S	0	1	S	0	2	0	0	0	
3	7	P	0	4	1	20	T	S	0	1	S	0	2	0	0	0	
3	8	P	0	4	2	20	T	S	0	1	S	0	2	0	0	0	
3	9	P	0	4	3	20	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	P	0	4	4	20	T	S	0	1	S	0	2	0	0	0	
	2	P	0	4	5	20	T	S	0	1	S	0	2	0	0	0	
	3	P	0	4	6	10	T	S	0	1	S	0	2	0	0	0	
	4	P	0	4	7	10	T	S	0	1	S	0	2	0	0	0	
	5	P	0	4	8	20	T	S	0	1	S	0	2	0	0	0	
	6	P	0	4	9	10	T	S	0	1	S	0	2	0	0	0	
	7	P	0	5	0	10	T	S	0	1	S	0	2	0	0	0	
	8	P	0	5	1	5	T	S	0	1	S	0	2	0	0	0	
	9	P	0	5	4	20	T	S	0	1	S	0	2	0	0	0	
1	0	P	0	5	6	10	T	S	0	1	S	0	2	0	0	0	
1	1	P	0	5	7	20	T	S	0	1	S	0	2	0	0	0	
1	2	P	0	5	8	20	T	S	0	1	S	0	2	0	0	0	
1	3	P	0	5	9	10	T	S	0	1	S	0	2	0	0	0	
1	4	P	0	6	0	10	T	S	0	1	S	0	2	0	0	0	
1	5	P	0	6	2	10	T	S	0	1	S	0	2	0	0	0	
1	6	P	0	6	3	10	T	S	0	1	S	0	2	0	0	0	
1	7	P	0	6	4	10	T	S	0	1	S	0	2	0	0	0	
1	8	P	0	6	5	10	T	S	0	1	S	0	2	0	0	0	
1	9	P	0	6	6	10	T	S	0	1	S	0	2	0	0	0	
2	0	P	0	6	7	10	T	S	0	1	S	0	2	0	0	0	
2	1	P	0	6	8	10	T	S	0	1	S	0	2	0	0	0	
2	2	P	0	6	9	20	T	S	0	1	S	0	2	0	0	0	
2	3	P	0	7	0	20	T	S	0	1	S	0	2	0	0	0	
2	4	P	0	7	1	20	T	S	0	1	S	0	2	0	0	0	
2	5	P	0	7	2	20	T	S	0	1	S	0	2	0	0	0	
2	6	P	0	7	3	20	T	S	0	1	S	0	2	0	0	0	
2	7	P	0	7	4	20	T	S	0	1	S	0	2	0	0	0	
2	8	P	0	7	5	20	T	S	0	1	S	0	2	0	0	0	
2	9	P	0	7	6	20	T	S	0	1	S	0	2	0	0	0	
3	0	P	0	7	7	1	T	S	0	1	S	0	2	0	0	0	
3	1	P	0	7	8	20	T	S	0	1	S	0	2	0	0	0	
3	2	P	0	8	1	20	T	S	0	1	S	0	2	0	0	0	
3	3	P	0	8	2	10	T	S	0	1	S	0	2	0	0	0	
3	4	P	0	8	4	10	T	S	0	1	S	0	2	0	0	0	
3	5	P	0	8	5	10	T	S	0	1	S	0	2	0	0	0	
3	6	P	0	8	7	20	T	S	0	1	S	0	2	0	0	0	
3	7	P	0	8	8	20	T	S	0	1	S	0	2	0	0	0	
3	8	P	0	8	9	5	T	S	0	1	S	0	2	0	0	0	
3	9	P	0	9	2	10	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	P	0	9	3	20	T	S	0	1	S	0	2	0	0	0	
	2	P	0	9	4	20	T	S	0	1	S	0	2	0	0	0	
	3	P	0	9	5	20	T	S	0	1	S	0	2	0	0	0	
	4	P	0	9	6	10	T	S	0	1	S	0	2	0	0	0	
	5	P	0	9	7	20	T	S	0	1	S	0	2	0	0	0	
	6	P	0	9	8	5	T	S	0	1	S	0	2	0	0	0	
	7	P	0	9	9	5	T	S	0	1	S	0	2	0	0	0	
	8	P	1	0	1	10	T	S	0	1	S	0	2	0	0	0	
	9	P	1	0	2	20	T	S	0	1	S	0	2	0	0	0	
1	0	P	1	0	3	20	T	S	0	1	S	0	2	0	0	0	
1	1	P	1	0	4	5	T	S	0	1	S	0	2	0	0	0	
1	2	P	1	0	5	5	T	S	0	1	S	0	2	0	0	0	
1	3	P	1	0	6	20	T	S	0	1	S	0	2	0	0	0	
1	4	P	1	0	8	20	T	S	0	1	S	0	2	0	0	0	
1	5	P	1	0	9	10	T	S	0	1	S	0	2	0	0	0	
1	6	P	1	1	0	20	T	S	0	1	S	0	2	0	0	0	
1	7	P	1	1	1	20	T	S	0	1	S	0	2	0	0	0	
1	8	P	1	1	2	10	T	S	0	1	S	0	2	0	0	0	
1	9	P	1	1	3	20	T	S	0	1	S	0	2	0	0	0	
2	0	P	1	1	4	20	T	S	0	1	S	0	2	0	0	0	
2	1	P	1	1	5	20	T	S	0	1	S	0	2	0	0	0	
2	2	P	1	1	6	10	T	S	0	1	S	0	2	0	0	0	
2	3	P	1	1	8	10	T	S	0	1	S	0	2	0	0	0	
2	4	P	1	1	9	20	T	S	0	1	S	0	2	0	0	0	
2	5	P	1	2	0	20	T	S	0	1	S	0	2	0	0	0	
2	6	P	1	2	1	5	T	S	0	1	S	0	2	0	0	0	
2	7	P	1	2	2	20	T	S	0	1	S	0	2	0	0	0	
2	8	P	1	2	3	20	T	S	0	1	S	0	2	0	0	0	
2	9	P	1	2	7	20	T	S	0	1	S	0	2	0	0	0	
3	0	P	1	2	8	20	T	S	0	1	S	0	2	0	0	0	
3	1	P	1	8	5	20	T	S	0	1	S	0	2	0	0	0	
3	2	P	1	8	8	20	T	S	0	1	S	0	2	0	0	0	
3	3	P	1	8	9	20	T	S	0	1	S	0	2	0	0	0	
3	4	P	1	9	0	20	T	S	0	1	S	0	2	0	0	0	
3	5	P	1	9	1	20	T	S	0	1	S	0	2	0	0	0	
3	6	P	1	9	2	20	T	S	0	1	S	0	2	0	0	0	
3	7	P	1	9	4	20	T	S	0	1	S	0	2	0	0	0	
3	8	P	1	9	6	20	T	S	0	1	S	0	2	0	0	0	
3	9	P	1	9	7	20	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	P	1	9	8	20	T	S	0	1	S	0	2	0	0	0	
	2	P	1	9	9	20	T	S	0	1	S	0	2	0	0	0	
	3	P	2	0	1	20	T	S	0	1	S	0	2	0	0	0	
	4	P	2	0	2	20	T	S	0	1	S	0	2	0	0	0	
	5	P	2	0	3	20	T	S	0	1	S	0	2	0	0	0	
	6	P	2	0	4	20	T	S	0	1	S	0	2	0	0	0	
	7	P	2	0	5	20	T	S	0	1	S	0	2	0	0	0	
	8																
	9																
1	0																
1	1																
1	2																
1	3																
1	4																
1	5																
1	6																
1	7																
1	8																
1	9																
2	0																
2	1																
2	2																
2	3																
2	4																
2	5																
2	6																
2	7																
2	8																
2	9																
3	0																
3	1																
3	2																
3	3																
3	4																
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3	8																
3	9																

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	0	0	1	5	T	S	0	1	S	0	2	0	0	0	
	2	U	0	0	2	20	T	S	0	1	S	0	2	0	0	0	
	3	U	0	0	3	20	T	S	0	1	S	0	2	0	0	0	
	4	U	0	0	4	20	T	S	0	1	S	0	2	0	0	0	
	5	U	0	0	5	20	T	S	0	1	S	0	2	0	0	0	
	6	U	0	0	6	20	T	S	0	1	S	0	2	0	0	0	
	7	U	0	0	7	20	T	S	0	1	S	0	2	0	0	0	
	8	U	0	0	8	20	T	S	0	1	S	0	2	0	0	0	
	9	U	0	0	9	20	T	S	0	1	S	0	2	0	0	0	
1	0	U	0	1	0	20	T	S	0	1	S	0	2	0	0	0	
1	1	U	0	1	1	20	T	S	0	1	S	0	2	0	0	0	
1	2	U	0	1	2	20	T	S	0	1	S	0	2	0	0	0	
1	3	U	0	1	4	20	T	S	0	1	S	0	2	0	0	0	
1	4	U	0	1	5	20	T	S	0	1	S	0	2	0	0	0	
1	5	U	0	1	6	20	T	S	0	1	S	0	2	0	0	0	
1	6	U	0	1	7	20	T	S	0	1	S	0	2	0	0	0	
1	7	U	0	1	8	20	T	S	0	1	S	0	2	0	0	0	
1	8	U	0	1	9	10	T	S	0	1	S	0	2	0	0	0	
1	9	U	0	2	0	10	T	S	0	1	S	0	2	0	0	0	
2	0	U	0	2	1	10	T	S	0	1	S	0	2	0	0	0	
2	1	U	0	2	2	10	T	S	0	1	S	0	2	0	0	0	
2	2	U	0	2	3	10	T	S	0	1	S	0	2	0	0	0	
2	3	U	0	2	4	10	T	S	0	1	S	0	2	0	0	0	
2	4	U	0	2	5	1	T	S	0	1	S	0	2	0	0	0	
2	5	U	0	2	6	10	T	S	0	1	S	0	2	0	0	0	
2	6	U	0	2	7	10	T	S	0	1	S	0	2	0	0	0	
2	7	U	0	2	8	10	T	S	0	1	S	0	2	0	0	0	
2	8	U	0	2	9	10	T	S	0	1	S	0	2	0	0	0	
2	9	U	0	3	0	100	T	S	0	1	S	0	2	0	0	0	
3	0	U	0	3	1	10	T	S	0	1	S	0	2	0	0	0	
3	1	U	0	3	2	10	T	S	0	1	S	0	2	0	0	0	
3	2	U	0	3	3	10	T	S	0	1	S	0	2	0	0	0	
3	3	U	0	3	4	20	T	S	0	1	S	0	2	0	0	0	
3	4	U	0	3	5	10	T	S	0	1	S	0	2	0	0	0	
3	5	U	0	3	6	10	T	S	0	1	S	0	2	0	0	0	
3	6	U	0	3	7	10	T	S	0	1	S	0	2	0	0	0	
3	7	U	0	3	8	10	T	S	0	1	S	0	2	0	0	0	
3	8	U	0	3	9	10	T	S	0	1	S	0	2	0	0	0	
3	9	U	0	4	1	10	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	0	4	2	10	T	S	0	1	S	0	2	0	0	0	
	2	U	0	4	3	10	T	S	0	1	S	0	2	0	0	0	
	3	U	0	4	4	10	T	S	0	1	S	0	2	0	0	0	
	4	U	0	4	5	10	T	S	0	1	S	0	2	0	0	0	
	5	U	0	4	6	10	T	S	0	1	S	0	2	0	0	0	
	6	U	0	4	7	10	T	S	0	1	S	0	2	0	0	0	
	7	U	0	4	8	10	T	S	0	1	S	0	2	0	0	0	
	8	U	0	4	9	20	T	S	0	1	S	0	2	0	0	0	
	9	U	0	5	0	10	T	S	0	1	S	0	2	0	0	0	
1	0	U	0	5	1	500	T	S	0	1	S	0	2	0	0	0	
1	1	U	0	5	2	500	T	S	0	1	S	0	2	0	0	0	
1	2	U	0	5	3	10	T	S	0	1	S	0	2	0	0	0	
1	3	U	0	5	5	10	T	S	0	1	S	0	2	0	0	0	
1	4	U	0	5	6	20	T	S	0	1	S	0	2	0	0	0	
1	5	U	0	5	7	20	T	S	0	1	S	0	2	0	0	0	
1	6	U	0	5	8	20	T	S	0	1	S	0	2	0	0	0	
1	7	U	0	5	9	20	T	S	0	1	S	0	2	0	0	0	
1	8	U	0	6	0	5	T	S	0	1	S	0	2	0	0	0	
1	9	U	0	6	1	20	T	S	0	1	S	0	2	0	0	0	
2	0	U	0	6	2	20	T	S	0	1	S	0	2	0	0	0	
2	1	U	0	6	3	20	T	S	0	1	S	0	2	0	0	0	
2	2	U	0	6	4	20	T	S	0	1	S	0	2	0	0	0	
2	3	U	0	6	6	20	T	S	0	1	S	0	2	0	0	0	
2	4	U	0	6	7	10	T	S	0	1	S	0	2	0	0	0	
2	5	U	0	6	8	10	T	S	0	1	S	0	2	0	0	0	
2	6	U	0	6	9	20	T	S	0	1	S	0	2	0	0	0	
2	7	U	0	7	0	5	T	S	0	1	S	0	2	0	0	0	
2	8	U	0	7	1	5	T	S	0	1	S	0	2	0	0	0	
2	9	U	0	7	2	5	T	S	0	1	S	0	2	0	0	0	
3	0	U	0	7	3	20	T	S	0	1	S	0	2	0	0	0	
3	1	U	0	7	4	20	T	S	0	1	S	0	2	0	0	0	
3	2	U	0	7	5	20	T	S	0	1	S	0	2	0	0	0	
3	3	U	0	7	6	10	T	S	0	1	S	0	2	0	0	0	
3	4	U	0	7	7	10	T	S	0	1	S	0	2	0	0	0	
3	5	U	0	7	8	50	T	S	0	1	S	0	2	0	0	0	
3	6	U	0	7	9	5	T	S	0	1	S	0	2	0	0	0	
3	7	U	0	8	0	10	T	S	0	1	S	0	2	0	0	0	
3	8	U	0	8	1	5	T	S	0	1	S	0	2	0	0	0	
3	9	U	0	8	2	5	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	0	8	3	20	T	S	0	1	S	0	2	0	0	0	
	2	U	0	8	4	20	T	S	0	1	S	0	2	0	0	0	
	3	U	0	8	5	20	T	S	0	1	S	0	2	0	0	0	
	4	U	0	8	6	20	T	S	0	1	S	0	2	0	0	0	
	5	U	0	8	7	20	T	S	0	1	S	0	2	0	0	0	
	6	U	0	8	8	20	T	S	0	1	S	0	2	0	0	0	
	7	U	0	8	9	20	T	S	0	1	S	0	2	0	0	0	
	8	U	0	9	0	20	T	S	0	1	S	0	2	0	0	0	
	9	U	0	9	1	20	T	S	0	1	S	0	2	0	0	0	
1	0	U	0	9	2	20	T	S	0	1	S	0	2	0	0	0	
1	1	U	0	9	3	20	T	S	0	1	S	0	2	0	0	0	
1	2	U	0	9	4	20	T	S	0	1	S	0	2	0	0	0	
1	3	U	0	9	5	20	T	S	0	1	S	0	2	0	0	0	
1	4	U	0	9	6	20	T	S	0	1	S	0	2	0	0	0	
1	5	U	0	9	7	10	T	S	0	1	S	0	2	0	0	0	
1	6	U	0	9	8	10	T	S	0	1	S	0	2	0	0	0	
1	7	U	0	9	9	10	T	S	0	1	S	0	2	0	0	0	
1	8	U	1	0	1	5	T	S	0	1	S	0	2	0	0	0	
1	9	U	1	0	2	5	T	S	0	1	S	0	2	0	0	0	
2	0	U	1	0	3	5	T	S	0	1	S	0	2	0	0	0	
2	1	U	1	0	5	10	T	S	0	1	S	0	2	0	0	0	
2	2	U	1	0	6	10	T	S	0	1	S	0	2	0	0	0	
2	3	U	1	0	7	10	T	S	0	1	S	0	2	0	0	0	
2	4	U	1	0	8	5	T	S	0	1	S	0	2	0	0	0	
2	5	U	1	0	9	10	T	S	0	1	S	0	2	0	0	0	
2	6	U	1	1	0	10	T	S	0	1	S	0	2	0	0	0	
2	7	U	1	1	1	10	T	S	0	1	S	0	2	0	0	0	
2	8	U	1	1	2	20	T	S	0	1	S	0	2	0	0	0	
2	9	U	1	1	3	10	T	S	0	1	S	0	2	0	0	0	
3	0	U	1	1	4	10	T	S	0	1	S	0	2	0	0	0	
3	1	U	1	1	5	10	T	S	0	1	S	0	2	0	0	0	
3	2	U	1	1	6	10	T	S	0	1	S	0	2	0	0	0	
3	3	U	1	1	7	10	T	S	0	1	S	0	2	0	0	0	
3	4	U	1	1	8	10	T	S	0	1	S	0	2	0	0	0	
3	5	U	1	1	9	10	T	S	0	1	S	0	2	0	0	0	
3	6	U	1	2	0	10	T	S	0	1	S	0	2	0	0	0	
3	7	U	1	2	1	10	T	S	0	1	S	0	2	0	0	0	
3	8	U	1	2	2	10	T	S	0	1	S	0	2	0	0	0	
3	9	U	1	2	3	10	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	1	2	4	5	T	S	0	1	S	0	2	0	0	0	
	2	U	1	2	5	10	T	S	0	1	S	0	2	0	0	0	
	3	U	1	2	6	10	T	S	0	1	S	0	2	0	0	0	
	4	U	1	2	7	10	T	S	0	1	S	0	2	0	0	0	
	5	U	1	2	8	10	T	S	0	1	S	0	2	0	0	0	
	6	U	1	2	9	10	T	S	0	1	S	0	2	0	0	0	
	7	U	1	3	0	10	T	S	0	1	S	0	2	0	0	0	
	8	U	1	3	1	10	T	S	0	1	S	0	2	0	0	0	
	9	U	1	3	2	10	T	S	0	1	S	0	2	0	0	0	
1	0	U	1	3	3	5	T	S	0	1	S	0	2	0	0	0	
1	1	U	1	3	4	10	T	S	0	1	S	0	2	0	0	0	
1	2	U	1	3	5	10	T	S	0	1	S	0	2	0	0	0	
1	3	U	1	3	6	10	T	S	0	1	S	0	2	0	0	0	
1	4	U	1	3	7	10	T	S	0	1	S	0	2	0	0	0	
1	5	U	1	3	8	10	T	S	0	1	S	0	2	0	0	0	
1	6	U	1	4	0	10	T	S	0	1	S	0	2	0	0	0	
1	7	U	1	4	1	10	T	S	0	1	S	0	2	0	0	0	
1	8	U	1	4	2	10	T	S	0	1	S	0	2	0	0	0	
1	9	U	1	4	3	10	T	S	0	1	S	0	2	0	0	0	
2	0	U	1	4	4	20	T	S	0	1	S	0	2	0	0	0	
2	1	U	1	4	5	10	T	S	0	1	S	0	2	0	0	0	
2	2	U	1	4	6	10	T	S	0	1	S	0	2	0	0	0	
2	3	U	1	4	7	10	T	S	0	1	S	0	2	0	0	0	
2	4	U	1	4	8	10	T	S	0	1	S	0	2	0	0	0	
2	5	U	1	4	9	10	T	S	0	1	S	0	2	0	0	0	
2	6	U	1	5	0	20	T	S	0	1	S	0	2	0	0	0	
2	7	U	1	5	1	10	T	S	0	1	S	0	2	0	0	0	
2	8	U	1	5	2	10	T	S	0	1	S	0	2	0	0	0	
2	9	U	1	5	3	10	T	S	0	1	S	0	2	0	0	0	
3	0	U	1	5	4	10	T	S	0	1	S	0	2	0	0	0	
3	1	U	1	5	5	10	T	S	0	1	S	0	2	0	0	0	
3	2	U	1	5	6	10	T	S	0	1	S	0	2	0	0	0	
3	3	U	1	5	7	1	T	S	0	1	S	0	2	0	0	0	
3	4	U	1	5	8	20	T	S	0	1	S	0	2	0	0	0	
3	5	U	1	5	9	10	T	S	0	1	S	0	2	0	0	0	
3	6	U	1	6	0	10	T	S	0	1	S	0	2	0	0	0	
3	7	U	1	6	1	10	T	S	0	1	S	0	2	0	0	0	
3	8	U	1	6	2	10	T	S	0	1	S	0	2	0	0	0	
3	9	U	1	6	3	10	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued; additional sheet)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	1	6	4	10	T	S	0	1	S	0	2	0	0	0	
	2	U	1	6	5	10	T	S	0	1	S	0	2	0	0	0	
	3	U	1	6	6	10	T	S	0	1	S	0	2	0	0	0	
	4	U	1	6	7	10	T	S	0	1	S	0	2	0	0	0	
	5	U	1	6	8	10	T	S	0	1	S	0	2	0	0	0	
	6	U	1	6	9	10	T	S	0	1	S	0	2	0	0	0	
	7	U	1	7	0	10	T	S	0	1	S	0	2	0	0	0	
	8	U	1	7	1	10	T	S	0	1	S	0	2	0	0	0	
	9	U	1	7	2	10	T	S	0	1	S	0	2	0	0	0	
1	0	U	1	7	3	10	T	S	0	1	S	0	2	0	0	0	
1	1	U	1	7	4	10	T	S	0	1	S	0	2	0	0	0	
1	2	U	1	7	6	10	T	S	0	1	S	0	2	0	0	0	
1	3	U	1	7	7	10	T	S	0	1	S	0	2	0	0	0	
1	4	U	1	7	8	10	T	S	0	1	S	0	2	0	0	0	
1	5	U	1	7	9	10	T	S	0	1	S	0	2	0	0	0	
1	6	U	1	8	0	10	T	S	0	1	S	0	2	0	0	0	
1	7	U	1	8	1	10	T	S	0	1	S	0	2	0	0	0	
1	8	U	1	8	2	10	T	S	0	1	S	0	2	0	0	0	
2	9	U	1	8	3	10	T	S	0	1	S	0	2	0	0	0	
2	0	U	1	8	4	10	T	S	0	1	S	0	2	0	0	0	
2	1	U	1	8	5	10	T	S	0	1	S	0	2	0	0	0	
2	2	U	1	8	6	10	T	S	0	1	S	0	2	0	0	0	
2	3	U	1	8	7	20	T	S	0	1	S	0	2	0	0	0	
2	4	U	1	8	8	1,000	T	S	0	1	S	0	2	0	0	0	
2	5	U	1	8	9	10	T	S	0	1	S	0	2	0	0	0	
2	6	U	1	9	0	10	T	S	0	1	S	0	2	0	0	0	
2	7	U	1	9	1	10	T	S	0	1	S	0	2	0	0	0	
2	8	U	1	9	2	10	T	S	0	1	S	0	2	0	0	0	
3	9	U	1	9	3	10	T	S	0	1	S	0	2	0	0	0	
3	0	U	1	9	4	10	T	S	0	1	S	0	2	0	0	0	
3	1	U	1	9	6	10	T	S	0	1	S	0	2	0	0	0	
3	2	U	1	9	7	10	T	S	0	1	S	0	2	0	0	0	
3	3	U	2	0	0	10	T	S	0	1	S	0	2	0	0	0	
3	4	U	2	0	1	10	T	S	0	1	S	0	2	0	0	0	
3	5	U	2	0	2	10	T	S	0	1	S	0	2	0	0	0	
3	6	U	2	0	3	10	T	S	0	1	S	0	2	0	0	0	
3	7	U	2	0	4	10	T	S	0	1	S	0	2	0	0	0	
3	8	U	2	0	5	10	T	S	0	1	S	0	2	0	0	0	
3	9	U	2	0	6	20	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	E. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	2	0	7	20	T	S	0	1	S	0	2	0	0	0	
	2	U	2	0	8	20	T	S	0	1	S	0	2	0	0	0	
	3	U	2	0	9	20	T	S	0	1	S	0	2	0	0	0	
	4	U	2	1	0	100	T	S	0	1	S	0	2	0	0	0	
	5	U	2	1	1	10	T	S	0	1	S	0	2	0	0	0	
	6	U	2	1	3	10	T	S	0	1	S	0	2	0	0	0	
	7	U	2	1	4	20	T	S	0	1	S	0	2	0	0	0	
	8	U	2	1	5	10	T	S	0	1	S	0	2	0	0	0	
	9	U	2	1	6	10	T	S	0	1	S	0	2	0	0	0	
1	0	U	2	1	7	10	T	S	0	1	S	0	2	0	0	0	
1	1	U	2	1	8	10	T	S	0	1	S	0	2	0	0	0	
1	2	U	2	1	9	10	T	S	0	1	S	0	2	0	0	0	
1	3	U	2	2	0	10	T	S	0	1	S	0	2	0	0	0	
1	4	U	2	2	1	10	T	S	0	1	S	0	2	0	0	0	
1	5	U	2	2	2	20	T	S	0	1	S	0	2	0	0	0	
1	6	U	2	2	3	10	T	S	0	1	S	0	2	0	0	0	
1	7	U	2	2	5	10	T	S	0	1	S	0	2	0	0	0	
1	8	U	2	2	6	100	T	S	0	1	S	0	2	0	0	0	
1	9	U	2	2	7	100	T	S	0	1	S	0	2	0	0	0	
2	0	U	2	2	8	250	T	S	0	1	S	0	2	0	0	0	
2	1	U	2	3	4	10	T	S	0	1	S	0	2	0	0	0	
2	2	U	2	3	5	10	T	S	0	1	S	0	2	0	0	0	
2	3	U	2	3	6	10	T	S	0	1	S	0	2	0	0	0	
2	4	U	2	3	7	10	T	S	0	1	S	0	2	0	0	0	
2	5	U	2	3	8	10	T	S	0	1	S	0	2	0	0	0	
2	6	U	2	3	9	100	T	S	0	1	S	0	2	0	0	0	
2	7	U	2	4	0	20	T	S	0	1	S	0	2	0	0	0	
2	8	U	2	4	3	10	T	S	0	1	S	0	2	0	0	0	
2	9	U	2	4	4	10	T	S	0	1	S	0	2	0	0	0	
3	0	U	2	4	6	20	T	S	0	1	S	0	2	0	0	0	
3	1	U	2	4	7	10	T	S	0	1	S	0	2	0	0	0	
3	2	U	2	4	8	1	T	S	0	1	S	0	2	0	0	0	
3	3	U	2	4	9	1	T	S	0	1	S	0	2	0	0	0	
3	4	U	2	7	1	20	T	S	0	1	S	0	2	0	0	0	
3	5	U	2	7	8	20	T	S	0	1	S	0	2	0	0	0	
3	6	U	2	7	9	20	T	S	0	1	S	0	2	0	0	0	
3	7	U	2	8	0	20	T	S	0	1	S	0	2	0	0	0	
3	8	U	3	2	8	1	T	S	0	1	S	0	2	0	0	0	
3	9	U	3	5	3	1	T	S	0	1	S	0	2	0	0	0	

7. Description of Hazardous Waste (Continued. Use this Additional Sheet(s) as necessary; number as 5 a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	3	5	9	1	T	S	0	1	S	0	2	0	0	0	
	2	U	3	6	4	20	T	S	0	1	S	0	2	0	0	0	
	3	U	3	6	7	20	T	S	0	1	S	0	2	0	0	0	
	4	U	3	7	2	20	T	S	0	1	S	0	2	0	0	0	
	5	U	3	7	3	20	T	S	0	1	S	0	2	0	0	0	
	6	U	3	8	7	20	T	S	0	1	S	0	2	0	0	0	
	7	U	3	8	9	20	T	S	0	1	S	0	2	0	0	0	
	8	U	3	9	4	20	T	S	0	1	S	0	2	0	0	0	
	9	U	3	9	5	20	T	S	0	1	S	0	2	0	0	0	
1	0	U	4	0	4	20	T	S	0	1	S	0	2	0	0	0	
1	1	U	4	0	9	20	T	S	0	1	S	0	2	0	0	0	
1	2	U	4	1	0	20	T	S	0	1	S	0	2	0	0	0	
1	3	U	4	1	1	20	T	S	0	1	S	0	2	0	0	0	
1	4																
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3	2																
3	3																
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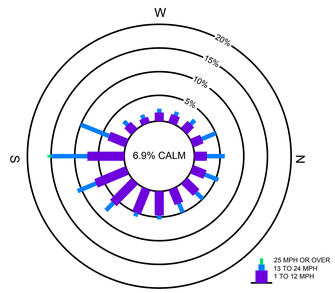
3	8																
3	9																

Facility Drawings

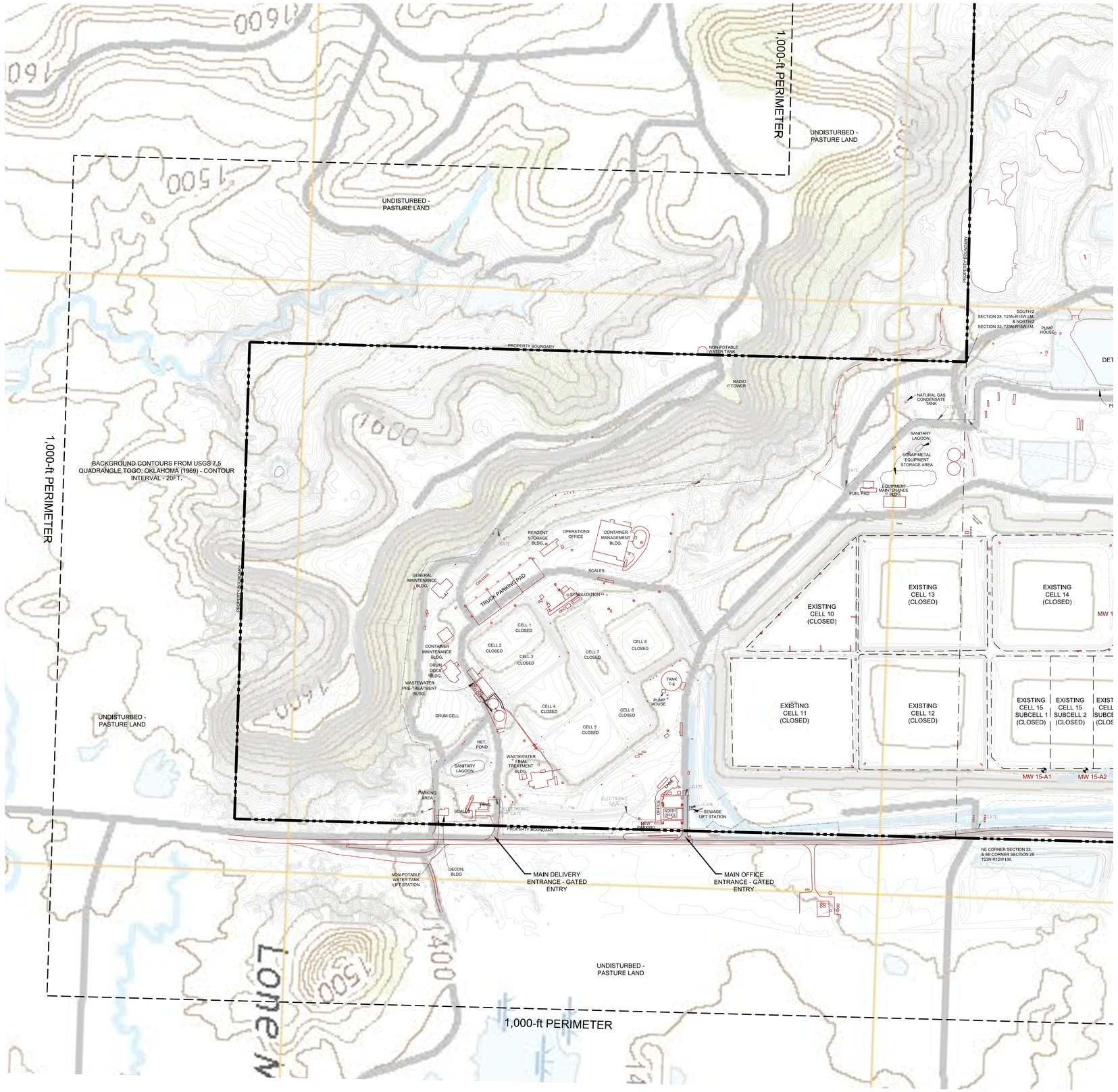
FEMA has not completed a study to determine flood hazard for the selected location; therefore, a flood map has not been published at this time.



WIND ROSE

0 200 400

SCALE IN FEET



REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY

CleanHarbors®
LONE MOUNTAIN

DRAWN	CHECKED	SCALE	DATE
WRB		1"=200'	9/17/20

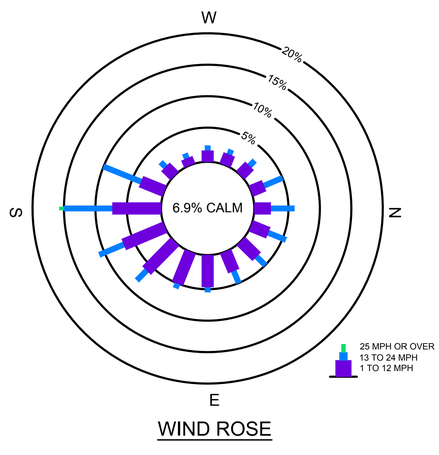
TITLE 1111-06

FACILITY BASE MAP

LONE MOUNTAIN FACILITY

DRAWING NO. 1111-06 REV. 2

FEMA has not completed a study to determine flood hazard for the selected location; therefore, a flood map has not been published at this time.



WIND ROSE

0 200 400

SCALE IN FEET

1,000-ft PERIMETER

UNDISTURBED - PASTURE LAND

1,000-ft PERIMETER

UNDISTURBED - PASTURE LAND

1600

UNDISTURBED - PASTURE LAND

PROPERTY BOUNDARY

SOUTH/2, SECTION 28, T23N-R15W,I.M. & NORTH/2 SECTION 33, T23N-R15W,I.M.

PUMP HOUSE

GATE

SURFACE WATER - FARM POND

BACKGROUND CONTOURS FROM USGS 7.5 QUADRANGLE TOGO, OKLAHOMA (1969) - CONTOUR INTERVAL - 20FT.

NON-POTABLE WATER TANK

RADIO TOWER

DETENTION POND NO. 3

DETENTION POND NO. 4

NATURAL GAS CONDENSATE TANK

PERIMETER FENCE

SANITARY LAGOON

SCRAP METAL EQUIPMENT STORAGE AREA

EQUIPMENT MAINTENANCE BLDG.

FUEL PAD

RUN-ON CONTROL CHANNEL NO. 6 LOWER (FUTURE)

SURFACE WATER - FARM POND

PROPOSED CELL 15 SUBCELL 14

EXISTING CELL 15 SUBCELL 12 (ACTIVE)

EXISTING CELL 15 SUBCELL 13 (ACTIVE)

EXISTING CELL 15 SUBCELL 11 (ACTIVE)

EXISTING CELL 15 SUBCELL 10 (ACTIVE)

EXISTING CELL 15 SUBCELL 9 (ACTIVE)

EXISTING CELL 10 (CLOSED)

EXISTING CELL 13 (CLOSED)

EXISTING CELL 14 (CLOSED)

EXISTING CELL 11 (CLOSED)

EXISTING CELL 12 (CLOSED)

EXISTING CELL 15 SUBCELL 1 (CLOSED)

EXISTING CELL 15 SUBCELL 2 (CLOSED)

EXISTING CELL 15 SUBCELL 3 (CLOSED)

EXISTING CELL 15 SUBCELL 4 (CLOSED)

EXISTING CELL 15 SUBCELL 5 (CLOSED)

EXISTING CELL 15 SUBCELL 6 (CLOSED)

EXISTING CELL 15 SUBCELL 7 (CLOSED)

EXISTING CELL 15 SUBCELL 8 (CLOSED)

MW 15-A9

MW 15-A13A

MW 15-A13B

MW 15-A11

MW 15-A10

MW 15-A1

MW 15-A2

MW 15-A3

MW 15-A4

MW 15-A5

MW 15-A6

MW 15-A7

MW 15-A8

N2360 RD

REROUTE RUN-ON CONTROL CHANNEL

PERIMETER FENCE

PROPERTY BOUNDARY

NE CORNER SECTION 33, & SE CORNER SECTION 28 T23N-R12W I.M.

EXISTING SEDIMENTATION POND DP-5

CONSTRUCTION ENTRANCE - GATED ENTRY

MAIN OFFICE ENTRANCE - GATED ENTRY

1,000-ft PERIMETER

UNDISTURBED - PASTURE LAND

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY

DRAWN	CHECKED	SCALE	DATE
WRB		1"=200'	9/17/20

TITLE 1111-06

FACILITY BASE MAP

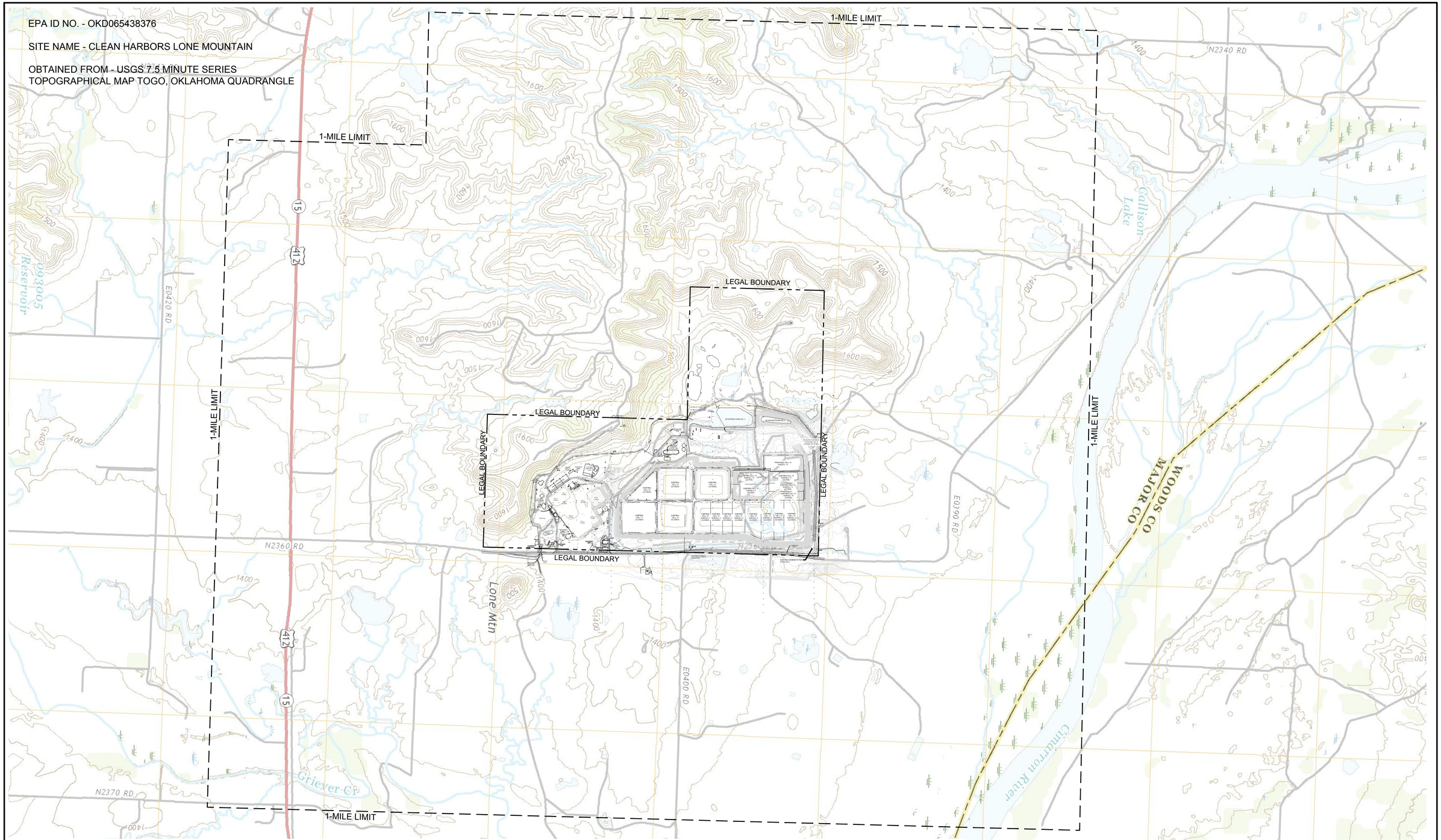
LONE MOUNTAIN FACILITY

DRAWING NO.	REV.
1111-06	2

EPA ID NO. - OKD065438376

SITE NAME - CLEAN HARBORS LONE MOUNTAIN

OBTAINED FROM - USGS 7.5 MINUTE SERIES
TOPOGRAPHICAL MAP TOGO, OKLAHOMA QUADRANGLE



0 450 900

SCALE IN FEET

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY

CleanHarbors®
LONE MOUNTAIN

DRAWN	CHECKED	SCALE	DATE
WRB		AS NOTED	9/10/20

TITLE 1111-06

FACILITY BASE MAP

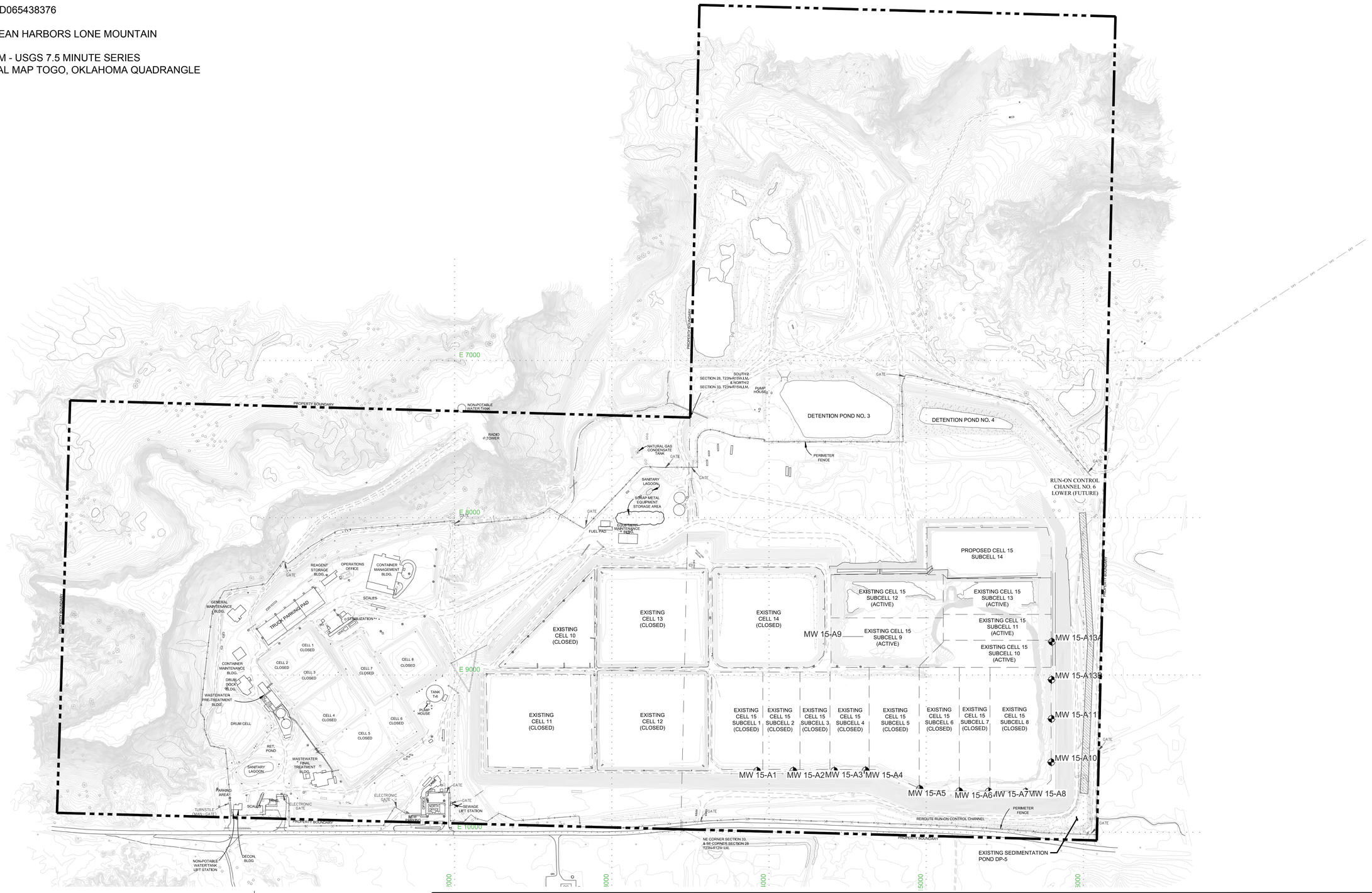
LONE MOUNTAIN FACILITY

DRAWING NO. 1111-06 REV. 2

EPA ID NO. - OKD065438376

SITE NAME - CLEAN HARBORS LONE MOUNTAIN

OBTAINED FROM - USGS 7.5 MINUTE SERIES
TOPOGRAPHICAL MAP TOGO, OKLAHOMA QUADRANGLE



REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY

CleanHarbors®
LONE MOUNTAIN

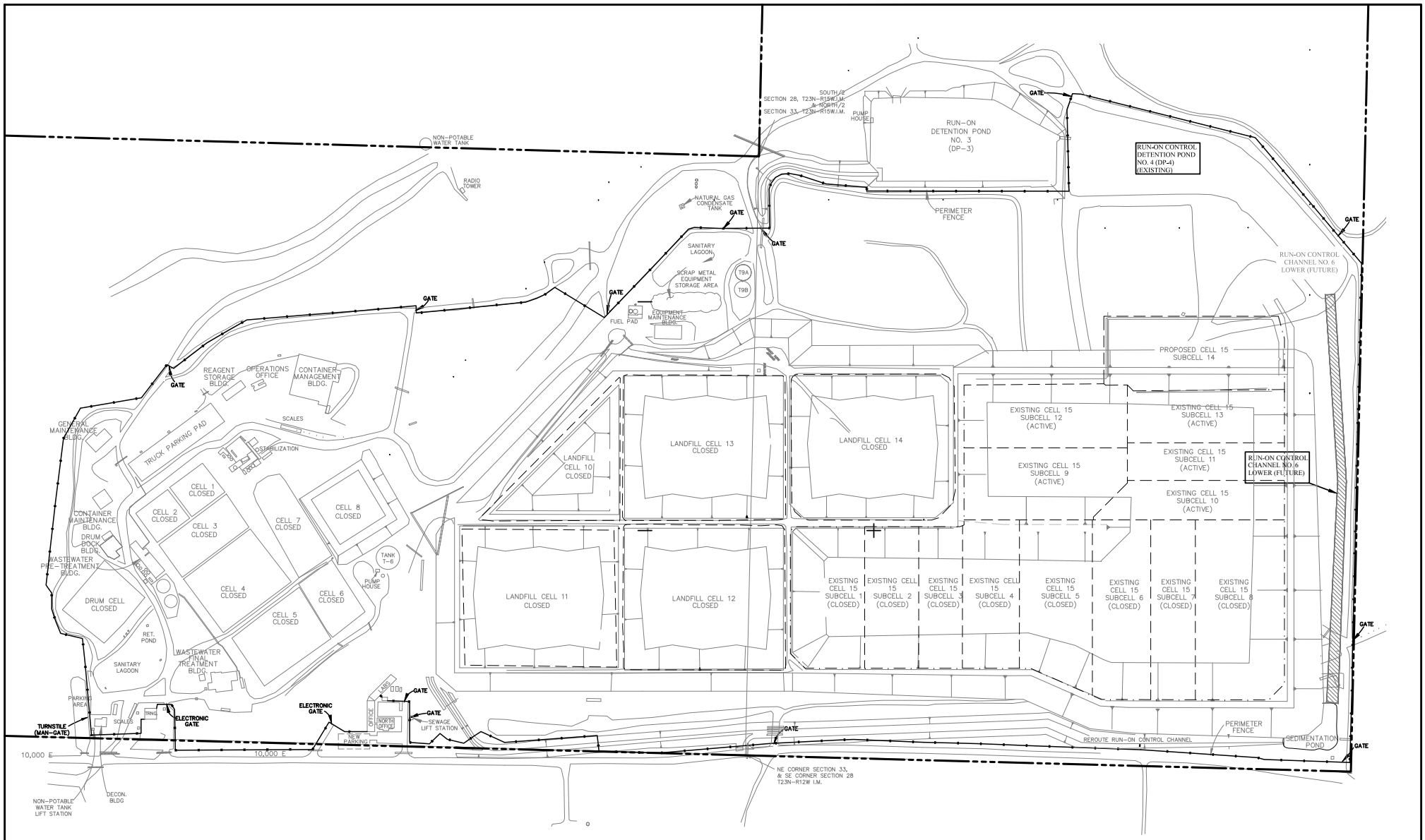
DRAWN	CHECKED	SCALE	DATE
WRB		AS NOTED	9/10/20

TITLE 1111-06

FACILITY BASE MAP

LONE MOUNTAIN FACILITY

DRAWING NO. 1111-06 REV. 2



LEGEND

FACILITY FENCELINE

0 400 800

SCALE IN FEET

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY

Clean Harbors LONE MOUNTAIN

DRAWN	CHECKED	SCALE	DATE
WRB		AS NOTED	9/10/20

TITLE 1111-06

FACILITY DRAWING

LONE MOUNTAIN FACILITY

DRAWING NO.	REV.
1111-06	2

Facility Aerial

Aerial Image Captured
09/11/20

Existing Lease Boundary

GRAPHIC SCALE

0 550 825 1100 1650

(IN FEET)
1 inch = 550 ft.

NO.	DATE	REVISION	DRAWN BY	CHECKED BY

FIGURE - 1

Date: 09/15/20
Scale: 1"=550'
Designed by: BKH
Drawn by: BKH
Checked By:
Project No. 19174-00

Aerial Survey-Existing Lease

Clean Harbors
Project 19174-00

Sections 28 and 33, Township 23 North, Range 15 West

CleanHarbors® ENVIRONMENTAL SERVICES, INC.

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C.A. #1960 - Expiration Data: 6-30-2022
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Facility Photographs

Clean Harbors North Office Building

West facing T-6 Tank Storage Area

Equipment Maintenance Building

West side of Equipment Maintenance building

Container Management Building

Container Management Container Storage Area

2500 North Eleventh Street • PO Box 6029 • Enid, Oklahoma 73702 • (580) 234-8780 • Fax (580) 237-4302

Stabilization Treatment Unit North Tank

Stabilization Treatment Unit South Tank

2500 North Eleventh Street • PO Box 6029 • Enid, Oklahoma 73702 • (580) 234-8780 • Fax (580) 237-4302

General Maintenance Building east side

Entrance to General Maintenance Building

Wastewater Pre-Treatment Unloading Area

Container Maintenance Building

Drum Dock Building

EF Tank Storage Area

2500 North Eleventh Street • PO Box 6029 • Enid, Oklahoma 73702 • (580) 234-8780 • Fax (580) 237-4302

Decontamination Building

Training Building

Wastewater Final Treatment Building

Onsite Weather Station

2500 North Eleventh Street • PO Box 6029 • Enid, Oklahoma 73702 • (580) 234-8780 • Fax (580) 237-4302

Inactive Cell 15 Subcell 14

Active Cell 15 Subcell 13

North facing Area of future Cell 15 subcells

East facing Area of future Cell 15 subcells

2.1 General Facility Description

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1.0 FACILITY DESCRIPTION

The Lone Mountain Facility is a permitted treatment, storage, and disposal facility located in northwest Major County, Oklahoma, approximately five miles east and one mile north of the junction of U.S. Highway 281 and U.S. Highway 412. The site is on the west side of county road N 2360 Rd, and is operated by Clean Harbors Lone Mountain, LLC.

Waynoka is the nearest town, located on U.S. 281 approximately 14 miles north-northwest of the facility. Fairview, Mooreland, and Seiling are the next closest communities, each approximately 25 miles away. The facility currently operates under U.S. EPA and State of Oklahoma authority (EPA I.D. No. OKD065438376 and RCRA/HSWA Permit Number 3547005).

The permitted facility is located on multiple tracts of land located in Major County, Oklahoma (Figure 1) described as follows:

- The S/2 of Section 28, Township 23 North, Range 15 West, Major County, Oklahoma;
- The NE/4 of Section 33, Township 23 North, Range 15 West, Major County, Oklahoma;
- The N/2 SE/4 of Section 33, Township 23 North, Range 15 West, Major County, Oklahoma;

The above land is owned by Lone Mountain Waste Disposal and the Davidson Family. The Davidsons and CHESI have executed a primary lease agreement. Ownership of the land will be transferred to the tenant (CHESI) upon closure of the facility. Both CHESI and the Davidsons have agreed that the property is being and will be used to construct and operate a controlled industrial waste facility. At the termination of the lease, CHESI has agreed to close the facility in accordance with the applicable rules and regulations of the Oklahoma Department of Environmental Quality (ODEQ).

The existing hazardous waste units at the facility consists of three batteries of storage and treatment tanks, two container unloading, storage, and treatment facilities, and landfill cells.

2.0 LAND USE, GEOGRAPHY, AND CLIMATOLOGY

Land use within two miles of the facility is primarily ranching with some cultivation of hay, wheat and other non-irrigated crops. Much of the land directly adjacent to the facility is used only for very low-density grazing of livestock, due to low moisture, unproductive soil types, and roughness of terrain. Several oil production wells have been drilled on Sections 28 and 33. Information on the wells may be found in the Ground Water Monitoring Program.

The most significant drainage system within two miles of the facility is Griever Creek, which lies to the south, southeast. The creek flows perennially and drains about half of the area within a two-mile radius of the facility but does not drain the land within the facility proper. Drainage from the area on and near the facility is provided by an intermittent watercourse which flows north towards the Cimarron River. Upslope stormwater, which could impact the site, is diverted around the facility waste management units (run-on control).

The average annual precipitation in the area is approximately 27 inches, with a normal lake evaporation rate of approximately 63 inches per year.

3.0 LANDFILL CELLS

This section briefly discusses the historic and ongoing landfill operations at the Lone Mountain Facility. The facility has been designed to operate in a safe, reliable, and effective manner. All open landfill cells are designed to be operated with sufficient surface holding capacity within the perimeter of the cell to contain the precipitation from a 24-hour, 25-year storm event, with an allowance for "freeboard" of one foot (additional capacity exists within the leachate collection system, but is not considered in this calculation). In addition, the cells have leachate detection/collection systems to prevent release to the groundwater. The groundwater is further protected by compacted clay and high-density polyethylene (HDPE) liners.

Hazardous and non-hazardous materials are disposed of in the landfill cells. The cells are regulated under two distinct permits: the RCRA/HSWA Operating Permit and the Post Closure Permit. For information on Cells 1 through 8, the Drum Cell, and cells 10 through 15 please refer to the Post Closure Permit.

Cell 15 is the active cell at the facility and was designed and constructed to operate in phases, with subcells. Subcells 9, 10, 11, 12, and 13 of Cell 15 are currently the active disposal cells at the Lone Mountain Facility. Cell 15, subcell 14 has been permitted and constructed but is not yet in operation, and subcells 15, 16, 17, 18, 19, 20, 21, and 22 have been permitted but not constructed. For additional detailed information, see the Landfill section of the permit application.

4.0 STORAGE TANKS

The Lone Mountain Facility maintains multiple tanks used for storage of wastewater, solids, and for the stabilization of waste. Additional tanks are planned for the facility, including the proposed Container Management Surge tanks, Solids Handling Building tanks, Tanks D1 and D2, and the Waste Fuel Tank farm.

The Wastewater Treatment System at the Lone Mountain Facility has been designed to process up to one hundred thirty thousand (130,000) gallons per day of water-soluble liquid waste. This may include contaminated stormwater, industrial wastewater, and leachate collected from disposal cells at the facility. The Wastewater Treatment System was permitted in April 1997.

5.0 CONTAINER STORAGE AREAS

The existing Drum Dock is located south of Cell 2. The containment system has been designed and is operated to manage containers storing hazardous waste. The Container Management Building is located northwest of Cell 8 and was built in 1993. It includes a receiving dock and three storage areas. Shredders are located at both the Drum Dock and Container Management Building. In addition, five (5) miscellaneous container storage areas exist in and around the Wastewater Treatment System.

6.0 PROPOSED UNITS

To ensure the availability of disposal capacity, a permit application requesting modification of the RCRA/HSWA permit for continued expansion of the facility is currently being prepared and will be submitted in the future. At this time, suitable land owned by Clean Harbors exists west of the current facility and can accommodate the construction of additional landfills having the capacity of at least 5,000 acre-feet.

7.0 POLITICAL JURISDICTION AND SEISMIC CONSIDERATION

The Lone Mountain Facility is located in Major County, Oklahoma. Appendix VI of 40 CFR 264.18(a) does not list any areas in Oklahoma needing seismic considerations. The Site Characterization Study, submitted on October 1, 1987 as part of the existing RCRA/HSWA permit documentation, indicates that there are no faults within three thousand feet of the facility. Therefore, no additional information is required for the facility to be in compliance with the seismic standard as described in 40 CFR 264.18(a), which only requires consideration if a fault is located within 200 feet of the facility that has displaced during Holocene time.

8.0 FLOODPLAIN STANDARD

Since the Lone Mountain Facility is located approximately one (1) mile south of the Cimarron River, the elevation of the 100-year flood associated with the Cimarron River should be considered. R & J Systems (Stillwater, Oklahoma) examined this flood event for Section 33 in 1977. Similar results apply to Section 28, which is south of Section 33 and farther from the river. The conclusions of their study, which is located in the Preparedness and Prevention section of this application, indicates that the 100-year flood would result in a water surface elevation of approximately 1339.4 feet above mean sea level. The locations of such an elevation on the USGS Togo, Oklahoma Quadrangle Topographical Map are at least one mile east and northeast of the existing facility. The base of the northeast corner of Cell 15 will be at an elevation of approximately 1,366 feet above mean sea level. The resulting elevations of the 100- year flood would be approximately 25 feet below this corner

and, therefore, some distance away. Therefore, the Lone Mountain Facility is not located within the 100-year floodplain of the Cimarron River.

9.0 TRAFFIC INFORMATION

9.1 TRAFFIC PATTERN

A sign is located at the entrance to the facility and the county access road. *Figure 2* details the access route through the facility to Landfill Cell 15.

9.2 ESTIMATED VOLUME OF TRAFFIC

The estimated average volume[1] of daily traffic that currently uses the access road east of the facility is as follows:

VEHICLES	LONE MOUNTAIN TRAFFIC	OTHER TRAFFIC	TOTAL TRAFFIC
Large trucks and trailers (Est. 80,000 pounds gross each)	50	50	100
Smaller trucks (bobtail) (Est. 50,000 pounds gross each)	10	0	10
Automobiles	40	100	140

9.3 TRAFFIC CONTROLS

There is a stop sign for traffic turning onto U.S. Highway 412 from the county access road. Directional signs and appropriate instructions are posted at the facility to enhance the smooth and safe flow of traffic.

9.4 ACCESS ROAD SURFACING

The access road was upgraded to highway quality asphalt pavement in 1992. No changes to the existing access road surface are required due to the operations of the Lone Mountain Facility.

9.5 LOAD-BEARING CAPACITY

The foundation is sufficient to ensure proper load bearing capacity for accommodating 80,000-pound truck and trailer combinations. No bridges exist on the county road from Highway 412 to the

[1] The fluctuation of traffic is due to the use activity (i.e. construction, vendors, etc.) and non-CHESI traffic (e.g. oilfield service crews, local traffic, etc.)

facility. All facility roads are similar in design to country roads which have the capacity to handle in excess of 80,000 pounds. In addition, the access road and facility roads have been used by CHESI trucks (maximum load of 80,000 pounds) since 1979. Appendix 1 contains calculations showing that there is sufficient load-bearing capacity to support 80,000 pounds of vehicle weight.

10.0 BUFFER ZONE

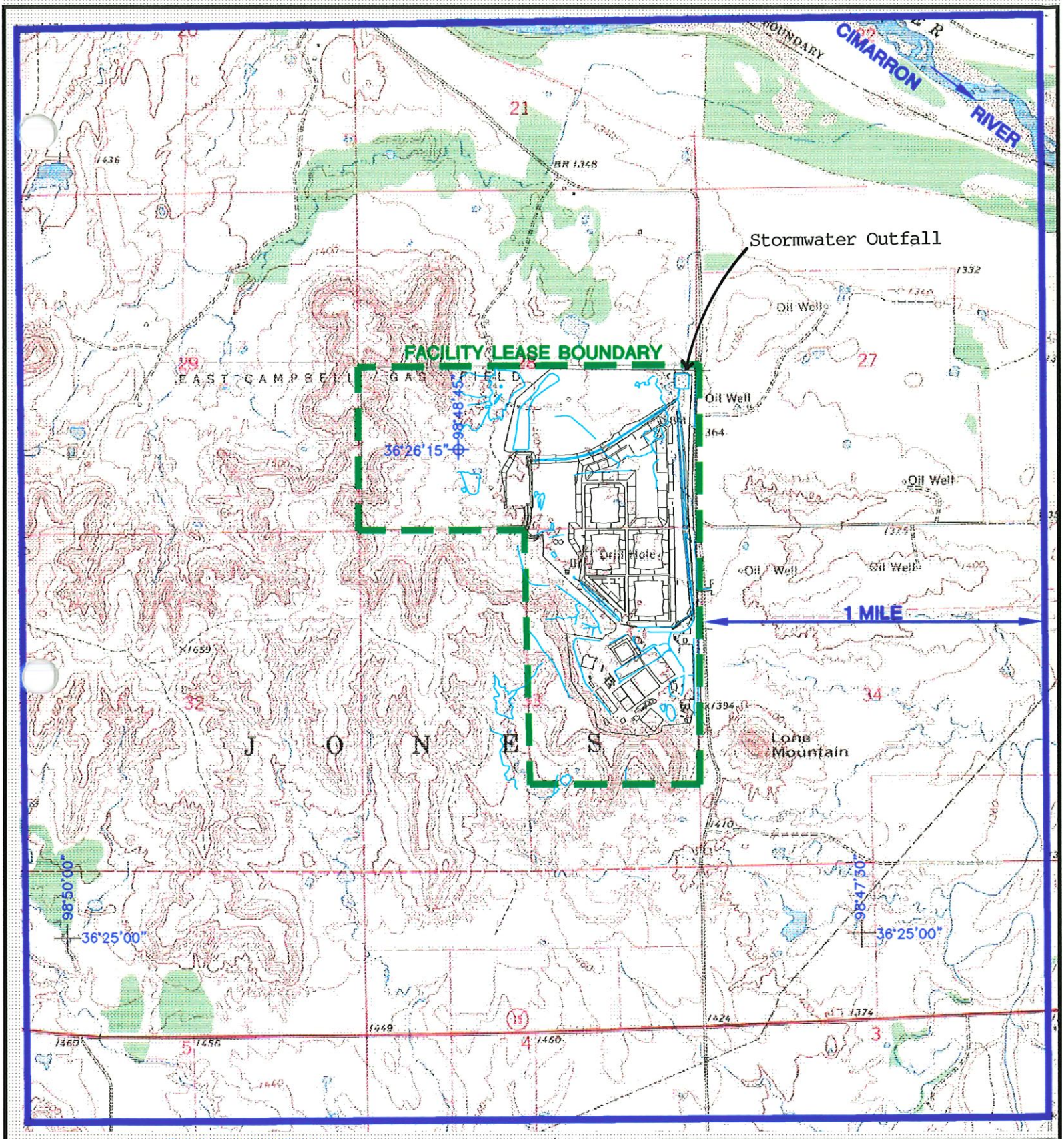
All landfill disposal is located inside the buffer zone of 200 feet from the facility boundary, as required by the current September 15, 2018 DEQ regulations.

10.1 ACTIVITIES WITHIN THE BUFFER ZONE

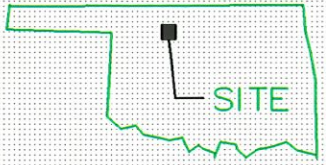
No disposal, treatment, or storage of hazardous waste occurs within the buffer zone. Only ancillary activities and structures, such as drainage channels, roadways, parking lots, office buildings, storage areas, etc. are located in the 200-ft buffer zone.

FIGURE 1

FACILITY LOCATION



OKLAHOMA



ADAPTED FROM U.S.G.S. 7.5 MIN. QUADRANGLE
TOGO, OKLAHOMA 1969.

North

0 2000

FEET

CleanHarbors®

LONE MOUNTAIN FACILITY

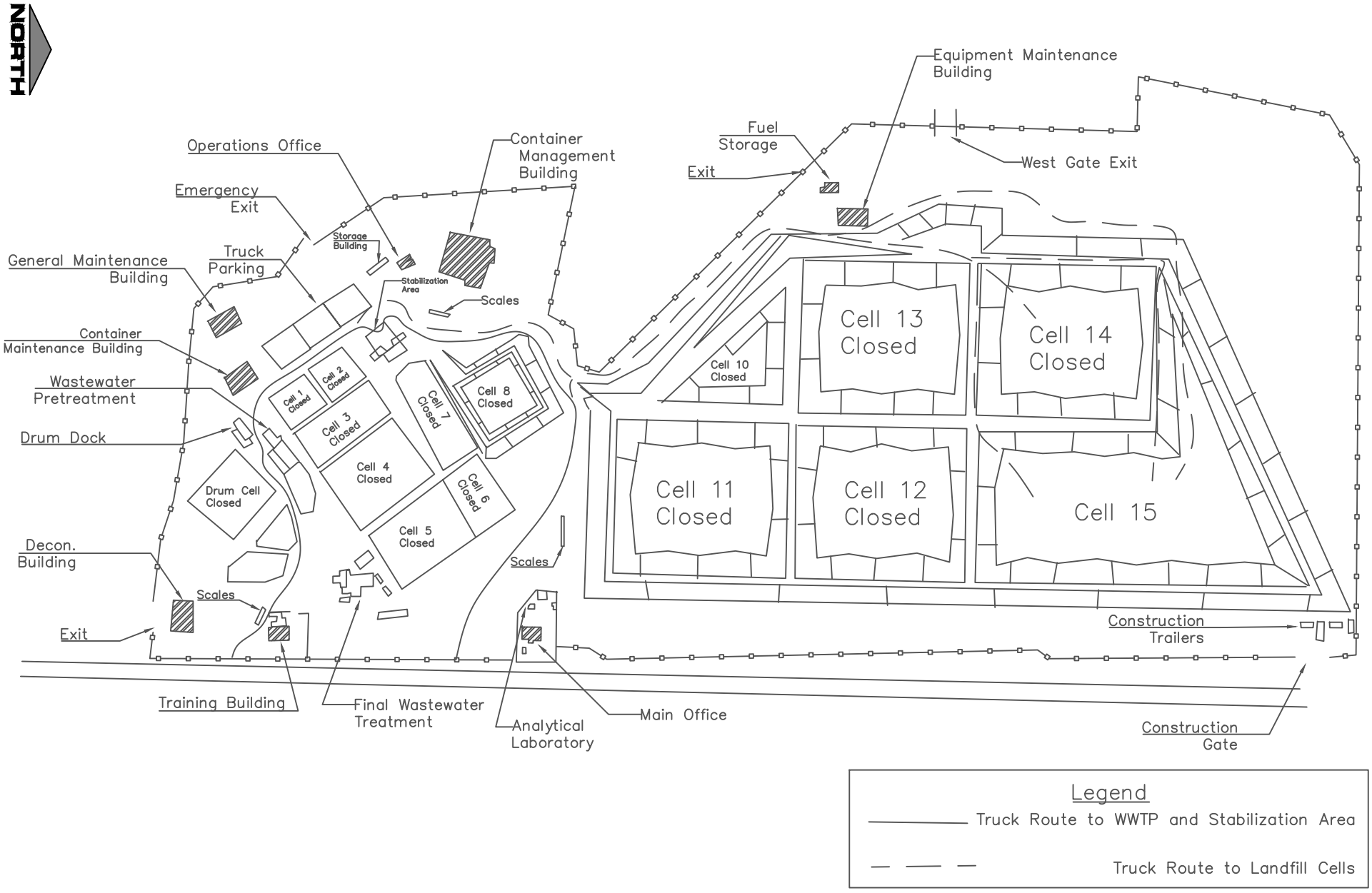
SITE LOCATION AND TOPOGRAPHIC MAP

SCALE: 1" = 2000' DATE: 1/23/2020

792441-0029

FIGURE 2

ACCESS TO LANDFILL CELLS



Clean Harbors Lone Mountain Facility

Figure 2
Volume 1, Section 2.1
Project No. 019174-00

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APPENDIX 1

LOAD BEARING CAPACITY CALCULATIONS

The load bearing capacity is based on a single wheel load of 4,450 lbs (a 80,000 lb truck would have a single wheel load equal to 80,000 lb/18 wheels = 4,450 lb/wheel). The following equations were used to determine the load bearing capacity of the subgrade:

$$d_p = \sqrt{\frac{4P}{p\pi}} \qquad d_s = d_p + t \qquad q_s = \frac{4P}{\pi d_s^2}$$

$$S.F. = q_{sd}/q_s$$

where,

d_p = diameter of the tire contact area (in.)
P = wheel load (lbs) = 4450 lbs
p = tire pressure (psi)
t = pavement thickness
d_s = width of loaded area on subgrade (in.)
q_s = subgrade stress
q_{sd} = load bearing capacity of subgrade
SF. = safety factor

$p = 90$ psi

$\therefore \quad d_p = \sqrt{\frac{4(4450)}{90\,\pi}} = 7.93$ in

Five inches crushed rock over the clay subgrade

$d_s = 7.93$ in $+ 5$ in $= 12.93$ in $= 1.077$ ft

$$q_s = \frac{4(4450 \text{ lbs})}{\pi (1.077 \text{ ft})^2} = 4885 \text{ psf}$$

$q_{sd} = 1.2\, c\, N_c$

where, c = cohesive strength of clay

N_c = bearing capacity factor for cohesion

$c = 1100$ psf for clay (see Appendix D-6.9)

$N_c = 5.14$ (from Fundamentals of Geotechnical Analysis by I.S. Dunn, L.R. Anderson, and F.W. Kiefer, p. 268.)

$\therefore \quad q_{sd} = 1.2(1100)(5.14) = 6785$ psf

$$S.F. = \frac{q_{sd}}{q_s} = \frac{6785}{4885} = 1.4$$

$\therefore$ The load bearing capacity of the subgrade is greater than the stress from the wheel load, yielding a safety factor of 1.9.

2.2 Waste Analysis Plan

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1.0 INTRODUCTION

As required at 40 CFR Section 264.13, before an owner or operator treats, stores, or disposes of any hazardous waste, a detailed chemical and physical analysis of a representative waste sample must be obtained. The analysis must contain all the information necessary to treat, store, and/or dispose of the waste in accordance with 40 CFR Parts 264 and 268 and the permit issued. The analysis may include data developed under 40 CFR Part 261, 40 CFR Section 262.11 (including applying knowledge of the hazard characteristic of the waste considering the materials or processes used), and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

Clean Harbors Environmental Services, Inc. (CHESI) has established the following procedures to govern the acceptance of all hazardous waste at the Lone Mountain Facility. The procedures established in this Waste Analysis Plan (WAP) will ensure that this facility will be in compliance with all the requirements of 40 CFR 264.13, including the land disposal restrictions (LDR) of 40 CFR Part 268. The most updated WAP will be maintained at the facility as a part of the operating record.

The purpose of a WAP is to establish necessary sampling methodologies, analytical techniques, and procedures required for hazardous wastes (here-in after referred to as "waste") entering the Lone Mountain Facility for treatment, storage, or disposal. The WAP establishes the following:

a) Parameters and rationale for hazardous waste analysis (Section 2.0);
b) Analytical methods used for testing parameters (Section 3.0);
c) Sampling method required for obtaining a representative sample of the waste to be analyzed (Section 4.0);
d) The frequency of the waste analysis will be reviewed to ensure that the analysis is accurate and up to date (Section 5.0);
e) The waste analyses that hazardous waste generators have agreed to supply (Section 5.0);
f) The methods used to meet the additional requirements for specific waste management methods as specified in 40 CFR Sections 264.17, 264.314, 264.341, and 268.7 (Section 7.0);
g) Surface impoundments[1] exempted from LDR under 40 CFR 268.4(a), the procedures and schedules for:
    - the sampling of impoundment contents (NA);
    - the analysis of test data (NA); and
    - the annual removal of residue that does not meet the standards of 40 CFR Part 268 subpart D (NA);

[1] This section is not applicable since surface impoundments are not utilized to manage hazardous waste at the Lone Mountain Facility.

h) Procedures for inspecting, and analyzing (as necessary) hazardous waste received at the Lone Mountain Facility to confirm the waste received matches the wasted designated on the accompanying manifest or shipping papers, including:

- the procedures used to determine the identity of each movement of waste managed at the facility (Section 2.1); and
- the sampling method used to obtain a representative sample of the waste to be identified (Section 4.0).

With regards to this WAP, "laboratory" means the laboratory at the Lone Mountain Facility and/or any laboratory owned by CHESI and/or any CHESI subsidiary contract laboratory.

The Lone Mountain Facility strives to maintain compliance with all the hazardous waste regulations. As the EPA develops new analytical methods, these methods may be used, if applicable in demonstrating compliance with the appropriate regulations.

The forms shown in the WAP are typical forms used by the Facility. These may change to equivalent or alternative forms based upon changes in the regulations, customer needs, facility operations, company policy, or other needs. These forms or documents may be received, stored, transmitted and/or retrieved electronically in addition to, or in lieu of, a hard copy.

2.0 ANALYTICAL PARAMETERS AND RATIONALE

Analyses are provided by the laboratory to augment or verify pre-existing waste identifications, to comply with facility acceptance criteria, and to ensure compliance with the LDR. Analytical methods are classified as "Fingerprint Analyses" and "Additional Analyses." At a minimum, all wastes are subjected to the "Fingerprint Analyses" as a first step in the analytical protocol. "Additional Analyses" are performed according to need, or in some cases, may also be required analyses, as described in the Process Operations Procedures (Section 7.0). The permittee may select additional analyses to augment the mandatory screening or to provide operational control. This arrangement allows a tiered approach to waste identification, enabling the Facility to structure the analyses to adequately identify the waste or to define operational parameters for various waste treatment processes. The "Fingerprint Analyses" and "Unique Additional Analyses" have been developed to provide needed operational indications of the characteristics of a waste. The rationale and the procedures for these tests are given in Sections 2.0 and 3.0, respectively. Other "Additional Analyses" described in this section are accepted standard techniques and are found in the references cited in Section 3.0.

A summary of the analytical parameters within each category and their usage is provided herein. Analyses are not necessarily repeated for sequential activities or movements of the same waste within the facility unless required by changes in the character of the waste, in order to document compliance with the permit, or in order to establish compliance with the LDR. Additionally, since

analytical parameters are sometimes specified in the Code of Federal Regulations, these analyses may be implemented for the rationale so noted.

2.1 FINGERPRINT ANALYSES

Fingerprint Analyses includes eight basic screening procedures that are performed to provide a general characterization of the waste and are used to indicate the appropriate type of treatment, storage, or disposal. Fingerprint Analyses are run on pre-acceptance samples and incoming load samples to allow for an expedient identification of waste movements. This procedure serves as a check that the waste shipped to the facility matches the waste originally profiled by the generator and that no changes in waste type have has not occurred.

The parameters and associated rationale of the eight Fingerprint Analyses are as follows:

a) Physical Appearance is used to determine the general identity of the waste. This facilitates subjective comparison of the waste with prior waste descriptions. It is also used to verify the presence or absence of free-standing liquids.

b) pH Screen is undertaken to indicate the corrosive nature of the waste.

c) Specific Gravity is important in determining the sedimentation rate or buoyancy of wastes in suspension, as well as treatability in on-site process units.

d) Reactive Cyanides Screen indicates if the waste produces hydrogen cyanide upon acidification below pH 2. Wastes containing total releasable cyanide with concentrations less than 250 ppm are non-reactive.

e) Reactive Sulfides Screen indicates if the waste produces hydrogen sulfide upon acidification below pH 2. Waste containing total releasable sulfide with concentrations less than 500 ppm are non-reactive.

f) Water Reactivity Screen is used to determine whether the waste has a potential to vigorously react with water to form significant amounts of hazardous gases or solids, or whether it generates significant heat. This test is meant for gross characterization of the waste only.

g) Explosivity Meter Vapor Test (TLV Sniff) is used to indicate the fire-producing potential of volatile and semi-volatile wastes, and to indicate whether the waste might be a RCRA ignitable waste or regulated as flammable or combustible by the US DOT. This test can be applied to all waste liquids, semi-solids or solids. During pre-acceptance screening, the screen will be supplemented with the flash point test for those liquid materials with a TLV result exceeding 500 ppm, if they are destined for wastewater treatment or the landfill.

h) Beitstein Copper Wire Test (BCWT) is used to monitor for halogenated compounds in the waste. A positive test during the pre-acceptance review will be verified[2] to ensure regulated halogenated organic compounds (HOCs) are not in the waste above LDR treatment standards.

2.2 ADDITIONAL ANALYSES

Additional analyses are performed to further identify wastes, as appropriate, and are run if the Facility Manager, or designee (e.g., the Laboratory Manager, Technical Manager, Chemist, etc.), hereinafter collectively referred to as the "permittee," determines that further waste characterization is necessary or if required in Section 7.0. The results of these analyses provide the permittee with another level of confidence concerning the proper means of treatment, storage, and disposal. Some of these additional analyses utilize unique procedures and protocols formulated particularly for the management of hazardous waste, that are preferable for waste characterization. Others are standard analytical techniques recognized by the U.S. Environmental Protection Agency (EPA), American Society of Testing Materials (ASTM), or other professional agencies, societies, or organizations.

2.2.1 UNIQUE ADDITIONAL ANALYSES

Unique Additional Analyses are procedures which were developed to provide operational control over on-site processes. These analyses are performed to further identify wastes and are run if the permittee determines additional waste characterization is necessary or if required in Section 7.0 (Process Operations Procedures).

The applicability of these analyses, as described below, is based on procedures and protocol designated in this plan:

a) Cyanides-Peroxide Amenability determines the effectiveness of H_2O_2 for cyanide treatment.
b) Cyanides-Chlorination Amenability (Sodium Hypochlorite or direct Chlorination) is run to determine the effectiveness of hypochlorite for cyanide treatment.
c) Cyanides-Conversion Amenability is tested to determine the effectiveness of other types of reagents treatment for cyanides.
d) Distillation is used to determine the percent recovery and boiling range of a sample, and to generate a distillate of the material suitable for further testing.
e) Fixation Requirements is run to determine the ratio of reaction reagent(s)-to-waste (often referred to as the "recipe") required to effect stabilization[3].

[2]Verified in this application includes discussions with the generator and other appropriate verification measures such as silver nitrate test, TOX or TOC analyses, literature reviews, etc.

[3]The term "stabilization" is used in its generic sense to mean the treatment of a waste material to make it physically and chemically stable. In this sense, it is those processes which make the material pass the applicable land disposal restriction treatment standard or other applicable standard.

f) Ignitable Solids Screen is used to indicate the fire-producing potential of a sample and is used as a backup or substitute test for the TLV Sniff. This test can be applied to all waste samples.

g) Non-Aqueous TOX provides the same information and is used in the same manner as the TOX for aqueous wastes under Section 2.2.2. The test applies to solids, semi, solids, sludges, oily liquids, etc. Results of this test can be used for the purpose of ensuring that potential HOC wastes are not land disposed unless they meet treatment standards.

h) Normality is used to define the amount of reagent or waste required to neutralize a pH <2 or >12.5. The test is similar to the percent acidity and percent alkalinity tests, but the end point, to simulate operational practices, is at (or near) a pH of 7.

i) Oxidizer Screen is used to indicate the oxidation characteristics of a waste stream.

j) Solids Screen is selected to determine solids management requirements.

k) Soluble Sulfides are analyzed to provide quantitative backup to the reactive sulfides screen.

l) Sulfate Screen is to indicate sulfate presence, since a waste with high dissolved sulfates will have a tendency to precipitate.

m) Sulfide-Peroxide Amenability determines the effectiveness of H_2O_2 for sulfide treatment.

n) Sulfide-Conversion Amenability is tested to determine the effectiveness of other types of reagents treatment for sulfides.

o) Viscosity Screen is used to indicate the viscosity of a waste stream.

p) Waste Compatibility is tested to determine whether wastes and/or reagents stored or processed together are compatible.

q) Water Solubility is used to determine the solubility of a waste in water.

2.2.2 ANALYSES USING STANDARD TECHNIQUES

Analyses using standard techniques are accepted procedures that provide operational control over on-site processes. These analyses are performed to further identify wastes and are run if the permittee determines characterization is necessary or if required in Section 7.0 (Process Operations Procedures).

The applicability of the following additional analytical procedures are based on ASTM and "Standard Methods" approved by EPA. Other methods may be applicable, if referenced in Title 40 of the Code of Federal Regulations. The rationale for utilizing the following methods are noted but are not meant to be fully comprehensive since EPA periodically revises its LDR program and these analyses may take on more than one use. That is to say, a listed method may have more than one use and may have another use not listed.

a) Hexavalent Chromium analysis is run to quantify the concentration of this species for treatment control.

b) Heavy Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag) are run to quantify heavy metal concentrations to determine process operating parameters and to determine if the waste meets an applicable treatment standard..

c) Miscellaneous (Be, Cu, Fe, Ca, Mg, Mn, Ni, Sb, Tl, V, Zn) determines the potential for salt precipitation and are used for monitoring certain processes and to indicate if a waste meets an applicable treatment standard.

d) PCBs are run to indicate whether PCBs are present in oil-bearing wastes, determine concentration, and if it is a TSCA waste. (Note: this test uses the "Standard" Gas Chromatography. methods noted in Section 3.2.2.)

e) pH provides a precise measurement and an indication of corrosivity.

f) Sulfates determines if the major acid component is sulfuric acid or its salts.

g) Phosphates determines if the major acid component is phosphoric acid or its salts.

h) Chlorides determines if the major acid component is hydrochloric acid or its salts.

i) Nitrates determines if the major acid component is nitric acid or its salts.

j) Amenable Cyanides measures the cyanides that are amenable to oxidation and is used to indicate if a waste meets an applicable treatment standard.

k) Free Cyanides measures the cyanides that would be potentially reactive under acid conditions.

l) Total Cyanides quantify the concentration of all free and complex cyanides.

m) Total Sulfides quantifies the concentration of total sulfide.

n) Oil and Grease test is to quantify the amount of oil and grease so as not to impact certain processes.

o) Phenols quantifies the concentration of phenols and indicates if a waste meets a treatment standard.

p) Total Residue quantifies the suspended and dissolved solids present and moisture content for selected processes.

q) Filterable Residue quantifies the suspended solids present to determine if a liquid waste contains filterable solids and if it might be a wastewater for Land Disposal Restriction (LDR) purposes.

r) Non-Filterable Residue quantifies the dissolved solids present to determine acceptability for certain processes.

s) Specific Organic Compounds indicates the concentrations of specific organics and can indicate if a waste might be a land disposal restricted waste (e.g., solvent scans for F001-F005, etc.).

t) Flash Point characterizes potentially ignitable wastes to establish proper management methods and ensure conformance with permit conditions. A closed cup is used for liquids, and an open cup for solids. This test is not applicable to materials that react with the instrumentation thereby causing false positives.

u) Viscosity determines the pumpability of the waste.

v) Elemental Analyses (including CD) determine potential acid gas generation and incineration parameters.

w) Water Content is to determine the amount of free water or indicate the combustibility of the waste.

x) Heat Value (BTU) assesses organic wastes suitable as a fuel supplement.

y) Percent Ash is used to estimate particulate generation, and inorganic solid residue for incineration or supplemental fuel systems control.

z) Priority Pollutant Scan checks for the presence of EPA priority pollutants (e.g., volatile organics, acid extracts, and base/neutral extracts).

aa) IR Scan may be run to provide a fingerprint spectrum of organic wastes.

bb) Paint Filter Liquids Test is used to determine if solid materials contain free liquids.

cc) Materials containing free liquids must be stabilized or have the free liquids otherwise removed prior to landfilling, except as provided by regulation (e.g., lab packs, very small containers, etc.). Materials not destined for landfilling (e.g., wastewater treatment tanks, hazardous waste fuels tanks, etc.) or known to contain free liquids by visual examination do not require this test and may be noted as failing the test.

dd) Toxicity Characteristics Leaching Procedure (TCLP) is used to determine the constituent concentration in waste extract levels. It is also used to develop leachates from some other waste samples to indicate if the material may potentially be a land disposal restricted material.

ee) Total Organic Halides (TOX) is run to determine if an aqueous waste stream may contain Halogenated Organic Compounds (HOCs), if a waste steam may be unacceptable for landfilling, or if a waste stream may be a candidate for fuels blending or incineration. For example, if a hazardous waste exhibits a TOX of >1,000 mg/l, it will be considered to also exhibit an HOC of >1,000 mg/l, unless the HOC concentration is also ascertained or the generator can demonstrate or provide information showing that the waste does not contain HOCs of 1,000 mg/l.

ff) Total Organic Carbon (TOC) is run to indicate if a waste may contain restricted wastes or if a waste may be a wastewater for LDR purposes. TOC may also serve as a surrogate for other analyses (e.g., TOX, Solvent Scan). For example, where a TOX analysis is required to be less than a certain value, a TOC analysis below that value may be utilized since the organic carbon analysis is a more conservative value.

gg) Alkalinity determines the acidity in the waste to an endpoint of pH 3.7.

hh) Acidity determines the alkalinity in the waste to an endpoint of pH 8.3.

ii) Reactivity of Explosive Contaminated Soil and Sediment (Explosivity Test) is run to determine whether a waste, contaminated soil, or contaminated sediment is classified as reactive waste (D003) or exhibits the characteristic of reactivity due to its explosive properties (e.g., K044).

jj) Specific Explosive Compounds is run to determine the concentrations of chemical constituents that have explosivity potential. The concentration data can be used to determine if a waste might exhibit the characteristic of reactivity (D003) and/or potentially, ignitability (D001) (e.g., oxidizers, organic peroxides, etc.).

kk) Total Releasable Cyanides (Reactive Cyanides) is run to determine whether a waste is reactive due to releasable cyanides above 250 mg/l.

ll) Total Releasable Sulfides (Reactive Sulfides) is run to determine whether a waste is reactive due to releasable sulfides above 500 mg/l.

3.0 ANALYTICAL PROCEDURES

Analytical methods described herein are grouped in accordance with the three categories identified in Section 2.0. It should be noted that the information presented in this section is generic in character and, therefore, certain methods are discussed that may pertain to several management techniques or even to management processes that are currently not available at this facility for which this WAP is presented. This is necessitated because of the nature of the hazardous waste management business. As the LDR change the way management facilities do business, it is often necessary to have additional analyses performed to ensure the wastes shipped on-site or off-site are acceptable for the proposed management method (e.g., does an incinerator ash meet applicable treatment standards, if any). Unforeseen restrictions may occur that require analyses not necessarily required for acceptance at this facility alone. In order to provide the methods for analyses which are currently anticipated, those analytical methods are also included. As new analytical procedures are required (e.g., due to HSWA requirements, etc.) they will be adopted and this WAP will be updated as appropriate. Updates to this plan occurring in conjunction with statutory requirements will be submitted to the Oklahoma Department of Environmental Quality (ODEQ) for notification purposes, and will be immediately effective, if required by the statutory provisions. Changes to the referenced manuals (e.g., SW-846) will be incorporated as the manuals are updated by their respective agencies or societies. Changes in methodologies will be incorporated within ninety (90) days provided the necessary equipment has been obtained.

3.1 FINGERPRINT ANALYSES

Fingerprint Analyses are analytical procedures designed to identify or screen specific waste characteristics. Although fingerprinting has become an industry standard procedure to verify proper waste identification, it has also been developed to provide a rapid and effective means for establishing key decision parameters pertinent to proper waste management in addition to ensuring incoming wastes match pre-acceptance information.

Physical Appearance. The Physical Appearance of the waste is inspected, characterized and reported, including:

- Color
- Physical state (solid, semi-solid[4], or liquid)
- Presence of free-standing liquid

This test is not applicable to some materials depending on their exposure hazard, such as asbestos.

pH Screen. pH strips or a pH meter is used directly on liquid samples and on the free liquid portion of liquid/solid samples. For solid samples, a water-to-solid mixture can be made and tested, if desired. pH does not apply to certain wastes (e.g., organic waste, oily waste, or solid waste).

[4] Often referred to as sludges.

Specific Gravity. The weight of a volumetric sample is compared to an equal volume of water such that the result is a dimensionless figure (sample density [mg/ml] / 1 [mg/ml] for H_2O). This test is not applicable to solid materials, mixed loads, or loads of debris.

Reactive Cyanides Screen. To a beaker containing an aliquot of waste, 3 N acid is slowly added to decrease the pH ≤2.0. The atmosphere directly above the sample is tested using a gas detector tube. The reading is taken directly from the tube. It is not required if the pH of the waste is less than 6.0, if the waste is not water-soluble, or if the waste is not aqueous. As an alternative, the Pyridine-Pyrazolone Method (Hach Co.) may be used.

Reactive Sulfides Screens. To a beaker containing an aliquot of waste, 3 N acid is slowly added to bring the pH ≤2.0. The atmosphere directly above the sample is tested using a gas detector tube. The reading is taken directly from the tube. This test is not required if the pH of the waste is less than 6.0, if the waste is not water-soluble, or if the waste is not aqueous. As an alternative, the lead acetate paper test (4-427) may be used.

Water Reactivity Screen. Water is mixed with a sample of waste, approximately 2 grams, in a 10:1 ratio of water to waste. If the waste is a solid or oily, it is added to about 20 ml of water under cover of a hood. For liquid wastes, water is added to the waste, except for known strong acids when it is safer to add the waste to the water. If the waste is water reactive, significant generation of hazardous gases, heat, or turbulence is recorded. If the reaction is questionable, the amount of sample is scaled up with 5 times the amount of water and retested. This test does not apply to wastes which are already in contact with excess water, or for which sufficient data exist that indicate no potential reactivity with water.

Explosivity Meter Vapor Test (TLV Sniff). The TLV probe is held over the surface of the sample. A reading over 1,000 ppm indicates the possibility of flammability. For safety, any reading over 500 ppm will be verified utilizing the flash point for liquids and an ignitability screen for solids.

Beilstein Copper Wire Test (BCWT). A small copper wire that has been heated in an open flame is placed in a sample of the waste in order to detect the presence of organic chlorides. When re-exposed to the open flame, the presence of organic chlorides is indicated if a green color is present in the flame.

Based on these results, additional testing may be necessary. The methods to be used for treatment, storage, and disposal are determined during the pre-acceptance analysis and confirmed during incoming load analysis. This test is not applicable to quinoline and pyridine derivatives, acids, urea, and copper cyanides.

3.2 ADDITIONAL ANALYSES

Additional Analyses consist of Unique Additional Analyses (that have been developed to provide information on a waste stream where an adequate standard technique could not be found) and Additional Analyses Using Standard Techniques. The unique techniques are summarized in this

section, and the additional analyses using standard techniques are summarized and the standard reference is provided.

3.2.1 UNIQUE ADDITIONAL ANALYSES

These are analytical procedures found to provide important quantitative or qualitative information pertinent to certain processes. In some cases, these tests provide information not available from standard techniques in Section 3.2.2, below. In other cases, these tests are substituted for standard techniques where they provide sufficient information to base a management decision.

Normality. Gently stir with a calibrated and rinsed pH probe approximately 10 ml of waste in a beaker. Titrate slowly, stirring continuously with a 3 N base (pH<4.5) or acid (pH>10.5). The volume of titrant used is read and recorded.

F**ixation Requirement.** To one part of waste, candidate reagent (e.g., fly ash, cement kiln dust, Portland cement, lime, activated carbon, hypochlorite, water, acid, caustic, etc.) is added. Occurrence of violent or other unacceptable reactions, such as the generation of excessive heat, or explosive or chemical vapors, etc. is noted. Reagent is added until the sample passes the Paint Filter Liquids Test or other standard (such as the LDR treatment standards). The final ratio of reagent to sample is recorded. Recipes developed to meet treatment standards may vary.

Cyanide-Peroxide Amenability. Adjust pH of sample to 9-10. Slowly add a stoichiometric amount of H_20_2, keeping the temperature below 50°C. Check for excess H_20_2 with indicator strips. Add H_2O_2 until excess remains for 30 minutes. Quench the excess with the enzyme, *catalase*. The standard cyanide analysis is then performed.

Cyanide-Chlorination Amenability. To approximately 100 ml of cyanide waste, add a stoichiometric amount of hypochlorite solution while stirring. Check for excess chlorine immediately after hypochlorite addition and periodically for one hour, maintaining pH in the range 11-12. Add additional hypochlorite if excess disappears, until an excess is maintained for one hour. Recording the total amount of hypochlorite used. After a chlorine excess has been maintained for one hour, add 50-100 mg $Na_2S_20_3$ to remove the chlorine. Perform a standard cyanide hypochlorite solution addition.

Cyanide-Conversion Amenability. To 100 g of waste in a 250 ml beaker, add 2 ml of 10 N NaOH and 5.0 g reagent. If the waste is a solid or a heavy sludge, add 100 ml water, or more if the sample is difficult to stir. Cover with a 10 cm watch glass and heat to boiling, agitating the sample with a magnetic stirrer. Boil 30 minutes, remove from heat, transfer liquid portion of sample and at least 3 washings to a 1 liter volumetric flask, and dilute to the mart Shake the 1 liter flask a few times to ensure proper mixing of contents, pour 100 ml into a 250 ml beaker, and drop-wise add 10 percent $Cd(NO_3)_34H_2O$ until precipitation ceases. Using a dropper, add 50% HNO_3 until the pH is in the range of 5 to 7. Filter the sample through filter paper and transfer 1 ml of the filtrate to a 50 ml

volumetric flask. Add 5 ml $Fe(NO_3)_3$ solution and dilute to 50 ml. Compare the solution to standards visually, or use a spectrophotometer at 480nm (4800A). If a spectrophotometer is used, prepare a blank containing 5 ml $Fe(N0_3)_3$ solution diluted to 50 ml with distilled water.

Waste Compatibility. Samples of wastes and/or reagents are added to each other in approximate proportion to their final mixed volumes. Upon mixing, the generation of significant heat, hazardous gases, large amounts of precipitates, unacceptable increases in viscosity, and undesirable layering are noted.

Solids Screen. Approximately 8 grams of waste are dried at approximately 105°C or higher for 10 minutes or until visually dry. The percent of solids is determined by comparing the initial weight to the weight after 10 minutes of drying. Where filtration is to be employed (e.g., wastewater treatment) the waste may be filtered through a filter to determine filtration requirements or a centrifuge may be used to separate solids so a visual solids percentage can be estimated.

Soluble Sulfides. An approximate 5-gram waste sample is diluted to 100 ml with distilled water. The solution/slurry is filtered by suction-filtration through filter paper. The resultant filtrate is then analyzed for sulfide using the Antimony Potassium Tartrate Test (Method 4500-S^{2-}) as described in "Standard Methods."

Sulfate Screen. To 50 ml of sample, hydrochloric acid is added to adjust the pH to below pH 2. Then at least 1 ml of 10 percent BaC_{12} solution is added. Formation of any precipitate is noted.

Sulfide-Peroxide Amenability. Adjust pH of sample to 8-9 while stirring. Slowly add a stoichiometric amount of H_2O_2, keeping temperature below 50°C. Check for excess H_2O_2 with indicator strips. Add H_2O_2 until excess remains for 30 minutes. Quench the excess with the enzyme catalase. The sulfide standard analysis is then performed with dissolved iron or copper added as catalysts.

Sulfide-Conversion Amenability. To 100 g of waste in a 250 ml beaker, add 2 ml of 10 N NaOH and 5.0 g reagent. If the waste is a solid or a heavy sludge, add 100 ml water, or more, if the sample is difficult to stir. Cover with a 10 cm watch glass and heat to boiling, agitating the sample with a magnetic stirrer. Boil for 30 minutes, remove from heat, transfer liquid portion of sample and at least three washings to a 1-liter volumetric flask, and dilute to the mark. Shake the 1-liter flask a few times to ensure proper mixing of contents, pour 100 ml into a 250-ml beaker, and drop-wise add 10 percent $Cd(NO_3)_3$ $4H_2O$ until precipitation ceases. Using a dropper, add 50% HNO_3 until the pH is in the range of 5 to 7. Filter the sample through filter paper and transfer 1 ml of the filtrate to a 50-ml volumetric flask. Add 5 ml $Fe(NO_3)_3$ solution and dilute to 50-ml. Compare the solution to standards visually or use a spectrophotometer at 480nm (4800A). If a spectrophotometer is used, prepare a blank containing 5-ml $Fe(NO_3)_3$ solution diluted to 50-ml with distilled water.

Distillation. In an appropriate size stand flask/condenser distillation device, add a known quantity of sample and boiling chips. Apply heat appropriately (e.g., with an electrically heated oil bath or steam). During distillation, maintain heat so that a drop of liquid remains on thermometer bulb. Monitor temperature and collected volume of each fraction.

Ignitable Solids Screen. A nominal (25-50 grams) amount of sample is placed into a beaker. The beaker is covered with a watch-glass or other closure. The sample is allowed to stand for five minutes. The closure is lifted, and a flame source is introduced into the head space. If an ignition occurs, the sample is considered an ignitable solid (although, not necessarily a D001 waste material).

Non-Aqueous TOX. Weigh 1-5 grams (nominally) of solid sample of less than 2-mm size. If sample is wet or has free liquids, add sodium sulfate and mix until dry. Add 10-ml of solvent (n-hexane, ethyl acetate, octanol, etc.) and 2-ml of water or 1 M sulfuric acid. Homogenize or agitate for approximately 1 minute. Allow 1 minute for solids to settle and phases to separate. If solvent layer still contains solids, then centrifuge or filter. Using a syringe, analyze several aliquots taken from solvent layer. For oils or oily liquids, the extraction procedure is not necessary. About one drop of the oil or oily liquid is injected into the cool sample boat and analyzed.

3.2.2 ANALYSES USING STANDARD TECHNIQUES

The procedures and protocol for these standard analyses are referenced as follows:[5]

PARAMETER	METHOD	REFERENCE
Sample Work Up Techniques		
Inorganic Techniques		
Acid digestion procedure of waters using FLAA or ICP spectroscopy		1-3005
Acid digestion procedure of aqueous samples using FLAA or ICP spectroscopy		1-3010
Acid digestion of aqueous samples by GFAA spectroscopy		1-3020
Acid digestion of oils, greases, or waxes		1-3031
Dissolution procedure for oils, greases, or waxes		1-3040
Acid digestion of sediments, sludges and soils		1-3050
Alkaline digestion for hexavalent chromium		1-3060
Microwave assisted acid digestion of aqueous samples and extracts		1-3015
Microwave assisted acid digestion of sludges, soils, and oils		1-3051

[5] Additional procedures may be utilized if referenced in Title 40 of the Code of Federal Regulations or in the cited references.

Organic Techniques	
Extraction procedure for oily wastes	1-1330
Organic extraction and sample preparation	1-3500
Waste dilution	1-3580
Separatory funnel liquid – liquid extraction	1-3510
Continuous liquid – liquid extraction	1-3520
Acid-base partition cleanup	1-3650
Soxhlet extraction	1-3540
Sonication extraction	1-3550
Purge and trap	1-5030
Hexadecane extraction and screening of purgeable organics	1-3820
Inorganic Analytical Methods	
Inductively coupled plasma atomic emission spectroscopy	1-6010
Inductively coupled plasma – mass spectrometry	1-6020
Atomic absorption, direct aspiration	1-7000
Atomic absorption, furnace	1-7010
Antimony	
Atomic absorption, a hydride	1-7062
Atomic absorption, furnace method	1-7010
Arsenic	
Atomic absorption, furnace method	1-7010
Atomic absorption, gaseous hydride	1-7061
Barium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Beryllium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Cadmium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Chromium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Hexavalent chromium: co-precipitation	1-7195
Hexavalent chromium: colorimetric	1-7196
Hexavalent chromium: chelation-extraction	1-7197
Hexavalent chromium: different phase polarography	1-7198
Copper	
Atomic absorption, direct aspiration method	1-7000

Atomic absorption, furnace method	1-7010
Lead	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Mercury	
In liquid waste (manual cold-vapor technique)	1-7470
In solid or semisolid waste (manual cold-vapor technique)	1-7471B
Nickel	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Osmium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Selenium	
Atomic absorption, furnace method	1-7010
Atomic absorption, gaseous hydride method	1-7741A
Silver	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Thallium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Vanadium	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Zinc	
Atomic absorption, direct aspiration method	1-7000
Atomic absorption, furnace method	1-7010
Organic Analytical Methods	
Gas Chromatography	1-8000
Halogenated volatile organics	1-8021
Non-halogenated volatile organics	1-8015
Halogenated volatiles: capillary column technique	1-8021
Acrylamide, Acrylonitrile and Acrolein by HPLC	1-8316
Acrylonitrile by Gas Chromatography	
Acrylamide by Gas Chromatography	1-8031
Acetonitrile by Gas Chromatography Nitrogen-Phosphorus	1-8032
Detection	1-8033
Phenols	1-8041
Phthalate Esters	1-8061

Organochlorine Pesticides by Gas Chromatography	1-8081
Nitroaromatics and cyclic ketones	1-8091
Polynuclear aromatic hydrocarbons	1-8100
Chlorinated hydrocarbons	1-8121
Organophosphate pesticides	1-8141
Chlorinated herbicides	1-8151
Volatile organics	1-8260
Semi-volatile organics TE/GC/MS	1-8275
Volatile organic compounds by GC/MS: capillary column	1-8260
Semi-volatile organic compounds by GC/FT-IR: capillary column	1-8410
Polychlorinated dibenzo-P-dioxins and polychlorinated dibenzofurans (HRGC/LRMS)	1-8280
Polychlorinated d-dibenzo-P-dioxins and polychlorinated dibenzofurans (HRGC/HRMS)	1-8290
Miscellaneous Analytical Methods	
Acidity	2-2310
Alkalinity	2-2320
% Ash	3*
Compatibility test for wastes and membrane liners	1-9090
Corrosivity towards steel	1-1110
Total and amenable cyanides (free cyanides)-distillation	1-9010
Total and amenable cyanides (free cyanides)-colorimetry	1-9012
Flash point (closed cup)	3-D93
Flash point (open cup)	3-D92
Heat value (BTU)	3-D240
Ignitability (Pensky-Martens closed cup method)	1-1010
Ignitability (Setaflash closed-cup method)	1-1020
Ignitability of Solids	1-1030
NH_3	2-4500-NH_3
Nitrate	1-9210
Nitrate-nitrogen	2-4500-NH_3 Nitrogen
Total recoverable oil and grease	1-9070
Oil and grease extraction method for sludge samples	1-9071
Oil and grease	2-5520
Total organic carbon (TOC)	1-9060
Total organic halides (TOX)	1-9020
Total organic halogen (TOX)	2-5320
Total organic halide (TOX)	6
Paint filter liquids test (free liquids test)	1-9095
pH electrometric measurement	1-9040
pH paper method	1-9041

Soil pH	1-9045
Phosphorous	2-4500-P
Total solids dried at 103-105°	2-2540B
Total suspended solids (filterable residue)	2-2540D
Fixed and volatile solids (non-filterable residue)	2-2540E
Specific gravity	2-2710
Sulfides	1-9030
Sulfides	2-4500-S^{2-}
Test method to determine hydrogen sulfide released from wastes (reactive sulfides)	1-7.3.4.2
TCLP	1-1311
EP toxicity	1-1310
Viscosity	3*
Determination of volatile organic concentration of waste water content	3*

The above referenced procedures are described in the following publications (see statement on page 3-1). The first digit of the reference numbers above are keyed to the numbers shown below.

1. "Test Methods for Evaluating Solid Waste", SW-846, U.S. Environmental. Protection Agency, Office of Water and Waste Management, Washington, D.C. 20406.
2. "Standard Methods for the Examination of Water and Waste Water", American Public Health Association..
3. "Annual Book of ASTM Standards", American Society for Testing Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103
4. "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268, March 1979.
5. 40 Code of Federal Regulations, Parts 260-268.
6. 40 Code of Federal Regulations, Part 60, Appendix A, Method 25D as modified, or alternative method(s) approved by the EPA for compliance with 40 CFR Parts 264 or 265, Subpart CC.

   Note: *This analysis is material specific.

4.0 SAMPLING METHODOLOGY

Sampling is performed by CHESI and/or by the waste generator. Specific sampling procedures are dependent on both the nature of the material and containment type. This presents sampling methodologies to be utilized by on-site by Facility personnel. Fingerprint sampling is performed at the Lone Mountain Facility, except for the special cases noted in this plan or as approved by the

Oklahoma Department of Environmental Quality. In some instances (e.g., clean-up projects, remote sampling requested by the generator, etc.). CHESI personnel may perform sampling off-site under these conditions for the purpose of pre-acceptance and/or load arrival acceptance. Waste generators are referred to 40 CFR 261 Appendix I for sampling procedures.

4.1 METHODOLOGY

Representative samples are obtained as outlined in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," SW 846, EPA; "Handbook for Sampling and Sample Preservation of Water and Wastewater," (EPA-600/4-82-029); "Samplers and Sampling Procedures for Hazardous Waste Streams," (EPA-600/2-80-018); or 40 CFR Part 261, Appendix l. It must be noted, though,- that actual sampling methods may have to be modified due to the waste matrix or containment and recognition of this is given in the preamble to "Samplers and Sampling Procedures for Hazardous Waste Streams." For example, with the evolution of stabilization methodologies, materials are treated using vitrification and cementing technologies. While these materials are solid wastes, they are not such that they can be sampled by any of the methods listed below. Special methodologies will be employed on a case-by-case basis for these special materials.

4.2 TYPES OF CONTAINMENT

In conjunction with the sampling procedures noted above, the Facility has instituted specific methodologies for ensuring that samples taken from various types of containers are representative. The type of container may be stationary or transportable such as drums, portable transport units (e.g., tanks, roll-off boxes, lugger boxes), tanker, or dump-type trucks. Sampling devices are selected depending on the size and type of the containment and on the specific material involved. Access to a container will influence the number of samples that can be taken and the location within the container from which samples can be taken. Where appropriate, several samples will be taken from locations displaced both vertically and horizontally. The number of samples required for reliable sampling varies depending on the distribution of the waste components in the container. If needed, a sufficient number and distribution of samples will be taken to address horizontal variations in a solid waste (e.g., solid or sludge), since there is a greater tendency for heterogeneity in a horizontal rather than a vertical direction. If examination indicates stratification in the waste, then each layer may be composited in proportion to its estimated volume. cases where the horizontal dimension is large relative to the vertical (e.g., large end-dump trucks, tankers), multiple vertical sections may be sampled.

4.2.1 CONTAINERS AND TANKS

Sampling of small containers (e.g., drums, cartons, and other small units) varies with the nature of the waste material. For flowable materials, the sampling device of choice is either a Coliwasa unit or tubing to draw a full vertical section. For non-flowable wastes, tubing or a trier is used to obtain a representative sample.

Large containers and tanks (including railcars) for flowable materials and bulk containers (including box cars) for solid materials may be either stationary or mobile. Liquids are sampled with a Coliwasa or tubing to obtain a vertical or by weighted bottle or bomb sampler to allow for sampling at various depths. Light, dry powders and granules are sampled with a tube to obtain a vertical core. Periodically, bulk solids are delivered in bags for convenience of the generator or transporter (e.g., baghouse dusts). When this occurs, the bags are managed as a bulk load- Heavier solids are sampled by tier or shovel, or by coring with heavy tubing. Tank sediments may be sampled from the bottom sampling valve when not readily sampled from above.

Where appropriate and access allows, multiple vertical sections are sampled to represent variations in the horizontal dimension. Sampling across the horizontal dimension may be limited to access ports or to sampling during unloading.

4.2.2 WASTE PILES

Waste accessibility, frequently a function of pile size, is a key factor in the sampling strategy for a waste pile. Piles are sampled by multiple vertical sections using triers, tubing, shovels, or similar devices. Large Piles may be sampled with heavy tubing, soil augers, or using excavation equipment (e.g., backhoe).

In cases where size impedes access to the center or bottom of a waste pile, a set of samples that is generally representative of the entire pile can be obtained by scheduling sampling to coincide with emplacement or removal.

4.2.3 SURFACE IMPOUNDS, PITS, PONDS, AND LAGOONS

The representativeness of the samples of the waste in a surface impoundment is dependent on the number of samples collected over the volume of the waste. For large surface area impoundments, horizontally displaced sampling may be necessary. Generally, a minimum of three samples are collected, one each from the bottom, middle, and top of the impoundment. These samples are composited, if necessary. A weighted bottle or bomb sampler is generally used for this sampling.

4.3 PROCESS SAMPLING

The variability of the waste stream at any point in a treatment process is first determined from knowledge of the process producing the stream, or from the results of a preliminary investigation of the waste stream. Sampling frequency is based upon sampling from appropriate in-line sampling points in the process stream, and compositing them, if necessary, for analysis. The samples can be varied in size depending on the flow rate of the stream. For solid or semi-solid streams, samples are taken using a scoop, shovel, backhoe, or similar device.

4.4 GENERAL CONSIDERATIONS

In the operation of a hazardous waste management facility, a number of issues become obvious that are not necessarily anticipated in regulations or in standard methods. Below are sections addressing several issues of this nature. It is the Facility's intention to address these issues in this forum to provide insight into the developed techniques.

4.4.1 DISPOSITION OF SAMPLES

Samples of waste streams are disposed in the same fashion as the waste stream itself. If, for example, a waste is approved for stabilization and landfilling, it (the sample) will be stabilized (either in the lab or in the stabilization process) and landfilled. Samples received that are unacceptable for management on-site will be returned to the generator (or representative) or appropriately managed on-site or at an off-site facility (e.g., incineration).

To facilitate this process (sample management), samples approved for the same management process may be consolidated in containers managed under the provisions of 40 CFR 262.34. Should samples arrive on-site without proper identification, they may be managed as on-site generated waste and subject to classification as characteristic wastes (D001 through D011).

4.4.2 CLEANING OF SAMPLING APPARATUS

Sampling tools will be kept clean of materials which will interfere with future analyses. Tools used to collect samples for gross quantification analyses will be kept free of loose material would enter the sample, whereas visually clean or new sampling equipment may be required where the sampling is being performed to determine constituents in the parts per million range (e.g., verification of treatment standards).

4.4.3 FROZEN SAMPLES

Samples of frozen loads are maintained in the lab until the sample temperature is greater than 50˚C (Note: to speed up fingerprinting, samples may be heated under the vent hood). In some cases, it may be required to allow entire loads or, for drum loads, 10 percent of the load to warm up to facilitate sampling and/or to inspect for free standing liquids. As an alternative, and if conditions warrant (e.g., anticipated freezing conditions), a sample of waste being delivered may be taken at the point of generation for the purpose of satisfying the requirements of this plan. Such samples will be taken either from the load or the point of generation or accumulation by either the generators representative or a CHESI representative (e.g., truck driver). If this procedure is utilized, the load will be visually inspected on-site for Physical Appearance.

4.4.4 SAMPLING SAFETY PRECAUTIONS

Samplers will wear eye protection, gloves, protective clothing, protective footwear, and respirators, as necessary. Laboratory personnel check the shipping or pre-acceptance information to be familiar with the material and ensure samplers take all necessary precautions.

4.4.5 REMOTE PROJECT SAMPLING AND/OR ANALYSIS

In cases where CHESI directs off-site sampling or analysis for the purpose of having that sample or analysis meet the requirements of the Lone Mountain Facility provisions (e.g., Fingerprint Testing, etc.), a representative will be at the project site to ensure compliance with the provisions of this WAP. This provision may be used where CHESI is performing a site clean-up or other applicable project.

4.4.6 LAB PACKS

Lab pack material is accepted subject to a contents review. Materials proposed to be treated, stored, or disposed are inventoried and sent to the facility for a review. The inventories are reviewed for incompatibility of contained materials, LDR, and utilization of appropriate packing materials. Since lab packs contain many small quantities of individual materials, they are not sampled, but they are inspected to ensure adequate packing material is present and the drum is at least 90% full (if destined for direct landfilling).

4.4.7 NON-HAZARDOUS WASTES

The facility accepts loads of waste that are not hazardous as defined under, RCRA. Although non-hazardous wastes are not subject to this plan or the facility permit, CHESI has adopted management practices as outlined here. In order for the load to be accepted, the certification shown in Figure 5-1, or an equivalent, is typically completed and on file at the facility or should accompany the load.

These wastes will be inspected for physical appearance, at a minimum. The certification on file or accompanying the load has the generator attest that the material is non-hazardous.

4.4.8 VITRIFIED, CEMENTED, AND OTHER MATERIALS EXHIBITING HIGH STRUCTURAL INTEGRITY

There are several materials that are not conducive to sampling which must be recognized. Structural steel, tanks, pipe, cement, glass, empty drums, machinery, equipment, manufactured items, and other materials do not allow for normal sampling protocols. By necessity, these materials must be managed on an individual basis. In some cases, the clean-up agency or contractor (e.g., EPA, ODEQ, etc.) has established a rational basis of data and waste characterization information. In those cases, this information will be utilized in lieu of pre-acceptance analytical and incoming load analytical information. The physical appearance screen will be utilized to confirm material acceptability upon arrival at the facility.

4.4.9 TRANS-SHIPPED WASTES

Waste destined for other facilities may not be subject to this WAP because they will be subject to the WAP at the receiving facility. These materials will be segregated into areas according to the DOT Hazard Class. For materials received at another CHESI affiliate company and subsequently shipped to the Lone Mountain Facility, the other facility will transmit the relevant analytical information to the facility for use in the pre-acceptance or load arrival, as is appropriate.

4.4.10 MANAGEMENT OF RESIDUES

Management of residues[6] and other miscellaneous debris originating from on-site management areas will be managed as on-site generated wastes under the conditions of Section 5.1 and will be classified according to its hazardous waste characteristics, if any. However, where the material is identifiable to a specific waste, it will be managed in accordance with the approved management conditions for that waste (e.g., a spill of F002 material may be managed as F002), or if precluded by permit, regulation, or operational conditions, it may be re-profiled for alternative management. Stabilization tank sludges will be managed according to the management practices necessary to treat the last waste stream in the unit. Sludges removed from a stabilization tank that last contained F003 and F004 wastes must meet the treatment standards for both F003 and F004 before being land disposed on-site, if that were the selected disposal option. For materials being removed from process and/or storage tanks (e.g., T6, a wastewater treatment system tank, etc.), the residues will be coded utilizing the codes associated with the volume of materials placed in the tank since it was last emptied. Truck washouts and equipment washes are conducted at the stabilization pad or the truck wash to ensure residues are collected and managed with the materials being treated at those units,

[6] Residues is used to mean solids and liquids contained or generated in sumps, truck washouts, tank cleaning, boiler cleaning, evaporator cleaning, distillation unit cleaning, equipment maintenance, repair, or replacement, pipes, valves, filters, filter media, miscellaneous samples, personal protective equipment, and other miscellaneous material or debris.

and waste codes are not accumulated with the batch. Residues in "RCRA Empty" containers are not solid or hazardous waste and are not subject to this WAP. a tank has been emptied to meet the definition of "RCRA Empty", there will not be any waste codes associated with the small amount of residue that may be carried over to the next waste batch placed in the tank (e.g., stabilization tanks).

4.4.11 EXTENDED TEMPORARY STORAGE OF MATERIALS

The treatment, testing, and analysis of many materials is very complex and often requires off-site analysis, special reagents, and/or handling. This may require waste to be stored on-site in transport vehicles or containers for longer than the ten days allotted by the DEQ to place containers into permitted units. Shipments requiring extended hold periods (e.g., greater than 10 days) before acceptance or treatment are allowed to be staged in transport vehicles or containers (e.g., tankers, gondolas, end dumps, etc.) as long as they are on the Truck Parking Pad and subject to inspections daily.

4.4.12 REJECTED LOAD OR REJECTED PARTIAL-LOAD AND RE-MANIFESTING PROCEDURES

There are many cases where entire loads may be rejected or portions of loads may be rejected (e.g., a bulk load contains unprofiled or unacceptable[7] materials, etc.). The regulations (40 CFR Parts 264 and 265, Subpart E - Manifest System, Recordkeeping, and Repotting) do not provide instructions on how materials are to be rejected or re-manifested. The exact handling procedures will be completed considering all the variables with any particular rejection.

The following is a summary of the typical methods utilized in conjunction with rejecting materials.

For all shipments, some of the variables are: 1) if the manifest has been or has not been signed by the permittee, and 2) if the entire load is being rejected or just a portion of the load. In either case, two options are available. The first option includes sending material out on the original manifest, noting in Section 19 that the load is being rejected to the point of origination or the alternate facility designated on the manifest or verbally designated by the generator. If the original manifest has not been signed, the original manifest may be utilized by either striking through the original TSDF destination and inserting the new destination or by simply noting in Section 19 the new destination. If the original manifest has been signed, a line may be struck through the TSDF's signature on the manifest. A second option is to generate a new manifest. This procedure is less preferable because the permittee must complete the Generator's section of the manifest and, in this case, language may be inserted in Sections J, K, or 15 indicating that the permittee is the generator for shipping purposes only and will reference the original manifest. This second option is useful for bulk loads when a portion is being rejected in containers (e.g., aerosol cans removed from a bulk load may be sent back to the generator packaged in DOT shipping containers, etc.) and for rejecting or forwarding on a

[7] The material may be unacceptable for many reasons, only one of which is due to permit constraints. The term unacceptable is not meant to mean unacceptable due to permit constraints, but to also cover those materials for which the facility has not developed the expertise in managing and for other causes.

portion of container shipments. In either case, the permittee may copy the generator LDR notifications and/or certifications for that shipment and attach a copy to the outgoing manifest(s) rather than altering the notifications and/or certifications made by the generator.

Although not required for entire load rejections, the Facility will generally keep a copy of the original manifest(s), subsequently generated manifest(s), and notifications and/or certifications.

4.4.13 HAZARDOUS WASTE MARKETED AS FUEL

Wastes that qualify for energy recovery may be marketed as hazardous waste derived fuel. Commercial chemical products that are fuels do not have to be classified as hazardous wastes and are not covered by this WAP. Waste (used) oils will be managed in accordance with 40 CFR Part 279. Covered wastes (e.g., hazardous wastes that are not fuels) are selected and managed according to the requirements of OAC 252:205-19-5, that prohibits the blending of waste having a heat content below 5,000 BTU/pound with waste or other material having a heat content above 5,000 BTU/pound to create a hazardous waste fuel. If the rule or enforcement policy changes, the facility will abide by the current version. This limitation does not cover any fuel managed as a hazardous waste in a permitted incinerator or in some other RCRA unit.

5.0 WASTE SCREENING PROCEDURES

A series of control procedures have been developed to determine the acceptability of specific wastes at the facility. The waste screening procedure dictates what information a potential customer must provide to enable the Facility to determine the acceptability of the waste for treatment, storage, or disposal.

Waste screening is the mechanism for deciding to reject or accept a particular type of waste prior to its acceptance for management at the facility. This is based on the conditions or limitations of existing permits, regulations, and its compatibility with on-site equipment, materials, and other wastes being treated, stored, or disposed at the facility.

5.1 PROCEDURAL REQUIREMENTS

For each new waste stream that is a candidate for management at the facility, except for the special materials noted, the following procedures are implemented:

The generator will provide CHESI with:

a) chemical and physical data requested on the Hazardous Waste Profile Sheet (HWPS), typical form shown as Figure 5-2 (or an equivalent form, such as an MSDS);
b) a representative sample (if available); and
c) other supporting documentation, if necessary (e.g., to document compliance with the LDR, etc.).

The Lone Mountain Facility will ensure the HWPS contains the critical information or run any missing critical analyses, verify certain HWPS data by utilizing the representative sample(s) of the waste or samples of waste received on-site, and performing requisite confirming analyses. Sampling and analyses will be performed in accordance with the methods outlined in Sections 2.0, 3.0, and 4.0.

After comparing the data supplied by the generator with that obtained by identification, CHESI will determine the acceptability of the waste based on:

a) the permit conditions for the facility;
b) the existing LDR; and
c) the availability of the proper waste management techniques.

At a minimum, the pre-acceptance evaluation will be repeated when a generator notifies CHESI that the process generating the waste has changed (e.g., when the raw materials to the process have changed) or if the permittee has reason to suspect that the waste does not match the pre-acceptance documentation. Exceptions to the foregoing requirements include the following special materials from on-site or off-site activities, including associated materials (such as contaminated PPE):

a) Contaminated trash and debris. This is limited to discarded containers of laboratory chemicals, lab equipment, protective clothing, debris from lab spills or clean up, and floor sweepings.
b) "Empty" containers of waste commercial products or chemicals. This applies to a portable container that has been emptied, but may hold residuals of the product or chemical. Examples of containers are portable tanks, drums, barrels, cans, bags, liners, etc. A container shall be determined "empty" according to the criteria specified at 40 CFR 261.7.
c) Asbestos containing waste. This applies to asbestos-bearing waste, insulation materials, such as wall board, wall spray coverings, pipe insulation, etc.
d) Commercial products or chemicals. Off-specification, outdated, contaminated, or banned chemicals. Also, products that are voluntarily removed from the marketplace by a manufacturer or distributor, in response to allegations of adverse health effects associated with product use.
e) Residue and debris from clean-up of spills or releases of a known chemical substance(s) or commercial product(s).
f) Animal waste and parts.
g) Chemical-containing equipment removed from service. Examples include cathode ray tubes, batteries, fluorescent light tubes, etc.
h) Waste produced from the demolition or dismantling of industrial process equipment or facilities including chemicals from the process.
i) Lab packs accepted in accordance with the provisions of Section 4.4.6 (Lab Packs).

For these exceptions, the generator will supply the Lone Mountain Facility with sufficient chemical and physical characteristics information for proper management of the waste.

5.2 EVALUATION

The permittee is responsible for the pre-acceptance evaluation decision (i.e., whether to accept or reject the waste). All samples under consideration for acceptance are subjected to the Fingerprint Analyses (unless excluded elsewhere in-this plan) (Section 2.1). The permittee may require Additional Analyses to screen samples for other contaminants or properties that indicate possible treatment or disposal methods. The basis for requiring these additional analyses are:

a) The permittee's experience and judgement;
b) HWPS description of the chemical and physical properties of the waste;
c) HWPS description of the process generating the waste; and
d) Results of the Fingerprint Analyses.

The pre-acceptance evaluation is concluded with documentation of the decision regarding the acceptability of the waste and the proposed method of management. This decision is embodied within an "Acceptance Sheet" (Figure 5-3).

6.0 INCOMING LOAD PROCEDURE

Each load of waste will be visually inspected, sampled, and analyzed, as defined in this WAP before the waste is treated or disposed. This fingerprinting procedure serves two purposes. First, it compares the actual waste characteristics with those determined in the pre-acceptance phase and those listed on the waste manifest. Second, it confirms the characteristics that would indicate the proper disposition of the waste to treatment, storage, or disposal.

6.1 RECEIVING PROCEDURES

Incoming load identification begins upon arrival of the waste at the facility. The inspection, sampling, and analysis of the incoming waste will be performed in accordance with the methods described in Sections 2.0, 3.0, and 4.0.

Except as described in Sections 4.4 and 5.1, all bulk liquid and solid waste deliveries will be sampled and analyzed, except where large volumes of a single waste are received from a single source (e.g., a major site clean-up of contaminated material, a large volume generator, or a railcar). In such cases, all loads will be inspected by utilizing the physical appearance, and at least 10 percent of such loads or railcars will be sampled and analyzed. Or, in the case of a project under the control of CHESI (including its associated divisions), the vessel or cleanup area itself may be sampled and analyzed in lieu of individual loads.

In the case of loads of drums or portable tanks, at least 10 percent of the containers in each waste stream will be selected for sampling upon delivery. Container samples that are related to one generator and one waste stream may be composited prior to analysis, providing the individual samples are similar in physical appearance. After the load has been accepted, but before further processing, all containers will be opened and visually inspected for similar physical appearance. In

some cases, where the waste stream is consistent but packaged for ease of transportation or disposal (e.g., bags containing fly ash or bag house dusts), the load may be managed as a bulk load with one sample obtained. Samples from incoming loads will be subjected to the Fingerprint Analyses identified in Section 2.1 and/or other applicable analyses.

6.2 DECISION EVALUATION LOGIC

There are major decision points regarding the need for evaluation of whether a waste found to be dissimilar to the pre-acceptance evaluation can still be accepted. The permittee decides whether additional analyses are required for a particular waste based on the following:

a) Results of Fingerprint Analyses;
b) Knowledge of generator and/or waste-generating process;
c) Results of pre-acceptance evaluation; and
d) Waste codes/LDR.

Further testing will probably be required if the results indicate unexpected characteristics with respect to pre-acceptance analytical results, or if the permittee has reason to suspect that the waste composition has changed.

The effectiveness of the waste identification step is dependent on the following components:

a) Inspection;
b) Sampling;
c) Analytical results;
d) Hazardous Waste Profile Sheet;
e) Hazardous Waste Manifest;
f) Waste screening analytical results; and
g) Permittee's judgement.

To facilitate the waste identification process, the fingerprinting analytical data is recorded on the Load Sheet (shown as Figure 6-1) or in computer records and compared to the corresponding pre-acceptance analysis. The fingerprint analysis verifies that the waste is indeed the same waste as represented by the pre-acceptance analysis.

CHESI has developed a computer program for waste acceptance. Information from the pre-acceptance review is stored in a database. When a load is received at the facility, the program identifies the waste stream and displays the data obtained for the pre-acceptance analysis. Figure 6-2 lists the parameters and notes the range of each parameter within which a waste is considered in conformance. If the fingerprint analytical data is not within the listed tolerances relative to the pre-acceptance analysis, the discrepancy will be recorded. To resolve the discrepancy, the sampling and/or analysis may be repeated to rule out sampling and/or laboratory error. Resolution of any discrepancy exceeding the tolerance ranges will be explained in the record. The permittee must classify the waste as being in non-conformance if it is significantly different in composition from the

information shown in the HWPS, the pre-acceptance results, or on the manifest, unless the discrepancy can be clarified, by the generator, transporter, or by the permittee's judgement.

Wastes found to be in non-conformance may be rejected immediately, or reevaluated for possible acceptance by the facility despite the variance. The reevaluation will be based on the following criteria:

a) Permit authorization;
b) LDR;
c) Discussions with the generator;
d) Facility conditions; and
e) Permittee's judgement.

Pursuant to 40 CFR 264.72, the permittee must attempt to resolve with the generator or transporter any significant discrepancies between the actual waste and that shown on the manifest. Changes to the manifest or profile sheet may be made with a consensus or the request of the generator. Any corrections or other changes made to the manifest or profile sheet will be initialed by the person making the change. Even though not required by regulation, other discrepancies noted (such as improper mailing addresses, identification numbers, telephone numbers, etc.) may be corrected or noted in Section 19 of the manifest.

For bulk loads that are manifested by weight, the load is typically weighed in at the facility.[8] If a significant weight discrepancy is noted, the procedures of 40 CFR 264.72 are employed. For bulk loads manifested by volume, this mechanism is not appropriate as visual estimates are too subjective, settling may occur during transport, liquids are subject to phase separation, and specific gravity calculations can be very inaccurate. For piece count deliveries (e.g., vans of containers, etc.), the piece count is confirmed. Under typical conditions, these activities are conducted upon delivery to the facility or within a short time thereafter. However, there are situations when these conditions are not satisfied upon delivery (e.g., a bulk load is delivered and set-off under the conditions of Sections 4.4.9 or 4.4.11 prior to being weighed, small containers are contained within heat shrink material and cannot be counted prior to breaking the load, etc.). In these instances, and consistent with 40 CFR 264.71 (a)(3), the transporter is given a signed copy of the manifest. If a significant weight or piece count discrepancy is later discovered, an attempt to reconcile it will be made, and if unresolved within 15 days of discovery, the discrepancy will then be immediately reported to the ODEQ in accordance with 40 CFR 264.72.

[8] However, if the scale is out of service, other methods may be employed to estimate the weight of the delivery. Other methods include utilization of nearby scales, weight estimation, and utilization of tare weights to calculate approximate net weights.

7.0 PROCESS OPERATIONS PROCEDURES

Each movement of a waste within the facility, where any change in its characteristics may occur, may make it subject to additional inspection, sampling, and analysis to determine appropriate handling and management of the waste. Many of the analyses needed for the storage, treatment, and disposal functions are performed during incoming load verification. These are not repeated unless it is known or believed that the waste characteristics may have significantly changed during storage or processing.

Existing and anticipated process operations at the facility, for which current and periodic sampling and analysis is important, include the following:

a) Storage, consisting of containers and tanks;
b) Treatment, consisting of chemical oxidation, neutralization, chromium reduction, blending, stabilization, etc.; and
c) Disposal, consisting of landfilling.

The analytical procedures, including additional mandatory analyses for each of the processes, are described separately below.

7.1 STORAGE

Stored containerized liquid wastes are segregated with respect to compatibility. Most liquid wastes that are transferred from drums, portable tanks, or tank trucks are placed in bulk storage tanks prior to treatment. Before any waste is placed in a storage unit, the waste will be assessed for compatibility of the waste with the storage unit materials of construction, and wastes already stored. If there is any suspicion of incompatibility, additional compatibility testing will be performed.

7.1.1 STORAGE TANKS

7.1.1.1 WASTE TANK COMPATIBILITY

There are three types of tanks for storing/receiving wastes:

a) steel tanks (carbon steel);
b) stainless steel tanks; and
c) specialty tanks.

The previously described fingerprint analyses are performed on incoming wastes to ensure compatibility of the waste and tank. The pH and normality of the waste are the most significant parameters. Liquid acidic waste can be unloaded into either the acid storage/neutralization system at the wastewater pretreatment area or into the stabilization system. When treating an acid in the stabilization tanks, reagents will, normally, be unloaded into the stabilization system first to minimize corrosive effects. By this practice, incompatible (i.e., acidic and alkaline,) wastes will be segregated.

7.1.1.2 IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES

Liquid ignitable wastes, such as flammable solvents, will be stored in steel tanks. These tanks will be equipped with pressure vacuum breather valves with flame-arresters. No smoking, sparks, or source of ignition will be permitted in the vicinity of the tanks.

Tanks will be designated by service; that is, organic containing tanks will not be switched to inorganic (e.g., acid or alkaline) waste storage without a thorough cleaning. After cleaning tanks, which previously held organic materials, the vessel will be opened and inspected, and a vapor "sniff' test performed to ensure only de minimis organic constituents remain in the vessel. Rinsate will be analyzed for total organic carbon, and if a value exceeding 250 ppm is obtained, further cleaning will be required. Reactive wastes containing cyanides and/or sulfides are generally alkaline in nature. These must never come in contact with acidic wastes or materials. Similar procedures are used on a waste stream-by-waste stream basis to ensure that any other combination of incompatible wastes are not stored in the same tank.

7.1.2 STORAGE CONTAINERS

Storage containers typically consist of 55-gallon drums of waste that are received from off-site for storage prior to an on-site treatment or disposal process. Therefore, the containers are to the fingerprint analysis to ensure conformity with the pre-acceptance documentation.

7.1.2.1 IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES

Ignitable, reactive, or incompatible incoming wastes are identified and classified by the sampling and analytical procedures and information submitted by the generator.

The fingerprint procedures detailed previously, check for pH, reactivity (Cyanide and Sulfide), and flammability. The containers are segregated accordingly.

7.1.2.2 ON-SITE MANAGEMENT PROCEDURES

Wastes received in containers are subject to the analytical work for the proposed management process. For example, a drum of F001 waste would be subject to an inspection for the fingerprint parameters (including free standing liquids). Depending on whether it was subject to an extension, variance, or was a treatment residue, it might also be subjected to verification testing (e.g., TOC analysis, Method 8260, etc.). Further, depending on what, if any, treatment process it might be subject to, it might be subject to the analytical protocol for that process (e.g., Paint Filter Liquids test for stabilization, etc.). Finally, it might also be subject to the protocol for the landfill (e.g., verification of treatment standards), if that was the ultimate disposal option on-site. Containers prepared and aggregated for treatment may be staged, for periods not to exceed 72 hours, on the truck parking pad.

7.1.2.3 LABORATORY PACKS

Drums packed with small quantities of waste are accepted for storage and disposal under special provisions listed in Sections 4.4.6 and 5.1. As with all wastes destined for land disposal, all wastes contained within the lab pack must meet all applicable treatment standards.

7.2 TREATMENT OPERATIONS

The proper and complete treatment of a particular waste depends upon appropriate sampling and analysis during selected phases of the operation. The results of this analytical program serve to determine safety constraints, confirm the selection of treatment methods, and identify the process parameters. The treatment sampling/analysis program may be divided into three segments, each with a specific purpose:

a) Pre-treatment analyses confirm that the waste falls within the selected process design parameters and allow the fine-tuning of the process operational conditions for optimum treatment;

b) In-process analyses are performed to control the process and to monitor progress; and

c) Post-treatment analyses confirm successful treatment and that the characteristics of the process effluent are such that it can be sent to the next step (landfill disposal, recycling, etc.) based upon permit or process constraints.

7.2.1 CHEMICAL OXIDATION

Oxidizable waste (e.g. cyanide and sulfide) are treated to convert the compounds to an innocuous species. The conversion uses oxidizing agents (e.g. Hydrogen Peroxide, Sodium Hypochlorite, Calcium Hypochlorite, or chlorine).

Pre-treatment analyses establish that the waste is sufficiently alkaline, if required, and pumpable, and the identity and quantity of the optimum oxidizing reagent.

In-process analyses may consist of a check for free cyanides (or sulfides) or excess oxidizing agent as a measure of reaction completeness. Samples are taken and analyzed until excess oxidizing agent exists or the remaining cyanide (or sulfide) levels are within acceptable limits (e.g., total Cyanides <590 mg/l and amenable Cyanides <30 mg/l for F006, if destined for landfilling). This may involve the addition of more reagents or a longer reaction time. In some cases, the excess oxidizer test may yield inconclusive results, and post-treatment verification will occur in accordance with Section 8.5.

When these tests indicate that the oxidation reaction has been sufficiently completed, a final sample may be taken upon completion of all waste treatment, as necessary, and the appropriate constituent(s) is analyzed to confirm that sufficient treatment has occurred. A final pH analysis may also be a part of the post-treatment analyses.

7.2.2 NEURALIZATION

In this process, corrosive wastes are neutralized and/or heavy metals precipitated or treated. Most of the waste fed to this system will be acidic in nature. Thus, lime or other reagents, including suitable alkaline wastes, are used for neutralization purposes.

Pre-treatment analyses serve to screen out those wastes that are not acceptable to this process, including wastes with significant concentrations of cyanides or sulfides.

In-process analyses may be performed to monitor the pH (or other selected analyte) as a means of controlling the reaction process. The chemicals are mixed in a reaction system and then transferred to an appropriate storage or treatment area (e.g., tank).

A final pH or other appropriate testing (e.g., paint filter test) is the post-treatment analysis used to determine when the reaction has been completed. The treated waste is then directed to the appropriate handling area.

7.2.3 CHROMIUM OR CHEMICAL REDUCTION

In this process, hexavalent chromium or other oxidizing compounds are chemically reduced. The chemical conversion may utilize sodium metabisulfite, ferric chloride, sodium bisulfite, or other suitable agents.

Pretreatment analyses and reviews establish that the waste is sufficiently acidic (for chromium. reduction at Wastewater Treatment), pumpable (if required), compatible with the tanks, and the identity and quantity of the reducing reagent.

In-process analyses may include pH, oxidation potential, and, if necessary, hexavalent chromium. The pH of the solution directly affects the rate of the appropriate reaction for chromium reduction. The waste and reagents are mixed in the reaction or stabilization tanks and then transferred to an appropriate storage or disposal area. Post-treatment analyses are performed to ensure that the chromium or chemical reduction is sufficiently completed, and the final pH is acceptable for subsequent handing. For wastes stabilized with basic reagents, final pH analyses are not needed.

7.2.4 BLENDING

Typically, in this process, waste containing sufficient heating values will be blended with other suitable waste. However, waste destined for incineration may require blending too. The resultant mixtures are used as supplemental fuels for lime kilns, incinerators, or similar operations. Unintentional blending, such as storage of several waste streams in the tanks, is not covered by this section.

Pre-acceptance analyses are used to determine the acceptability of each waste stream for the fuels blending program. Additional analysis for heat value is also required for materials destined for

supplemental fuels to ensure sham recycling does not occur in accordance with applicable guidance (e.g., BTU/pound). For materials destined for incineration, on the other hand, this analysis is not mandatory.

In-process analyses may be performed to ensure the blending of wastes is within the final product requirements. This is necessary because acceptance criteria are different than final product criteria, which are based upon the end users criteria. Those criteria are, in tum, based upon that users permits, regulations, or other needs. For example, if a re-user has a minimum requirement for heat value and a maximum requirement for chlorides, then the blend requirements will be a function of the users requirements for both parameters.

Post-treatment analyses may consist of tests necessary to ensure that the blend is suitable for use as fuels or incineration.

7.2.5 STABILIZATION

In this process, waste is treated to meet LDR (e.g., removal of free liquids, chemical and physical stabilization to remove or immobilize hazardous constituents, etc.) or to meet other appropriate requirements (e.g., permit or regulatory requirements).

Microencapsulation and macroencapsulation (as defined in 40 CFR 268.45) using pozzolanic materials (e.g., fly ash, Portland cement, cement kiln dust, lime, gypsum, etc.) are considered a form of "stabilization" as the process is virtually identical. In cases where the debris to be encapsulated is too large to manage in containers or the stabilization tanks, macroencapsulation may be conducted within the landfill. The untreated debris will be placed in a suitable final location (e.g., in forms, etc.) or container within the cell and macroencapsulated in place with the selected reagent.

Pre-treatment analyses consist of tests necessary to ensure the wastes can be treated to meet the applicable treatment requirement. Prior to treatment, some materials (debris, etc.) that exhibit high structural integrity (e.g., piping, tanks, etc.) may be reduced in size to ensure appropriate treatment occurs (e.g., microencapsulation). In-process analyses are generally not required for this treatment. Post-treatment analyses are necessary to ensure that all free liquids have been reacted and the mixture is suitable for final handling or processing. The Paint Filter Liquids Test is regularly checked in order to monitor this process (i.e., elimination of free liquids). Also, to ensure restricted wastes meet their applicable treatment standards, approximately 10-20% of the treated batches are tested to confirm adequate treatment and/or to refine the appropriate recipes.

8.0 LAND DISPOSAL RESTRICTIONS

Subsequent to the Hazardous and Solid Waste Amendments (HSWA) of 1984, a series of prohibitions and restrictions have been placed on the land disposal of certain hazardous wastes. Ultimately, EPA will systematically review all hazardous waste streams and issue regulations governing their management. These reviews have taken place in phases, with newly-identified or newly listed

wastes to be reviewed within six (6) months after their listing. Please note, there is no "Hard Hammed' for these newly identified or newly listed wastes should EPA not promulgate LDR.

This Section of the WAP is intended to guide the user in the management of wastes destined for land disposal at the Lone Mountain Facility. The HSWA regulations are mostly statutory-based, and will override permits. Regulatory changes generally do not override permits and may not be effective until the permit is amended. Therefore, the reader must be aware of the current LDR regulations as they must be met. This section, therefore, tends to restate the current HSWA LDR program requirements and to serve as clarification for those issues not fully addressed in the governing regulations as promulgated.

The permittee will receive from the generator or treatment facility, comprehensive analytical data (e.g., GC, GC/MS, etc.) or a written certification that lists the identified restricted waste and/or constituents that the waste stream may contain based on the generator's knowledge or analysis of the waste. If the permittee does not receive this information in writing (e.g., a completed waste profile sheet or analytical data), then a comprehensive analysis to determine the concentration of appropriate restricted constituents for the waste stream(s) lacking such information will be obtained, as needed, prior to land disposal. This requirement, as for all subsequent requirements, are limited to land disposal restricted (LDR) waste destined for land disposal at this facility.

8.1 HISTORY OF LAND DISPOSAL RESTRICTIONS

Effective November 8, 1986, the wastes identified by EPA in 40 CFR 261.31 as F001, F002, F003, F004, and F005 (here-in-after referred to as F-Solvents), and the wastes identified as F020, F021, F022, F023, F026, F027, and F028 (here-in-after referred to as F-Dioxins) became restricted under the LDR program.

On July 8, 1987, regulations were promulgated restricting land disposal of certain California list wastes. The California list consisted of liquid hazardous wastes containing certain metals, free cyanides, polychlorinated biphenyls (PCBs), corrosives with a pH of less than or equal to 2.0, and liquid and non-liquid hazardous wastes containing halogenated organic compounds (HOCs) as described at 40 CFR Part 268, Appendix lll. The California list restrictions were eliminated from the LDR program by the Phase IV LDR rulemaking issued on May 12, 1997. LDR rulemakings since 1987 have established treatment standards for all affected constituents that are more stringent than the California list restrictions.

Beginning on August 8, 1988 and ending on May 8, 1990, the treatment standards for all other existing listed and D001-D017 characteristic hazardous wastes were set. Subsequent to these rulemakings, EPA issued treatment standards for hazardous waste debris, underlying hazardous constituents in D001 and D002 wastes, and 20 newly listed wastes. This concluded "Phase I" of the LDR rulemakings.

On September 19, 1994, the Phase Il LDR rule was issued that established Universal Treatment Standards (UTS) for almost all characteristic and listed wastes, DOI 8-D043 wastes, and for 10 newly listed wastes. This rule consolidated the treatment standards previously contained in three (3) tables in Part 268 into a single table in 268.40. The UTS established concentration-based limits for various hazardous constituents.

On April 8, 1996, the Phase III LDR rule restricted the situations to that UTS can be applied to underlying hazardous constituents (UHCs) contained in characteristic wastes, revised the treatment standards for D003 wastes, established treatment standards for 65 newly listed wastes, and added 42 additional hazardous constituents to the UTS Table.

On May 12, 1997, the Phase IV LDR rule simplified the LDR notification, certification, and recordkeeping requirements, finalized the treatment standards for three wood preserving wastes (F032, F034, and F035), and revised the treatment standards for F024 process wastes. As mentioned above, the California list was eliminated in this rulemaking.

8.2 WASTES WITH APPLICABLE TREATMENT STANDARDS

Wastes with effective treatment standards can be broken into two categories for the purpose of waste analysis. These two categories are described further in the following sections.

8.2.1 WASTES TREATED AT THE FACILITY

Certain wastes are treated at the facility to meet the specified treatment standards in 40 CFR Part 268. Typically, the facility requires a representative sample of the waste be supplied by the generator. The waste sample is then mixed with various types of reagents (e.g., fly ash, cement kiln dust, portland cement, hydrogen peroxide, sodium hypochlorite, activated carbon, etc.) to determine an acceptable recipe by which the waste is treated (separately or along with other wastes) so that it passes the required treatment standard. A treatment certification will be made for each batch of LDR waste that is treated to meet the applicable treatment standard. The treatment procedure is verified periodically, typically at least annually. Inadvertent treatment (e.g., supplemental fuel blending, filtration, etc.) not intended to treat the LDR waste to a treatment standard is not included as "treatment" for this purpose.

8.2.2 WASTES MEETING THE TREATMENT STANDARD UPON ARRIVAL

The facility will receive waste that meets the treatment standard that either has been treated by the generator or a treatment facility, or meets the standard as initially generated. Waste falling into this category will be analyzed annually (or if the permittee questions the effectiveness of treatment) to verify the treatment standards are met. If the treatment of a restricted waste is performed under a treatment and/or testing protocol approved by EPA or other authorized state agency, the annual verification analysis may be waived. Wastes having method based LDR treatment standards are not subject to annual verification by the permitee if a certification has been received from the generator,

treatment facility, etc. In some cases (e.g., incineration), there is no applicable analysis to verify the waste has been treated by the specified method.

8.3 NOTIFICATIONS AND CERTIFICATIONS

As required by 40 CFR 268.7, the initial shipment of LDR waste that does not meet the applicable treatment standard, the shipper (generator, TSD facility, etc.) must send a one-time notice to the receiving facility that the waste is restricted under 40 CFR Part 268. If the waste or process changes, the shipper must send a new one-time notice.

Each shipment of LDR waste that does meet the applicable treatment standard, the shipper must send a one-time notice and one-time certification, with the appropriate certification language, to the receiving facility stating that the waste may be land disposed without further treatment. If a certification was not provided by the shipper but the waste is determined to meet the treatment standard by the permittee, the permittee may complete the certification. If the waste or process changes, the shipper must send a new one-time notice and certification.

CHESI has developed notification and certification forms (Appendix 2) for use in complying with 40 CFR 268.7. The certification form utilized by CHESI allows shippers to certify that certain constituents of wastes with multiple constituent treatment standards (e.g., incinerator ash, F006 sludge) do not require further treatment prior to land disposal. The form also allows the shipper to list those constituents that must be treated prior to land disposal. Use of this form is important when treatment technologies have been applied to waste mixtures at treatment facilities (e.g., incinerators). To facilitate the multiple treatment facility scenario, this partial certification fulfills a valid need.

8.4 RECIPE DEVELOPMENT

When the facility will perform treatment of a waste, a "recipe" is chosen by the permittee which will meet the applicable treatment standard(s). This recipe is then noted in the Operating Record of the facility. All waste shipments of that particular waste are treated according to the procedure identified as meeting the applicable treatment standard (except in the case of wastes that will be batched or when post-treatment analyses is used to confirm adequate treatment). Due to variations in water content, etc. in waste shipments the recipe may exhibit fluctuations in reagent quantity; however, it is still considered the "same" recipe. A treatment certification will be made for each batch of LDR waste that is treated to meet the applicable treatment standard.

It may be appropriate to create recipes after acceptance, but prior to treatment (e.g., batches of mixed wastes streams, etc.) or after treatment (if an approximate recipe is determined). In most of these cases, the treatment standards must be verified prior to final disposal.

8.5 VERIFICATION OF TREATMENT STANDARDS

Treated batches of wastes are assumed to meet the applicable treatment standard and will be located in the landfill cells. If post-treatment analyses determine that a treated batch does not meet the standard, the batch will be retrieved for retreatment. The same standard holds true for periodic or annual verification of certified wastes or shipments.

Pending verification analyses, the verification batches or shipments will be segregated to facilitate complete retrieval. Retrieved materials may be staged prior to retreatment, for periods not to exceed 72 hours, on the truck parking pad.

8.6 VERIFICATION OF UNDERLYING HAZARDOUS CONSTITUENTS

On May 10, 1993, the EPA promulgated an Interim Final Rule establishing treatment standards for "underlying hazardous constituents" (UHCs) in ignitable (D001, except High TOC subcategory) and corrosive (D002) hazardous wastes. In the Phase ll LDR rule, UHCs were extended to the DOI 20043 hazardous wastes. In the Phase lll LDR rule, UHCs were extended to certain D003 wastes. EPA defines underlying hazardous constituent "as any constituent listed in 40 CFR 268.48, Table UTS except fluoride, selenium, sulfides, vanadium, and zinc, present at levels above the UTS at the point of generation of the hazardous waste." Generally, the generator must apply knowledge of the raw materials used, the process, and potential reaction products, or the results of a one-time analysis to determine the UHCs that may be present in the untreated hazardous waste. The generator must submit a notification for the D001, D002, D003, and D012-D043 wastes to the treatment/disposal facility that identifies any UHCs.

The permittee will annually verify those UHCs identified by the generator as present at levels above the UTS for which treatment has been performed either on-site or off-site. If the generator does not notify the permittee that any UHCs present above the UTS, treatment will be performed. For D001, D002, D003, and/or D012-D043, and no verification analysis for UHCs is necessary.

8.7 ACCEPTANCE OF CAMU-ELIGIBLE WASTE

On January 22, 2002, EPA promulgated amendments to the Corrective Action Management Unit (CAMU) rule and 40 CFR 264.555 was added to the regulations. This rule specifies the conditions for the disposal of CAMU-eligible waste, as defined, in permitted hazardous waste landfills not located at the site where the waste originated. The Lone Mountain Facility is authorized to accept CAMU-eligible wastes. Prior to receipt of CAMU-eligible waste from each remediation site, additional conditions must be met (including agency notification and public participation), unless the waste exhibits minimal risk (see 40 CFR 264.555(e)). If the waste exhibits minimal risk, the agency notification and public participation requirements of 40 CFR264.555 (e) are not applicable.

Minimal risk, in the context of the CAMU rule and in accordance with the types of waste the Lone Mountain Facility is designed to effectively handle, is hereby defined as:

a) metals in waste, soil, and/or debris at any concentration;

b) organics and non-metals in waste at concentrations less than or equal to 10 times the Universal Treatment Standards;

c) organics and non-metals in soil at concentrations less than or equal to 100 times the Universal Treatment Standards; and

d) organics and non-metals with debris at any concentration.

The permittee must retain adequate records to demonstrate compliance with the conditions and treatment standards established for each CAMU-eligible waste, including the waste screening procedures records (HWPS, waste analyses, etc.) outlined in Section 5.0, the incoming load procedures records (manifest, LDR notifications/certifications, laboratory analyses, etc.) outlined in Section 6.0, the land disposal restriction records (treatment verification analyses, etc.) outlined in Section 8.0, and all agency/generator correspondence related to the CAMU-eligible waste.

9.0 ORGANIC AIR EMISSIONS STANDARDS

On June 21, 1990, the U.S. Environmental Protection Agency (EPA) promulgated the final rule for hazardous waste treatment, storage, and disposal facilities regarding organic air emission standards for process vents and equipment leaks. On December 6, 1994, the final rule for the organic air emission standards for tanks, surface impoundments, and containers was promulgated. These final rules were promulgated under the authority of the Hazardous and Solid Waste Amendments (HSWA) of 1984. These rulemakings were Phases I and II of three (3) to address the issue of air pollutant emissions from hazardous waste TSD facilities.

Upon promulgation, the rule for process vents and equipment leaks only applied to the Wastewater Treatment System at the Lone Mountain Facility, because it had not achieved NPDES or Part B permit status and was being regulated as an interim status unit. Due to the EPA "permit-as-a-shield" policy, this rulemaking did not affect the permitted portions of the Lone Mountain Facility until its Part B permit was reviewed or reissued. In 1992, the Part B permit was revised, and the permitted portions of the facility were to be brought into compliance with Subparts AA and BB within six (6) months.

Through the promulgation of the Phase II rule (organic air emission standards for tanks, surface impoundments, and containers), EPA modified its "permit-as-a-shield" practice for the air standards. Existing facilities that had the final permit issued prior to December 5, 1995 were not required to come into compliance with air standards found in 40 CFR Part 265, Subparts AA, BB, and CC until the permit had been reviewed or reissued. The ruling also does not require initiating a permit modification to add those requirements. Should, however, the permit be reopened, or subject to

renewal, or should a Class 3 modification request be submitted concerning a tank or container storage system, the Subpart CC requirements would be incorporated into the permit requirements.

This section of the WAP will serve to govern the waste acceptance and management procedures for all hazardous wastes received at the Lone Mountain Facility Wastewater Treatment System, Hazardous Waste Fuel Management tanks, container storage areas (Container Management Building and Drum Dock), and the Stabilization Tanks. The procedures established will ensure that the facility will be in compliance with all the requirements of 40 CFR 264.13, as well as 40 CFR Part 264, Subparts AA, BB, and CC. The most recent revision of this plan will be maintained at the facility as part of the facility operating record.

The Lone Mountain Facility will ensure that the Total Organic Carbon (TOC) concentration of hazardous waste accepted at the Wastewater Treatment System for storage and/or treatment is less than ten (10) percent by weight, and therefore, the Wastewater Treatment System will not be subject to Subpart BB for equipment leaks, except for the information required to be recorded for determining exemptions per 40 CFR 264.1064(k). The standards for process vents in Subpart AA appear to be applicable to the Wastewater Treatment System because the unit currently has process vents associated with the evaporation system. The evaporators sometimes process volatile organic compounds (VOCs) greater than ten parts per million by weight (>10 ppm).

In regard to hazardous waste fuel management at the Lone Mountain Facility, two (2) tanks are permitted to manage wastes that usually contain in excess of ten percent (>10%) TOC and will be assumed to be in light liquid service. Therefore, compliance with Subpart BB is required for tanks in this service. The hazardous waste fuel tank system will not employ any of the processes described in 40 CFR 264.1030, and therefore, the system will not be subject to Subpart AA.

To ensure compliance with the Subpart CC requirements, at this time the Volatile Organic Carbon (VOC) concentration of hazardous waste accepted at the Lone Mountain Facility for storage tanks will be less than five hundred parts per million by weight (<500 ppmw), unless the tank is fully equipped with emissions controls or is subject to an exemption as stated in the regulation (e.g., meets organic LDR standards, etc.). Therefore, waste having <500 ppmw VOCs managed in tanks will not be affected by the requirements of Subpart CC for tanks.

Hazardous wastes which are managed in containers may meet the LDR treatment standards found in 40 CFR Part 268 and also contain greater than or equal to 500 ppmw VOCs. Therefore, the hazardous waste would not require further treatment, either in a tank or container, prior to disposal in a landfill. As such, if a hazardous waste meets these conditions, the hazardous waste may be placed in a container and stored at the Container Management Building or Drum Dock prior to landfill disposal. To ensure compliance, the containers that do contain hazardous waste with greater than or equal to 500 ppmw VOC content will be managed in accordance with the requirements found in 40 CFR 264.1086 and 264.1088.

The waste screening procedures, incoming loads procedures, and recordkeeping that will ensure compliance with Subparts AA, BB, and CC are discussed in the following sections.

In accordance with 40 CFR Part 302, the CHESI Lone Mountain Facility Wastewater Treatment System may exceed the reportable quantity of a hazardous substance while operating the process vent in accordance with the Subpart AA emissions limitations and under the authorization of its RCRN/HSWA permit. This potential release is an exception for reporting as it can be considered a federally permitted release under CERCLA now that the process vent is subject to RCRA/HSWA regulations and permits. Should releases exceed the emissions limitations of Subpart AA, the notification requirements of 40 CFR 302.6 will be followed, as necessary, if reportable quantities are released over and above the Subpart AA limitations.

9.1 WASTEWATER TREATMENT SYSTEMS- SUBPART AA

The Lone Mountain Facility Wastewater Treatment System is subject to 40 CFR 264 Subpart AA because: 1) it manages waste containing greater than 10 ppmw total volatile organic compounds, as determined by SW-846 Method 8260; 2) the U.S. EPA Region 6 states the evaporator meets the definition of a distillation unit; and 3) the evaporators have associated process vents.

In accordance with 40 CFR 264.1032(a)(1), the Lone Mountain Facility will ensure that volatile organic compound emissions from the evaporator vents associated with the Wastewater Treatment System will not exceed 3.0 pounds/hour and 3.1 tons/year. The emissions limitations will be accomplished through a balance of total volatile organics in the wastewater fed to the evaporator and evaporation rates. As the emission limitations listed above will be achieved without installing a closed-vent system or control device and the determination of vent emissions will be based on engineering calculations, the performance tests in 264.1034(c) will only be used to determine the vent emissions when there is a disagreement between the facility and the Agency. Waste analyses, in conjunction with waste volumes and hourly/yearly evaporation rates, will document compliance with this limit.

In accordance with 40 CFR 264.1035(b)(2)(i), the Lone Mountain Facility will ensure that information and data identifying the process vents, the annual throughput and operating hours of the affected unit, and the calculated emission rates for the vents are kept in the facility operating record.

Should the unit exceed the emission rate of 3.0 pounds/hour or 3.1 tons/year during a semiannual reporting period, a report detailing the dates when the unit operated outside the design specifications and any corrective measures taken will be submitted to the Regional Administrator.

Should the interpretation that the evaporators are subject to Subpart AA be changed, the Lone Mountain Facility may not have any process vents subject to the standards.

9.1.1 WASTE SCREENING PROCEDURES

In addition to the waste screening procedures specified in Section 5.0 of this plan, the following procedures have been developed to determine the acceptability of specific wastes at the Lone

Mountain Facility Wastewater Treatment System and to ensure compliance with the 40 CFR Part 264 Subpart AA requirements.

One integral part of the CHESI Lone Mountain Facility waste screening procedures is the Hazardous Waste Profile Sheet (HWPS). Process information as well as chemical composition data detailed on the HWPS is screened carefully to determine if any organic constituents are a part of the waste. This evaluation alone may determine if a hazardous waste stream will be considered for management at the Wastewater Treatment System.

If the HWPS or laboratory analysis indicates the possibility that the waste contains volatile organic compounds that would result in exceedance of the emissions limitations, a waste acceptance decision may be issued for approval to the Wastewater Treatment System with a restriction placed on the hazardous waste stream that it must contain less than a predetermined volatile concentration upon load arrival. New waste streams that the HWPS indicates little or no volatile organics or significantly high amounts of volatiles (e.g., 5 percent) do not need to be analyzed by the laboratory; the approval/denial decision may be based on the HWPS alone.

Analyses are provided by the on-site or off-site laboratories to augment or verify preexisting waste identifications and to comply with facility acceptance criteria. Should laboratory analysis be required to determine if the hazardous waste stream will qualify for management at the Wastewater Treatment System, the waste stream is subjected to analysis using either SW-846 Methods 9060 or 8260. Additional methods may be employed per 40 CFR 264.1063(d). An example of waste that would have little volatile content is a metal etching acid. Since the waste does not encounter organic substances during the metal etching process, it would be expected to not have an organic content that would result in exceedance of the emissions limitations. Should the waste display organic content by either HWPS information, analytical data, or layering in the pre-acceptance sample, it may be analyzed for volatile organic content to determine if evaporation of the waste results in exceedance of the emissions limitations.

9.1.2 INCOMING LOAD PROCEDURES

In addition to the incoming load procedures specified in Section 6.0, the following procedures have been developed to determine if each load of hazardous waste destined for the Lone Mountain Facility Wastewater Treatment System is acceptable and to ensure compliance with the 40 CFR Part 264, Subpart AA requirements. There are major decision points regarding the need for evaluation of whether a waste found to be dissimilar to the pre-acceptance sample can still be accepted. Further testing will probably be required if the results indicate unexpected characteristics with respect to the pre-acceptance analytical results, or if the permittee has reason to suspect the waste composition has changed. With respect to the Wastewater Treatment System, hazardous waste streams that indicate by either inspection, sampling, and/or analysis to have a volatile organic content that would result in exceedance of the emissions limitations will not be accepted for storage and/or treatment at the Wastewater Treatment System.

If a received load of hazardous waste is found to contain a volatile organic content that results in exceedance of the emissions limitations, the waste may be reevaluated for acceptance by the facility despite the variance, based on the criteria in Section 6.0. Should the waste not be acceptable for an alternative method of handling at the Lone Mountain Facility, the waste will be returned to the generator or shipped off site to an appropriate facility.

Many options exist and may be employed separately or in combination, as necessary, to ensure that the Subpart AA emissions limits are not exceeded. Generator and facility knowledge, chemical analysis, evaporator feed blending, evaporation rates, and hours/days of operation can be used to ensure that the emissions limits are not exceeded. The option(s) selected will be based on operational and laboratory factors existing at the time. Some examples of how this may be accomplished are as follows.

One method which the Lone Mountain Facility could employ may be to aggregate the wastewater feed in a storage tank and collect a representative sample for analysis by either Method 9060 or 8240 of SW-846 prior to treatment (evaporation). Based on the analysis of the waste, the evaporation rate and hours/days of operation will be adjusted, if necessary, to ensure that the hourly and yearly emissions limits are not exceeded. Alternatively, the volatile content can be adjusted, as necessary, by the blending of other wastes in the tank to create a desired volatile organic content that ensures compliance.

A second method which the Lone Mountain Facility could employ would be to use pre-acceptance information and data to ascertain the volatile content of individual or aggregated waste streams. From the individual waste stream concentrations, a weighted average concentration can be calculated for a tank system based on the volumes of waste received. Based on the available analysis and other data for the waste(s), the evaporation rate and hours/days of operation will be adjusted, if necessary, to ensure that the hourly and yearly emissions limits are not exceeded. Alternatively, the volatile content can be adjusted, as necessary, by the blending of other wastes in the tank to create a desired volatile organic content that ensures compliance.

A third method which the Lone Mountain Facility could employ would be to periodically analyze incoming loads of waste to ascertain the volatile content of individual or aggregated waste streams. From the individual waste stream concentrations, a weighted average concentration can be calculated for a tank system based on the volumes of waste received. Based on the available analysis and other data for the waste(s), the evaporation rate and hours/days of operation will be adjusted, if necessary, to ensure that the hourly and yearly emissions limits are not exceeded. Alternatively, the volatile content can be adjusted, as necessary, by the blending-of other wastes in the tank to create a desired volatile organic content that ensures compliance.

9.1.3 ENGINEERING CALCULATIONS

The facility will determine emission rates from all regulated process vents at the facility using engineering calculations to demonstrate compliance with emissions limits. The facility will calculate the emission rate per hour (or year) based on the following method:

- Take the VOC content measured or determined in parts per million using Method 9060 or 8260 of SW-846, divide by one million, multiply by the density (pounds per gallon) of the liquid evaporated by the distillation unit, and multiply by the amount of liquid processed per day in gallons. This daily amount is divided by the number of hours the distillation unit operated to determine the VOC emission per hour. The VOC emission per year is calculated from the summation of the VOC emission per hour. All of the data needed to complete the calculations will be available at the facility as part of the facility operating record.

When the owner or operator and the Regional Administrator do not agree on determinations of vent emissions based on engineering calculations, the procedures in 40 CFR 264.1034(c) will be used to resolve the disagreement.

9.2 WASTEWATER TREATMENT SYSTEM- SUBPART BB

In accordance with 40 CFR 264.1063(d), the owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste that equals or exceeds ten (10) percent total organic carbon (TOC) by weight using prescribed analytical methods or knowledge of the nature of the hazardous waste stream or the process by which it was produced.

In accordance with 40 CFR 264.1064(k), an analysis determining the design capacity of the Wastewater Treatment System is recorded in the facility operating record. As the hazardous waste influent to the Wastewater Treatment System will be limited to less than 10 percent TOC by weight, a determination is not required as to whether the influent and/or effluent hazardous waste is a heavy liquid. The information to limit the TOC content of hazardous waste for storage and/or treatment at the Wastewater Treatment System to less than 10 percent TOC by weight is recorded in the facility operating record. Up-to-date analyses and the supporting information to ensure that the Wastewater Treatment System is not subject to the requirements in 40 CFR 264.1052 through 264.1060 are also recorded in the facility operating record.

A summary of the implementation of the Lone Mountain Facility procedures and analytical methods to ensure compliance with this rule is provided herein.

9.2.1 WASTE SCREENING PROCEDURES

In addition to the waste screening procedures specified in Section 5.0 of this plan, the following procedures have been developed to determine the acceptability of specific wastes at the Lone Mountain Facility Wastewater Treatment System and to ensure compliance with the 40 CFR Part

264, Subpart BB requirements. Process information and chemical composition data detailed on the HWPS is screened carefully to determine if any organic constituents are a part of the waste. This evaluation alone may determine if a hazardous waste stream will be considered for management at the Wastewater Treatment System.

If the HWPS or laboratory analysis indicates the possibility of the TOC content being equal to or greater than 10 percent by weight, a waste acceptance decision may be issued for approval to the Wastewater Treatment System with a restriction placed on the hazardous waste stream that it must contain less than 10 percent TOC upon load arrival. New waste streams that the HWPS indicates little or no TOC or significantly high amounts (e.g., 30 percent TOC) may not be analyzed by the laboratory. The approval/denial decision may be based on the HWPS alone.

Analyses are provided by the laboratory to augment or verify pre-existing waste identifications and to comply with facility acceptance criteria. Should laboratory analysis be required to determine if the hazardous waste stream will qualify for management at the Wastewater Treatment System, the waste stream is subjected to analysis using either Method 9060 or 8260 of SW-846. Additional methods may be employed per 40 CFR 264.1063(d).

An example of waste which would have little or no TOC content is a metal etching acid. Since the waste does not encounter organic substances during the metal etching process, it would not be expected to have a significant TOC content. Should the waste display significant organic content in the pre-acceptance sample, it may be analyzed for TOC content to determine if the waste exceeds the limitations established.

9.2.2 INCOMING LOAD PROCEDURES

In addition to the incoming load procedures as specified in Section 6.0, the following procedures have been developed to determine if each load of hazardous waste destined for the Lone Mountain Facility Wastewater Treatment System is acceptable and to ensure compliance with the 40 CFR Part 264 Subpart BB requirements. With respect to the Wastewater Treatment System, hazardous waste streams which indicate by inspection, sampling, and/or analysis to have a TOC content equal to or greater than ten (10) percent by weight will not be accepted for storage and/or treatment at the Wastewater Treatment System. For example, the pre-acceptance information and/or analysis may demonstrate the TOC content of a waste stream was less than 10 percent by weight. Upon load arrival, the waste would be inspected and sampled in accordance with this plan, and if it appears to contain significant amounts of organic substances (e.g., phase separation), the waste may be rejected for storage and/or treatment at the Wastewater Treatment System based on the inspection and sampling alone. If the TOC content is questionable, the waste may be analyzed by either Method 9060 or 8260 of SW-846. The waste acceptance decision would then be based on the analysis.

If a received load of hazardous waste is found to contain a TOC content equal to or greater than 10 percent by weight, the waste may be reevaluated for acceptance by the facility despite the variance, based on the criteria in Section 6.0. Should the waste not be acceptable for an alternative method of

handling at the Lone Mountain Facility, the waste will be returned to the generator or shipped off-site to an appropriate facility.

9.3 HAZARDOUS WASTE FUEL MANAGEMENT- SUBPART BB

Hazardous waste fuels can be managed in two (2) tanks, D-1 and D-2, at the Lone Mountain Facility. Should additional units be added in the future and used to manage hazardous waste fuels, this portion of the WAP will also apply to those units. Wastes managed in the hazardous waste fuels program under Subpart BB are automatically assumed to be in excess of 10% TOC and in light liquid service: This assumption is validated partly by the minimum Btu required for acceptance into the fuel tanks (e.g., 5000 Btu/pound). Wastes with high concentrations of water (>40%) are normally unacceptable for fuels because of the limitations imposed by burners (e.g., cement kilns). The tanks will usually contain some volatile organic solvents qualifying as light liquids under Subpart BB. These conservative assumptions will subject the affected equipment to the more stringent regulatory standards for light liquid service under Subpart BB.

In accordance with 40 CFR 264.1050(d), the affected equipment associated with the hazardous waste fuels management system will be marked in a manner that it is readily distinguished from other pieces of equipment. The system will employ tags, but other equivalent marketing methods may be employed in the future.

9.3.1 WASTE SCREENING PROCEDURES

In addition to the waste screening procedures specified in Section 5.0 of this plan, the following procedures have been developed to determine the acceptability of specific wastes into the Lone Mountain Facility Hazardous Waste Fuels Management program and to ensure compliance with the 40 CFR Part 264, Subpart BB requirements. Process information as well as chemical composition data detailed on the HWPS is screened carefully to determine if sufficient organic constituents are a part of the waste. The HWPS is also screened carefully to determine if the waste can meet the minimum criteria to be managed in the hazardous waste fuels program (Section 4.4.13). Analyses are provided by the laboratory to augment or verify pre-existing waste identifications and to comply with other facility acceptance criteria (e.g. pumpability, waste codes, etc.). The final acceptance/denial decision is based on HWPS information and/or the laboratory analysis to determine if the waste has sufficient organic content as well as adequate heat content (e.g., above 5,000 Btu/pound).

9.3.2 INCOMING LOAD PROCEDURES

In addition to the incoming load procedures specified in Section 6.0, the following procedures have been developed to determine if each load of hazardous waste destined for the Lone Mountain Facility Hazardous Waste Fuels Management program is acceptable and to ensure compliance with the 40 CFR Part 264, Subpart BB requirements.

With respect to the Hazardous Waste Fuels Management program, hazardous waste streams that indicate by inspection, sampling, and/or analysis to have heat content less than 5,000 Btu/pound will not be accepted for storage and/or treatment in the Hazardous Waste Fuel Management tanks.

If a received load of hazardous waste is found to contain an insufficient heat content (e.g., less than 5,000 Btu/pound), the waste may be reevaluated for acceptance by the facility despite the variance, based on the criteria in Section 6.0. Should the waste not be acceptable for an alternative method of handling at the Lone Mountain Facility, the waste will be returned to the generator or shipped off-site to an appropriate facility.

9.4 TANKS- SUBPART CC

In accordance with 40 CFR 264.1084, if a non-exempt hazardous waste that contains greater than or equal to 500 ppmw VOC enters a tank, the owner or operator of the facility must manage that tank under the Subpart CC requirements after the effective date of the rule, unless the tank is subject to an implementation plan. Currently, the Lone Mountain Facility plans not to manage wastes subject to Subpart CC controls after the effective date of the rule, unless the EPA promulgates changes to the rule which allow alternative control or demonstration options. If this occurs, the facility may establish an implementation plan for compliance with the control requirements applicable to wastes containing greater than or equal to 500 ppmw VOCs. In the event that the facility chooses to manage wastes containing greater than or equal to 500 ppmw VOCs, compliance with the applicable requirements will be ensured, and the permit will be modified, as necessary.

For now, the hazardous waste entering the tanks will be limited to <500 ppmw VOCs for non-exempt wastes, and the tanks will not be affected by the standards found in 40 CFR 264.1084. Up-to-date analyses and the supporting information will be recorded in the facility operating record to verify that the hazardous waste which enters tanks contains <500 ppmw VOCs or is exempt.

9.4.1 WASTE SCREENING PROCEDURES

In addition to the waste screening procedures specified in Section 5.0 of this plan, the following procedures have been developed to determine the acceptability of a candidate hazardous waste for storage and/or treatment in Lone Mountain Facility tanks and to ensure compliance with the 40 CFR Part 264, Subpart CC requirements. Process information and chemical composition data detailed on the HWPS is screened carefully to determine if significant organic constituents are a part of the waste. The potential customer is required to provide specific information concerning the waste determination procedures found in 40 CFR 264.1083 and/or to certify the VOC content of the waste based on direct/indirect analysis of the waste and/or knowledge of the process, materials, etc.

Analyses (e.g., TLV Sniff, TOC, etc.) are provided by the laboratory to augment or verify pre-existing waste identification and waste determination information and to comply with facility acceptance criteria. Should specific laboratory analysis be required to determine if the hazardous waste stream will qualify for management in a tank, the waste stream is subject to analysis using Method 25D, as

modified, of 40 CFR Part 60, Appendix A or alternative method(s) approved by the EPA for compliance with 40 CFR Parts 264 or 265, Subpart CC.

If the HWPS, laboratory analysis, or the Subpart CC waste determination information indicates the possibility of a VOC content greater than or equal to 500 ppmw, a waste acceptance decision may be issued for approval for storage of the waste in a tank with a restriction placed on the hazardous waste stream that it must contain <500 ppmw VOC upon load arrival. New waste streams for which the HWPS indicates little or no VOCs or significantly high amounts (e.g., 30 percent VOC) may not be analyzed by the laboratory. The approval/denial decision may be based on the HWPS and/or generator information alone.

In addition, and as required by the regulations, the generator must provide an update of the waste determination information every twelve (12) months to ensure Subpart CC waste is properly managed. An example of a waste which would have little or no VOC content is a metal-contaminated soil. Since the soil is contaminated only with an inorganic substance, it would not be expected to have a significant VOC content.

9.4.2 INCOMING LOAD PROCEDURES

In addition to the incoming load procedures specified in Section 6.0, the following procedures have been developed to determine if each load of hazardous waste destined for Lone Mountain Facility tanks is acceptable and to ensure compliance with the 40 CFR Part 264, Subpart CC requirements.

If a received load of hazardous waste is found to contain greater than or equal to 500 ppmw VOC content, the waste may be reevaluated for acceptance by the facility despite the variance, based on the criteria in Section 6.0. Should the waste not be acceptable for an alternative method of handling at the Lone Mountain Facility, the waste will be returned to the generator or shipped offsite to an appropriate facility.

9.5 CONTAINERS- SUBPART CC

In accordance with 40 CFR 264.1084, if non-exempt hazardous waste that contains greater than or equal to 500 ppmw VOC is placed into a container, the container must be managed under 40 CFR 264.1086 for containers and 40 CFR 264.1088 for the inspection of those containers. As previously stated, it is possible for a hazardous waste to contain greater than or equal to 500 ppmw VOCs and not require further treatment to meet the LDR found in 40 CFR Part 268. Alternatively, the waste may be shipped offsite for treatment/disposal (e.g., incineration). If a container that contains a hazardous waste that meets the above criteria is stored at the Container Management Building or Drum Dock, it will be managed in accordance with 40 CFR 264.1086 and 264.1088 prior to disposal in a landfill or being shipped off-site. Up-to-date analyses and the supporting information will be recorded in the facility operating record to verify that the waste is in compliance with the regulations.

9.5.1 WASTE SCREENING PROCEDURES

In addition to the waste screening procedures specified in Section 5.0 of this plan, the following procedures have been developed to determine the acceptability of a candidate hazardous waste for storage at the Lone Mountain Facility Container Management Building or Drum Dock and to ensure compliance with the 40 CFR Part 264, Subpart CC requirements.

Process information and chemical composition data is detailed on the HWPS and screened carefully to determine if significant organic constituents are a part of the waste. The potential customer is required to provide specific information concerning the waste determination procedures found in 40 CFR 264.1083 and/or to certify the VOC content of the waste based on direct/indirect analysis of the waste and/or knowledge of the process, materials, etc.

Analyses (e.g., TLV Sniff, TOC, etc.) are provided by the laboratory to augment or verify pre-existing waste identification and waste determination information and to comply with facility acceptance criteria. Should specific laboratory analysis be required to determine if the hazardous waste stream contains VOCs,-the waste stream is-subject to analysis using Method 25D, as modified, of 40 CFR Part 60, Appendix A or alternative method(s) approved by the EPA for compliance with 40 CFR Parts 264 or 265, Subpart CC.

If the HWPS, laboratory analyses, or the Subpart CC waste determination information indicates the possibility of a VOC content greater than or equal to 500 ppmw, a waste acceptance decision may be issued for storage of the waste in a container storage area with a restriction that the waste must be placed in a DOT-approved container having a capacity of less than one hundred and nineteen (<119) gallons. New waste streams for which the HWPS indicates little or no VOCs or significant high concentrations (e.g., 30 percent VOC) may not be analyzed by the laboratory. The approval/denial decision may be based on the HWPS and/or generator information alone.

In addition, the generator must provide an update of the waste determination information every twelve (12) months to ensure Subpart CC waste is properly managed.

An example of a waste which could have a VOC content greater than or equal to 500 ppmw VOC and still be managed in a container storage area is an organic-contaminated soil. A container with organic-contaminated soil could be stored is a 55-gallon size DOT approved container. It would be stored in the container storage area prior to the container being disposed directly in the landfill or shipped off-site for treatment/disposal.

9.5.2 INCOMING LOAD PROCEDURES

In-addition to the incoming load procedures specified in Section 6.0, the following procedures have been developed to determine if each load of hazardous waste destined for storage at the Lone Mountain Facility Container Management Building or Drum Dock is acceptable and to ensure compliance with the 40 CFR Part 264 Subpart CC requirements.

If a received load of hazardous waste is found to contain greater than or equal to 500 ppmw VOC content and does not meet the land disposal' restrictions found in 40 CFR Part 268, the hazardous waste may be reevaluated for acceptance by the facility despite the variance, based on the criteria in Section 6.0. Should the waste not be acceptable for an alternative method of handling at the Lone Mountain Facility, the waste will be returned to the generator or shipped off-site to an appropriate facility.

9.6 RECORDKEEPING

As required by regulations and permits, the facility operating record will demonstrate compliance through records and results of waste analyses and trial tests performed as specified by this plan and 40 CFR 264.1063 and 264.1083. These records will be maintained as part of the facility operating record until closure of the facility.

The waste screening records are a part of the facility operating record and include, but are not limited to, the records as indicated for Section 5.0 and 9.0 of this plan.

The incoming load records are a part of the facility operating record and are described in Section 6.0 of this plan. Should an incoming load demonstrate nonconformance with the pre-approval decision, the details of analytical results, as required, and final disposition of the waste are included as part of the incoming load record.

Records of equipment types, identification numbers, locations, inspections, repairs, emission estimates, etc., required under Subparts AA, BB, and CC will also be maintained, as necessary, in the facility operating record.

APPENDIX A

HAZARDOUS WASTES ACCEPTED BY PROCESS TYPE

Appendix A - Waste Code List

S01 (Container Storage), S02 (Tank Storage), T01 (Tank Treatment), and D80 (Landfill Cell Disposal)

"D" Codes	"F" Codes	"K" Codes			"P" Codes			"U" Codes	
D001	F001	K001	K045	K116	P001	P048	P102	U001	U046
D002	F002	K002	K046	K117	P002	P049	P103	U002	U047
D003	F003	K003	K047	K118	P003	P050	P104	U003	U048
D004	F004	K004	K048	K123	P004	P051	P105	U004	U049
D005	F005	K005	K049	K124	P005	P054	P106	U005	U050
D006	F006	K006	K050	K125	P006	P056	P108	U006	U051
D007	F007	K007	K051	K126	P007	P057	P109	U007	U052
D008	F008	K008	K052	K131	P008	P058	P110	U008	U053
D009	F009	K009	K060	K132	P009	P059	P111	U009	U055
D010	F010	K010	K061	K136	P010	P060	P112	U010	U056
D011	F011	K011	K062	K141	P011	P062	P113	U011	U057
D012	F012	K013	K069	K142	P012	P063	P114	U012	U058
D013	F019	K014	K071	K143	P013	P064	P115	U014	U059
D014	F020	K015	K073	K144	P014	P065	P116	U015	U060
D015	F021	K016	K083	K145	P015	P066	P118	U016	U061
D016	F022	K017	K084	K147	P016	P067	P119	U017	U062
D017	F023	K018	K085	K148	P017	P068	P120	U018	U063
D018	F024	K019	K086	K149	P018	P069	P121	U019	U064
D019	F025	K020	K087	K150	P020	P070	P122	U020	U066
D020	F026	K021	K088	K151	P021	P071	P123	U021	U067
D021	F027	K022	K093	K156	P022	P072	P127	U022	U068
D022	F028	K023	K094	K157	P023	P073	P128	U023	U069
D023	F032	K024	K095	K158	P024	P074	P185	U024	U070
D024	F034	K025	K096	K159	P026	P075	P188	U025	U071
D025	F035	K026	K097	K161	P027	P076	P189	U026	U072
D026	F037	K027	K098	K169	P028	P077	P190	U027	U073
D027	F038	K028	K099	K170	P029	P078	P191	U028	U074
D028	F039	K029	K100	K171	P030	P081	P192	U029	U075
D029		K030	K101	K172	P031	P082	P194	U030	U076
D030		K031	K102	K174	P033	P084	P196	U031	U077
D031		K032	K103	K175	P034	P085	P197	U032	U078
D032		K033	K104	K176	P036	P087	P198	U033	U079
D033		K034	K105	K177	P037	P088	P199	U034	U080
D034		K035	K106	K178	P038	P089	P201	U035	U081
D035		K036	K107	K181	P039	P092	P202	U036	U082
D036		K037	K108		P040	P093	P203	U037	U083
D037		K038	K109		P041	P094	P204	U038	U084
D038		K039	K110		P042	P095	P205	U039	U085
D039		K040	K111		P043	P096		U041	U086
D040		K041	K112		P044	P097		U042	U087
D041		K042	K113		P045	P098		U043	U088
D042		K043	K114		P046	P099		U044	U089
D043		K044	K115		P047	P101		U045	U090

Appendix A - Waste Code List

S01 (Container Storage), S02 (Tank Storage), T01 (Tank Treatment), and D80 (Landfill Cell Disposal)

"U" Codes			
U091	U136	U181	U234
U092	U137	U182	U235
U093	U138	U183	U236
U094	U140	U184	U237
U095	U141	U185	U238
U096	U142	U186	U239
U097	U143	U187	U240
U098	U144	U188	U243
U099	U145	U189	U244
U101	U146	U190	U246
U102	U147	U191	U247
U103	U148	U192	U248
U105	U149	U193	U249
U106	U150	U194	U271
U107	U151	U196	U278
U108	U152	U197	U279
U109	U153	U200	U280
U110	U154	U201	U328
U111	U155	U202	U353
U112	U156	U203	U359
U113	U157	U204	U364
U114	U158	U205	U367
U115	U159	U206	U372
U116	U160	U207	U373
U117	U161	U208	U387
U118	U162	U209	U389
U119	U163	U210	U394
U120	U164	U211	U395
U121	U165	U213	U404
U122	U166	U214	U409
U123	U167	U215	U410
U124	U168	U216	U411
U125	U169	U217	
U126	U170	U218	
U127	U171	U219	
U128	U172	U220	
U129	U173	U221	
U130	U174	U222	
U131	U176	U223	
U132	U177	U225	
U133	U178	U226	
U134	U179	U227	
U135	U180	U228	

APPENDIX B

TYPICAL LDR NOTIFICATION/CERTIFICATION FORMS

LDR NOTIFICATION FORM

Generator Name _____ **Manifest No.** _____

Pursuant to 40 CFR §268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268 Land Disposal Restrictions (LDR).

A. GENERAL WASTE NOTIFICATION

Form Line No.	SK Profile No.	EPA Waste Codes & LDR Subcategories (if any) *List codes or use Attachment 1*	NWW	WW	Waste Constituent Notification *Check the "None" box or List Legend Constituent # or use Attachment 2*
1		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used
2		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used
3		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used
4		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used
5		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used
6		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used

B. HAZARDOUS DEBRIS NOTIFICATION

☐ This hazardous debris, as identified above on Line No(s). _____ is subject to the alternative treatment standards of 40 CFR §268.45.
The waste contains the following contaminants subject to treatment (check all that apply):
☐ Toxicity characteristic debris ☐ Debris contaminated with listed waste ☐ Cyanide reactive debris

C. CONTAMINATED SOIL NOTIFICATION & CERTIFICATION

☐ This contaminated soil, as identified above on Line No(s). _____ is subject to the alternative treatment standards of 40 CFR §268.49(c).
Complete the following: "I certify under penalty of law that I personally have examined this contaminated soil & it [☐ does/ ☐ does not] contain listed hazardous waste & [☐ does / ☐ does not] exhibit a characteristic of hazardous waste & [☐ is subject to / ☐ complies with] soil treatment standards as provided by §268.49(c) or the universal treatment standards". *Note: Constituents subject to treatment are any constituents listed in 40 CFR §268.48 Universal Treatment Standards that are reasonably expected to be present in any given volume of contaminated soil, except fluoride, selenium, sulfides, vanadium & zinc, & are present at concentrations greater than ten times the universal treatment standard.*

D. LAB PACK (INCINERATION) NOTIFICATION & CERTIFICATION

☐ This lab pack, as identified above on Line No(s). _____ is subject to the alternative treatment standards of 40 CFR §268.42(c).
"I certify under penalty of law that I personally have examined & am familiar with the waste & that the lab pack contains only wastes that have not been excluded under Appendix IV to 40 CFR Part 268 & that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR §268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment".

E. EXTENSIONS & VARIANCES

☐ This waste, as identified above on Line No(s). _____ is not prohibited from land disposal & is subject to a deadline extension or variance, e.g., treatability variance, case-by-case extension. *Describe below any extension or variance that applies to this waste & include applicable dates:*

_____ _____ _____ / _____ / _____
Generator's Authorized Signature | Name & Title (Printed or Typed) | Date

safety-kleen

NOTIFICATION & CERTIFICATION: RESTRICTED WASTE MEETING TREATMENT STANDARDS

Generator Name _____ **Manifest No.** _____

Pursuant to 40 CFR §268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268 Land Disposal Restrictions (LDR).
Basis for certification: Describe the knowledge upon which the certification is made and/or attach the most recent analytical data: ☐ Analytical data attached

A. GENERAL WASTE NOTIFICATION

Form Line No.	SK Profile No.	EPA Waste Codes & LDR Subcategories (if any) *List codes or use Attachment 1*	NWW	WW	Waste Constituent Notification *Check the "None" box or List Legend Constituent # or use Attachment 2*
1		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used
2		_____ _____ ☐ Check if Attachment 1 has been used	☐	☐	_____ _____ ☐ None ☐ Check if Attachment 2 has been used

B. GENERATOR WASTE CERTIFICATION - 40 CFR §268.7(a)(3)(i)

☐ *This certification applies to the waste identified above on Form Line No.* _____. "I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment".
☐ Check if this waste partially meets treatment standards & list the constituent(s) which require further treatment in section A above.

C. WASTE TREATMENT TECHNOLOGY & PROCESS CERTIFICATION - 40 CFR §268.7(b)(4)

☐ *This certification applies to the waste identified above on Form Line No.* _____. "I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR §268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment".
☐ Check if this waste partially meets treatment standards & list the constituent(s) which require further treatment in section A above.

D. CONTAMINATED SOIL TREATMENT TECHNOLOGY & PROCESS CERTIFICATION - 40 CFR §268.7(b)(4)

☐ *This certification applies to the waste identified above on Form Line No.* _____. "I certify under penalty of law that I have personally examined & am familiar with the treatment technology & operation of the treatment process used to support this certification & believe that it has been maintained & operated properly so as to comply with treatment standards specified in 40 CFR §268.49 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine & imprisonment".

E. CONCENTRATION-BASED CERTIFICATION FOR INCINERATION/FUEL SUBSTITUTION RESIDUES - 40 CFR §268.7(b)(4)(iii)

☐ *This certification applies to the waste identified above on Form Line No.* _____. "I certify under penalty of law that I have personally examined & am familiar with the treatment technology & operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 40 CFR §268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware there are significant penalties for submitting a false certification, including the possibility of fine & imprisonment". ☐ Check if this waste partially meets treatment standards & list the constituent(s) which require further treatment in section A above.

F. WASTE TREATED TO REMOVE CHARACTERISTICS (but not UHCs) - 40 CFR §268.7(b)(4)(iv)

☐ *This certification applies to the waste identified above on Form Line No.* _____. Note: *I have identified the underlying hazardous constituents that require further treatment in Section A - Waste Constituent Notification of this form or in Attachment 2.* "I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR §268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine & imprisonment".

G. WASTE TREATED TO REMOVE CHARACTERISTICS & UHCs - 40 CFR §268.7(b)(4)(v)

☐ *This certification applies to the waste identified above on Form Line No.* _____. "I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR §268.40 to remove the hazardous characteristic, & that underlying hazardous constituents , as defined in §268.2(i), have been treated on-site to meet the §268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine & imprisonment".

H. DEBRIS TREATED TO MEET ALTERNATIVE STANDARDS - 40 CFR §268.7(d)(3)(iii)

☐ *This certification applies to the waste identified above on Form Line No.* _____. "I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR §268.45. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine & imprisonment".

_____ _____ _____ / _____ / _____
Generator's Authorized Signature | Name & Title (Printed or Typed) | Date

UNIVERSAL TREATMENT STANDARDS LEGEND

Inorganic Constituents

Legend #	Constituent	WW (Total)	NWW (Total)	Legend #	Constituent	WW (Total)	NWW (Total)	Legend #	Constituent	WW (Total)	NWW (Total)	Legend #	Constituent	WW (Total)	NWW (Total)
246	Antimony	1.9 mg/l	1.15 mg/l TCLP	251	Chromium (Total)	2.77 mg/l	0.6 mg/l TCLP	256	Mercury - NWW from Retort	n.a.	0.20 mg/l TCLP	261	Sulfide	14.0 mg/l	n.a.
247	Arsenic	1.4 mg/l	5.0 mg/l TCLP	252	Cyanides (Total)	1.2 mg/l	590 mg/kg	257	Mercury - All others	0.15 mg/l	0.025 mg/l TCLP	262	Thallium	1.4 mg/l	0.2 mg/l TCLP
248	Barium	1.2 mg/l	21.0 mg/l TCLP	253	Cyanides (Amenable)	0.86 mg/l	30 mg/kg	258	Nickel	3.98 mg/l	11.0 mg/l TCLP	263	Vanadium	4.3 mg/l	1.6 mg/l TCLP
249	Beryllium	0.82 mg/l	1.22 mg/l TCLP	254	Fluoride	35 mg/l	n.a.	259	Selenium	0.82 mg/l	5.7 mg/l TCLP	264	Zinc	2.61 mg/l	4.3 mg/l TCLP
250	Cadmium	0.69 mg/l	0.11 mg/l TCLP	255	Lead	0.69 mg/l	0.75 mg/l TCLP	260	Silver	0.43 mg/l	0.14mg/l TCLP				

Organic Constituents

Legend #	Constituent	WW (Total)	NWW (Total)	Legend #	Constituent	WW (Total)	NWW (Total)	Legend #	Constituent	WW(Total)	NWW (Total)
49	Acenaphthylene	0.059 mg/l	3.4 mg/kg	116	m-Dichlorobenzene	0.036 mg/l	6.0 mg/kg	181	3-Methylcholanthrene	0.0055 mg/l	15.0 mg/kg
50	Acenaphthene	0.059 mg/l	3.4 mg/kg	117	o-Dichlorobenzene	0.088 mg/l	6.0 mg/kg	182	4,4-Methylene bis(2-chloro-aniline)	0.50 mg/l	30.0 mg/kg
51	Acetone	0.28 mg/l	160 mg/kg	118	p-Dichlorobenzene	0.090 mg/l	6.0 mg/kg	183	Methylene chloride	0.089 mg/l	30.0 mg/kg
52	Acetonitrile	5.6mg/l	38.0 mg/kg	119	Dichlorodifluoromethane	0.23 mg/l	7.2 mg/kg	281	Metolcarb	0.056 mg/l	1.4 mg/kg
53	Acetophenone	0.010 mg/l	9.7 mg/kg	120	1,1-Dichloroethane	0.059 mg/l	6.0 mg/kg	282	Mexacarbate	0.056 mg/l	1.4 mg/kg
54	2-Acetylaminofluorene	0.059mg/l	140 mg/kg	121	1,2-Dichloroethane	0.21 mg/l	6.0 mg/kg	283	Molinate	0.042 mg/l	1.4 mg/kg
55	Acrolein	0.29 mg/l	n.a.	122	1,1-Dichloroethylene	0.025 mg/l	6.0 mg/kg	189	Naphthalene	0.059 mg/l	5.6 mg/kg
56	Acrylamide	19.0 mg/l	23.0 mg/kg	123	trans-1,2-Dichloroethylene	0.054 mg/l	30.0 mg/kg	190	2-Naphthylamine	0.52 mg/l	n.a.
57	Acrylonitrile	0.24 mg/l	84.0 mg/kg	124	2,4-Dichlorophenol	0.044 mg/l	14.0 mg/kg	191	o-Nitroaniline	0.27 mg/l	14.0 mg/kg
265	Aldicarb sulfone	0.056 mg/l	0.28 mg/kg	125	2,6-Dichlorophenol	0.044 mg/l	14.0 mg/kg	192	p-Nitroaniline	0.028 mg/l	28.0 mg/kg
58	Aldrin	0.021 mg/l	0.066 mg/kg	107	2,4-D (2,4-Dichlorophenoxy-acetic acid)	0.72 mg/l	10.0 mg/kg	193	Nitrobenzene	0.068 mg/l	14.0 mg/kg
59	4-Aminobiphenyl	0.13 mg/l	n.a.	126	1,2-Dichloropropane	0.85 mg/l	18.0 mg/kg	194	5-Nitro-o-toluidine	0.32 mg/l	28.0 mg/kg
60	Aniline	0.81 mg/l	14.0 mg/kg	127	cis-1,3-Dichloropropylene	0.036 mg/l	18.0 mg/kg	195	o-Nitrophenol	0.028 mg/l	13.0 mg/kg
62	Aramite	0.36 mg/l	n.a.	129	Dieldrin	0.017 mg/l	0.13 mg/kg	33	2-Nitropropane*	***	CMBST
266	Barban	0.056 mg/l	1.4 mg/kg	130	Diethyl phthalate	0.20 mg/l	28.0 mg/kg	196	p-Nitrophenol	0.12 mg/l	28.0 mg/kg
267	Bendiocarb	0.056 mg/l	1.4 mg/kg	140	p-Dimethylaminoazobenzene	0.13 mg/l	n.a.	198	N-Nitrosodimethylamine	0.40 mg/l	2.3 mg/kg
268	Benomyl	0.056 mg/l	1.4 mg/kg	131	2-4-Dimethyl phenol	0.036 mg/l	14.0 mg/kg	199	N-Nitroso-di-n-butylamine	0.40 mg/l	17.0 mg/kg
68	Benz(a)anthracene	0.059 mg/l	3.4 mg/kg	132	Dimethyl phthalate	0.047 mg/l	28.0 mg/kg	200	N-Nitrosomethylethylamine	0.40 mg/l	2.3 mg/kg
69	Benzal chloride	0.14 mg/l	10.0 mg/kg	134	1,4-Dinitrobenzene	0.32 mg/l	2.3 mg/kg	201	N-Nitrosomorpholine	0.40 mg/l	2.3 mg/kg
70	Benzo(b)fluoranthene	0.11 mg/l	6.8 mg/kg	135	4,6-Dinitro-o-cresol	0.28 mg/l	160.0 mg/kg	202	N-Nitrosopiperidine	0.013 mg/l	35.0 mg/kg
71	Benzo(k) fluoranthene	0.11 mg/l	6.8 mg/kg	136	2,4-Dinitrophenol	0.12 mg/l	160.0 mg/kg	284	Oxamyl	0.056 mg/l	0.28 mg/kg
72	Benzo(g,h,i) fluoranthene	0.0055 mg/l	1.8 mg/kg	137	2,4-Dinitrotoluene	0.32 mg/l	140.0 mg/kg	204	Parathion	0.014 mg/l	4.6 mg/kg
73	Benzo(a)pyrene	0.061 mg/l	3.4 mg/kg	138	2,6-Dinitrotoluene	0.55 mg/l	28.0 mg/kg	205	Total PCBs	0.10 mg/l	10.0 mg/kg
63	alpha-BHC	0.00014 mg/l	0.066 mg/kg	139	Di-n-octyl phthalate	0.017 mg/l	28.0 mg/kg	285	Pebulate	0.042 mg/l	1.4 mg/kg
64	beta-BHC	0.00014 mg/l	0.066 mg/kg	141	Di-n-propylnitrosamine	0.40 mg/l	14.0 mg/kg	206	Pentachlorobenzene	0.055 mg/l	10.0 mg/kg
65	delta-BHC	0.023 mg/l	0.066 mg/kg	142	1,4-Dioxane	n.a.	170.0 mg/kg	207	PeCDDs (All Pentachloro- dibenzo-p-dioxins)	0.000063 mg/l	0.001 mg/kg
66	gamma-BHC	0.0017 mg/l	0.066 mg/kg	143	Diphenylamine	0.92 mg/l	13.0 mg/kg	208	PeCDFs (All Pentachloro- dibenzofurans)	0.000035 mg/l	0.001 mg/kg
74	Bromodichloromethane	0.35 mg/l	15.0 mg/kg	144	Diphenylnitrosamine	0.92 mg/l	13.0 mg/kg	209	Pentachloroethane	0.055 mg/l	6.0 mg/kg
75	Bromomethane (Methyl bromide)	0.11 mg/l	15.0 mg/kg	145	1,2-Diphenylhydrazine	0.087 mg/l	n.a.	210	Pentachloronitrobenzene	0.055 mg/l	4.8 mg/kg
76	4-Bromophenyl phenyl ether	0.055 mg/l	15.0 mg/kg	146	Disulfoton	0.017 mg/l	6.2 mg/kg	211	Pentachlorophenol	0.089 mg/l	7.4 mg/kg
77	n-Butyl alcohol	5.6 mg/l	2.6 mg/kg	276	Dithiocarbamates (total)	0.028 mg/l	28.0 mg/kg	212	Phenacetin	0.081 mg/l	16.0 mg/kg
78	Butyl benzyl phthalate	0.017 mg/l	28.0 mg/kg	147	Endosulfan I	0.023 mg/l	0.066 mg/kg	213	Phenanthrene	0.059 mg/l	5.6 mg/kg
269	Butylate	0.042 mg/l	1.4 mg/kg	148	Endosulfan II	0.029 mg/l	0.13 mg/kg	214	Phenol	0.039 mg/l	6.2 mg/kg
79	2-sec-Butyl-4,6- dinitrophenol (Dinoseb)	0.066 mg/l	2.5 mg/kg	149	Endosulfan sulfate	0.029 mg/l	0.13 mg/kg	215	Phorate	0.021 mg/l	4.6 mg/kg
270	Carbaryl	0.006 mg/l	0.14 mg/kg	150	Endrin	0.0028 mg/l	0.13 mg/kg	216	Phthalic acid	0.055 mg/l	28.0 mg/kg
271	Carbenzadim	0.056 mg/l	1.4 mg/kg	151	Endrin aldehyde	0.025 mg/l	0.13 mg/kg	217	Phthalic anhydride	0.055 mg/l	28.0 mg/kg
272	Carbofuran	0.006 mg/l	0.14 mg/kg	277	EPTC	0.042 mg/l	1.4 mg/kg	286	Physostigmine	0.056 mg/l	1.4 mg/kg
273	Carbofuran phenol	0.056 mg/l	1.4 mg/kg	32	2-Ethoxyethanol*	**	CMBST	287	Physostigmine salicylate	0.056 mg/l	1.4 mg/kg
80	Carbon disulfide	3.8 mg/l	4.8 mg/l TCLP	152	Ethyl acetate	0.34 mg/l	33.0 mg/kg	288	Promecarb	0.056 mg/l	1.4 mg/kg
81	Carbon tetrachloride	0.057 mg/l	6.0 mg/kg	154	Ethyl benzene	0.057 mg/l	10.0 mg/kg	218	Pronamide	0.093 mg/l	1.5 mg/kg
274	Carbosulfan	0.028 mg/l	1.4 mg/kg	153	Ethyl cyanide (Propanenitrile)	D.24 mg/l	360.0 mg/kg	289	Propham	mg/l	mg/kg
82	Chlordane (alpha & gamma isomers)	0.0033 mg/l	0.26 mg/kg	155	Ethyl ether	0.12 mg/l	160.0 mg/kg	290	Propoxur	0.056 mg/l	1.4 mg/kg
83	p-Chloroaniline	0.46 mg/l	16.0 mg/kg	157	Ethyl methacrylate	0.14 mg/l	160.0 mg/kg	291	Prosulfocarb	0.056 mg/l	1.4 mg/kg
84	Chlorobenzene	0.057 mg/l	6.0 mg/kg	158	Ethylene oxide	0.12 mg/l	n.a.	219	Pyrene	0.067 mg/l	8.2 mg/kg
85	Chlorobenzilate	0.10 mg/l	n.a.	156	bis(2-Ethylhexyl) phthalate	0.28 mg/l	28.0 mg/kg	220	Pyridine	0.014 mg/l	16.0 mg/kg
86	2-Chloro-1,3-butadiene	0.057 mg/l	0.28 mg/kg	159	Famphur	0.017 mg/l	15.0 mg/kg	221	Safrole	0.081 mg/l	22.0 mg/kg
87	Chlorodibromomethane	0.057 mg/l	15.0 mg/kg	160	Fluoranthene	0.068 mg/l	3.4 mg/kg	222	Silvex (2,4,5-TP)	0.72 mg/l	7.9 mg/kg
88	Chloroethane	0.27 mg/l	6.0 mg/kg	161	Fluorene	0.059 mg/l	3.4 mg/kg	225	TCDDs (All Tetrachloro- dibenzo-p-dioxins)	0.000063 mg/l	0.001 mg/kg
89	bis(2- Chloroethoxy) methane	0.036 mg/l	7.2 mg/kg	278	Formetanate hydrochloride	0.056 mg/l	1.4 mg/kg	226	TCDFs (All Tetrachloro- dibenzofurans)	0.000063 mg/l	0.001 mg/kg
90	bis(2-Chloroethyl)ether	0.033 mg/l	6.0 mg/kg	162	Heptachlor	0.0012 mg/l	0.066 mg/kg	224	1,2,4,5-Tetrachlorobenzene	0.055 mg/l	14.0 mg/kg
94	2-Chloroethyl vinyl ether	0.062 mg/l	n.a.	163	Heptachlor epoxide	0.016 mg/l	0.066 mg/kg	227	1,1,1,2-Tetrachloroethane	0.057 mg/l	6.0 mg/kg
91	Chloroform	0.046 mg/l	6.0 mg/kg	164	Hexachlorobenzene	0.055 mg/l	10.0 mg/kg	228	1,1,2,2,-Tetrachloroethane	0.057 mg/l	6.0 mg/kg
92	bis(2-Chloroisopropyl)ether	0.055 mg/l	7.2 mg/kg	165	Hexachlorobutadiene	0.055 mg/l	5.6 mg/kg	229	Tetrachloroethylene	0.056 mg/l	6.0 mg/kg
93	p-Chloro-m-cresol	0.018 mg/l	14.0 mg/kg	166	Hexachlorocyclopentadiene	0.057 mg/l	2.4 mg/kg	230	2,3,4,6-Tetrachlorophenol	0.030 mg/l	7.4 mg/kg
95	Chloromethane (Methyl chloride)	0.19 mg/l	30.0 mg/kg	169	Hexachloroethane	0.055 mg/l	30.0 mg/kg	292	Thiodicarb	0.019 mg/l	1.4 mg/kg
96	2-Chloronaphthalene	0.055 mg/l	5.6 mg/kg	170	Hexachloropropylene	0.035 mg/l	30.0 mg/kg	293	Thiophanate-methyl	0.056 mg/l	1.4 mg/kg
97	2-Chlorophenol	0.044 mg/l	5.7 mg/kg	167	HxCDDs (All Hexachloro-dibenzo-p-dioxin	0.000063 mg/l	0.001 mg/kg	231	Toluene	0.080 mg/l	10.0 mg/kg
98	3-Chloropropylene	0.036 mg/l	30.0 mg/kg	168	HxCDFs (All Hexachloro- dibenzofurans)	0.000063 mg/l	0.001 mg/kg	232	Toxaphene	0.0095 mg/l	2.6 mg/kg
99	Chrysene	0.059 mg/l	3.4 mg/kg	171	Indeno (1,2,3-c,d) pyrene	0.0055 mg/l	3.4 mg/kg	294	Triallate	0.042 mg/l	1.4 mg/kg
100	o-Cresol	0.11 mg/l	5.6 mg/kg	172	Iodomethane	0.19 mg/l	65.0 mg/kg	233	Tribromomethane (Bromoform)	0.63 mg/l	15.0 mg/kg
101	m-Cresol	0.77 mg/l	5.6 mg/kg	173	Isobutyl alcohol	5.6 mg/l	170.0 mg/kg	295	2,4,6-Tribromophenol	0.035 mg/l	7.4 mg/kg
102	p-Cresol	0.77 mg/l	5.6 mg/kg	174	Isodrin	0.021 mg/l	0.066 mg/kg	234	1,2,4-Trichlorobenzene	0.055 mg/l	19.0 mg/kg
275	m-Cumenyl methylcarbamate	0.056 mg/l	1.4 mg/kg	175	Isosafrole	0.081 mg/l	2.6 mg/kg	235	1,1,1-Trichloroethane	0.054 mg/l	6.0 mg/kg
103	Cyclohexanone	0.36 mg/l	0.75 mg/l TCLP	176	Kepone	0.001 1mg/l	0.13 mg/kg	236	1,1,2-Trichloroethane	0.054 mg/l	6.0 mg/kg
108	o,p'-DDD	0.023 mg/l	0.087 mg/kg	177	Methacrylonitrile	0.24 mg/l	84.0 mg/kg	237	Trichloroethylene	0.054 mg/l	6.0 mg/kg
109	p,p'-DDD	0.023 mg/l	0.087 mg/kg	178	Methanol	5.6 mg/l	0.75 mg/l TCLP	238	Trichloromonofluoromethane	0.020 mg/l	30.0 mg/kg
110	o,p'-DDE	0.031 mg/l	0.087 mg/kg	179	Methapyrilene	0.081 mg/l	1.5 mg/kg	239	2,4,5-Trichlorophenol	0.18 mg/l	7.4 mg/kg
111	p,p'-DDE	0.031 mg/l	0.087 mg/kg	279	Methiocarb	0.056 mg/l	1.4 mg/kg	240	2,4,6-Trichlorophenol	0.035 mg/l	7.4 mg/kg
112	o,p'-DDT	0.0039mg/l	0.087 mg/kg	280	Methomyl	0.028 mg/l	0.14 mg/kg	223	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	0.72 mg/l	7.9 mg/kg
113	p,p'-DDT	0.0039mg/l	0.087 mg/kg	180	Methoxychlor	0.25 mg/l	0.18 mg/kg	241	1,2,3-Trichloropropane	0.85 mg/l	30.0 mg/kg
114	Dibenz(a,h)anthracene	0.055 mg/l	8.2 mg/kg	184	Methyl ethyl ketone	0.28 mg/l	36.0 mg/kg	242	1,1,2-Trichloro-1,2,2,- trifluoroethane	0.057 mg/l	30.0 mg/kg
115	Dibenz(a,e)pyrene	0.061 mg/l	n.a.	185	Methyl isobutyl ketone	0.14 mg/l	33.0 mg/kg	296	Triethylamine	0.081 mg/l	1.5 mg/kg
104	1,2-Dibromo-3-chloropropane	0.11 mg/l	15.0 mg/kg	186	Methyl methacrylate	0.14 mg/l	160.0 mg/kg	243	tris-(2,3-Dibromopropyl) phosphate	0.11 mg/l	0.10 mg/kg
105	1,2-Dibromoethane (Ethylene dibromide)	0.028 mg/l	15.0 mg/kg	187	Methyl methansulfonate	0.018 mg/l	n.a.	297	Vernolate	0.042 mg/l	1.4 mg/kg
106	Dibromomethane	0.11 mg/l	15.0 mg/kg	188	Methyl parathion	0.014 mg/l	4.6 mg/kg	244	Vinyl chloride	0.27 mg/l	6.0 mg/kg
								245	Xylenes- mixed isomers	0.32 mg/l	30.0 mg/kg

** F005 wastes containing no other F001-F005 solvents.* *** WW Standard=BIODG; or CMBST.* **** WW Standard=(WETOX or CHOXD) fb CARBN; or CMBST.*

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LDR ATTACHMENT 1: EPA WASTE CODE LISTING

Note: If this form is necessary for notification purposes, it must be used in conjunction with the Notification form and/or Certification form.

Generator Name _____ Manifest No. _____

Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code
"D" Characteristic Codes											
	D001 ICW		D004		D009 HM (Organic)		D017		D026		D035
	D001 LQ (≥10% TOC)		D005		D009 HM (Inorganic)		D018		D027		D036
	D002		D006		D010		D019		D028		D037
	D0003 EX		D006 CB		D011		D020		D029		D038
	D0003 OR		D007		D012		D021		D030		D039
	D0003 RC		D008		D013		D022		D031		D040
	D0003 RS		D008 LB		D014		D023		D032		D041
	D0003 UO		D009 LM-NRR		D015		D024		D033		D042
	D0003 WR		D009 LM-RR		D016		D025		D034		D043
"F" Listed Codes											
	F001		F006		F011		F022		F027		F037
	F002		F007		F012		F023		F028		F038
	F003		F008		F019		F024		F032		F039
	F004		F009		F020		F025		F034		
	F005		F010		F021		F026		F035		
"K" Listed Codes											
	K001		K022		K043		K086		K109		K144
	K002		K023		K044		K087		K110		K145
	K003		K024		K045		K088		K111		K147
	K004		K025		K046		K093		K112		K148
	K005		K026		K047		K094		K113		K149
	K006 AN		K027		K048		K095		K114		K150
	K006 HY		K028		K049		K096		K115		K151
	K007		K029		K050		K097		K116		K156
	K008		K030		K051		K098		K117		K157
	K009		K031		K052		K099		K118		K158
	K010		K032		K060		K100		K123		K159
	K011		K033		K061		K101		K124		K161
	K013		K034		K062		K102		K125		K169
	K014		K035		K069 CS		K103		K126		K170
	K015		K036		K069 NCS		K104		K131		K171
	K016		K037		K071 RR		K105		K132		K172
	K017		K038		K071 NRR		K106 LM-RR		K136		
	K018		K039		K073		K106 LM-NRR		K140		
	K019		K040		K083		K106 HM		K141		
	K020		K041		K084		K107		K142		
	K021		K042		K085		K108		K143		
"P" Listed Codes											
	P001		P013		P027		P041		P056		P066
	P002		P014		P028		P042		P057		P067
	P003		P015		P029		P043		P058		P068
	P004		P016		P030		P044		P059		P069
	P005		P017		P031		P045		P060		P070
	P006		P018		P033		P046		P062		P071
	P007		P020		P034		P047		P063		P072
	P008		P021		P036		P048		P064		P073
	P009		P122		P037		P049		P065 NIRR		
	P010		P023		P038		P050		P065 LM-IR		
	P011		P024		P039		P051		P065 LM-RR		
	P012		P026		P040		P054		P065 HM-IRR		

Note: The Line #'s are from the Notification Form, not the hazardous waste manifest.

LDR ATTACHMENT 1: EPA WASTE CODE LISTING - PAGE 2 MANIFEST NO.:

Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code	Line #'s	EPA Code
"P" Characteristic Codes											
	P074		P089		P099		P112		P127		P198
	P075		P092 NIRR		P101		P113		P128		P199
	P076		P092 LM-IR		P102		P114		P185		P201
	P077		P092 LM-RR		P103		P115		P188		P202
	P078		P092 HM-IRR		P104		P116		P189		P203
	P081		P093		P105		P118		P190		P204
	P082		P094		P106		P119		P191		P205
	P084		P095		P108		P120		P192		
	P085		P096		P109		P121		P194		
	P087		P097		P110		P122		P196		
	P088		P098		P111		P123		P197		
"U" Listed Codes											
	U001		U045		U089		U133		U174		U221
	U002		U046		U090		U134		U176		U222
	U003		U047		U091		U135		U177		U223
	U004		U048		U092		U136		U178		U225
	U005		U049		U093		U137		U179		U226
	U006		U050		U094		U138		U180		U227
	U007		U051		U095		U140		U181		U228
	U008		U052		U096		U141		U182		U234
	U009		U053		U097		U142		U183		U235
	U010		U055		U098		U143		U184		U236
	U011		U056		U099		U144		U185		U237
	U012		U057		U101		U145		U186		U238
	U014		U058		U102		U146		U187		U239
	U015		U059		U103		U147		U188		U240 (2,4-D)
	U016		U060		U105		U148		U189		U240 (2,4-D) Salts
	U017		U061		U106		U149		U190		U243
	U018		U062		U107		U150		U191		U244
	U019		U063		U108		U151 LM-NRR		U192		U246
	U020		U064		U109		U151 LM-RR		U193		U247
	U021		U066		U110		U151 HM		U194		U248
	U022		U067		U111		U152		U196		U249
	U023		U068		U112		U153		U197		U271
	U024		U069		U113		U154		U200		U278
	U025		U070		U114		U155		U201		U279
	U026		U071		U115		U156		U202		U280
	U027		U072		U116		U157		U203		U328
	U028		U073		U117		U158		U204		U353
	U029		U074		U118		U159		U205		U359
	U030		U075		U119		U160		U206		U364
	U031		U076		U120		U161		U207		U367
	U032		U077		U121		U162		U208		U372
	U033		U078		U122		U163		U209		U373
	U034		U079		U123		U164		U210		U387
	U035		U080		U124		U165		U211		U389
	U036		U081		U125		U166		U213		U394
	U037		U082		U126		U167		U214		U395
	U038		U083		U127		U168		U215		U404
	U039		U084		U128		U169		U216		U408
	U041		U085		U129		U170		U217		U409
	U042		U086		U130		U171		U218		U410
	U043		U087		U131		U172		U219		U411
	U044		U088		U132		U173		U220		

Note: The Line #'s are from the Notification Form, not the hazardous waste manifest.

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LDR ATTACHMENT 2: WASTE CONSTITUENT NOTIFICATION

Note: If this form is necessary for notification purposes, it must be used in conjunction with the Notification form and/or Certification form.

Generator Name _____ **Manifest No.** _____

LDR Inorganic Constituents (40 CFR §268.48)

Line #'s	Constituent	Legend #	Line #'s	Constituent	Legend #	Line #'s	Constituent	Legend #
_____	Antimony	246	_____	Cyanides (Total)	252	_____	Nickel	258
_____	Arsenic	247	_____	Cyanides (Amenable)	253	_____	Selenium[1]	259
_____	Barium	248	_____	Fluoride[1]	254	_____	Silver	260
_____	Beryllium	249	_____	Lead	255	_____	Sulfide[1]	261
_____	Cadmium	250	_____	Mercury - NWW from Retort	256	_____	Thallium	262
_____	Chromium (Total)	251	_____	Mercury - All Others	257	_____	Vanadium[1]	263

LDR Inorganic Constituents (40 CFR §268.48)

Line #'s	Constituent	Legend #	Line #'s	Constituent	Legend #	Line #'s	Constituent	Legend #
_____	Acenaphthylene	49	_____	2-sec-Butyl-4,6- dinitrophenol (Dinoseb)	79	_____	o,p'-DDT	112
_____	Acenaphthene	50	_____	Carbaryl *	270	_____	p,p'-DDT	113
_____	Acetone	51	_____	Carbenzadim *	271	_____	Dibenz(a,h)anthracene	114
_____	Acetonitrile	52	_____	Carbofuran *	272	_____	Dibenz(a,e)pyrene	115
_____	Acetophenone	53	_____	Carbofuran phenol *	273	_____	1,2-Dibromo-3-chloropropane	104
_____	2-Acetylaminofluorene	54	_____	Carbon disulfide	80	_____	1,2-Dibromoethane (Ethylene dibromide)	105
_____	Acrolein	55	_____	Carbon tetrachloride	81	_____	Dibromomethane	106
_____	Acrylamide *	56	_____	Carbosulfan *	274	_____	m-Dichlorobenzene	116
_____	Acrylonitrile	57	_____	Chlordane (alpha & gamma isomers)	82	_____	o-Dichlorobenzene	117
_____	Aldicarb sulfone *	265	_____	p-Chloroaniline	83	_____	p-Dichlorobenzene	118
_____	Aldrin	58	_____	Chlorobenzene	84	_____	Dichlorodifluoromethane	119
_____	4-Aminobiphenyl	59	_____	Chlorobenzilate	85	_____	1,1-Dichloroethane	120
_____	Aniline	60	_____	2-Chloro-1,3-butadiene	86	_____	1,2-Dichloroethane	121
_____	Anthracene	61	_____	Chlorodibromomethane	87	_____	1,1-Dichloroethylene	122
_____	Aramite	62	_____	Chloroethane	88	_____	trans-1,2-Dichloroethylene	123
_____	Barban *	266	_____	bis(2- Chloroethoxy) methane	89	_____	2,4-Dichlorophenol	124
_____	Bendiocarb *	267	_____	bis(2-Chloroehtyl)ether	90	_____	2,6-Dichlorophenol	125
_____	Benomyl *	268	_____	2-Chloroethyl vinyl ether *	94	_____	2,4-D (2,4-Dichlorophenoxy-acetic acid	107
_____	Benz(a)anthracene	68	_____	Chloroform	91	_____	1,2-Dichloropropane	126
_____	Benzal chloride *	69	_____	bis(2-Chloroisopropyl)ether	92	_____	cis-1,3-Dichloropropylene	127
_____	Benzene	67	_____	p-Chloro-m-cresol	93	_____	trans-1,3-Dichloropropylene	128
_____	Benzo(b)fluoranthene	70	_____	Chloromethane (Methyl chloride)	95	_____	Dieldrin	129
_____	Benzo(k) fluoranthene	71	_____	2-Chloronaphthalene	96	_____	Diethylphthalate	130
_____	Benzo(g,h,i) fluoranthene	72	_____	2-Chlorophenol	97	_____	p-Dimethylaminoazobenzene *	140
_____	Benzo(a)pyrene	73	_____	3-Chloropropylene	98	_____	2-4-Dimethyl phenol	131
_____	alpha-BHC	63	_____	Chrysene	99	_____	Dimethyl phthalate	132
_____	beta-BHC	64	_____	o-Cresol	100	_____	Di-n-butyl phthalate	133
_____	delta-BHC	65	_____	m-Cresol	101	_____	1,4-Dinitrobenzene	134
_____	gamma-BHC	66	_____	p-Cresol	102	_____	4,6-Dinitro-o-cresol	135
_____	Bromodichloromethane	74	_____	m-Cumenyl methylcarbamate *	275	_____	2,4-Dinitrophenol	136
_____	Bromomethane (methyl bromide)	75	_____	Cyclohexanone	103	_____	2,4-Dinitrotoluene	137
_____	4-Bromophenyl phenyl ether	76	_____	o,p'-DDD	108	_____	2,6-Dinitrotoluene	138
_____	n-Butyl alcohol	77	_____	p,p'-DDD	109	_____	Di-n-octyl phthalate	139
_____	Butyl benzyl phthalate	78	_____	o,p'-DDE	110	_____	Di-n-propylnitrosamine	141
_____	Butylate *	269	_____	p,p'-DDE	111	_____	1,4-Dioxane	142

[1] *Regulated under F039 only; not a UHC*

* *Constituent not regulated under F039*

Note: Line # 's are from the Notification Form, not the hazardous waste manifest.

LDR ATTACHMENT 2: WASTE CONSTITUENT NOTIFICATION - PAGE 2 MANIFEST NO.: _____

Line #'s	Constituent	Legend #
_____	Diphenylamine	143
_____	Diphenylnitrosamine	144
_____	1,2-Diphenylhydrazine	145
_____	Disulfoton	146
_____	Dithiocarbamates (total) *	276
_____	Endosulfan I	147
_____	Endosulfan II	148
_____	Endosulfan sulfate	149
_____	Endrin	150
_____	Endrin aldehyde	151
_____	EPTC	277
_____	2-Ethoxyethanol **	32
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_____	Ethyl benzene	154
_____	Ethyl cyanide	153
_____	Ethyl ether	155
_____	Ethyl methacrylate	157
_____	Ethylene oxide	158
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_____	Hexachlorocyclopentadiene	166
_____	Hexachloroethane	169
_____	Hexachloropropylene	170
_____	HxCDDs (All Hexachloro-dibenzo-p-dioxins)	167
_____	HxCDFs (All Hexachloro-dibenzofurans)	168
_____	Indeno (1,2,3-c,d) pyrene	171
_____	Iodomethane	172
_____	Isobutyl alcohol	173
_____	Isodrin	174
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_____	Methyl isobutyl ketone	185
_____	Methyl methacrylate	186
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_____	3-Methylcholanthrene	181
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_____	Methylene chloride	183
_____	Metolcarb *	281
_____	Mexacarbate *	282
_____	Molinate *	283
_____	Naphthalene	189
_____	2-Naphthylamine	190
_____	o-Nitroaniline *	191
_____	p-Nitroaniline	192
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_____	5-Nitro-o-toluidine	194
_____	o-Nitrophenol *	195
_____	p-Nitrophenol	196
_____	2-Nitropropane **	33
_____	N-Nitrosodiethylamine	197
_____	N-Nitrosodimethylamine	198
_____	N-Nitroso-di-n-butylamine	199
_____	N-Nitrosomethylethylamine	200
_____	N-Nitrosomorpholine	201
_____	N-Nitrosopiperidine	202
_____	N-Nitrosopyrroldine	203
_____	Oxamyl *	284
_____	Parathion	204
_____	Total PCB's	205
_____	Pebulate *	285
_____	Pentachlorobenzene	206
_____	PeCDDs (All Pentachloro-dibenzo-p-dioxins)	207
_____	PeCDFs (All Pentachloro-dibenzofurans)	208
_____	Pentachloroethane *	209
_____	Pentachloronitrobenzene	210
_____	Pentachlorophenol	211
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_____	Phthalic acid *	216
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_____	Physostigmine *	286
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_____	Propoxur *	290
_____	Prosulfocarb *	291
_____	Pyrene	219
_____	Pyridine	220
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_____	Silvex (2,4,5-TP)	222
_____	TCDDs (All Tetrachloro-dibenzo-p-dioxins)	225
_____	TCDFs (All Tetrachloro-dibenzofurans)	226
_____	1,2,4,5-Tetrachlorobenzene	224
_____	1,1,1,2-Tetrachloroethane	227
_____	1,1,2,2-Tetrachloroethane	228
_____	Tetrachloroethylene	229
_____	2,3,4,6-Tetrachlorophenol	230
_____	Thiodicarb *	292
_____	Thiophanate-methyl *	293
_____	Toluene	231
_____	Toxaphene	232
_____	Triallate *	294
_____	Tribromomethane (Bromoform)	233
_____	2,4,6-Tribromophenol	295
_____	1,2,4-Trichlorobenzene	234
_____	1,1,1-Trichloroethane	235
_____	1,1,2-Trichloroethane	236
_____	Trichloroethylene	237
_____	Trichloromonofluormethane	238
_____	2,4,5-Trichlorophenol	239
_____	2,4,6-Trichlorophenol	240
_____	2,4,5-T (2,4,5-Trichloro-phenoxacetic acid)	223
_____	1,2,3-Trichloropropane	241
_____	1,1,2-Trichloro-1,2,2,-trifluoroethane	242
_____	Triethylamine *	296
_____	tris-(2,3-Dibromopropyl)	243
_____	Vermolate *	297
_____	Vinyl chloride	244
_____	Xylenes- mixed isomers	245

** Constituent not regulated under F039* ***F005 wastes containing no other F001-F005 solvents*

DWALKER.LDR 2.02.01.99

Note: Line # 's are from the Notification Form, not the hazardous waste manifest.

2.3 Security Plan

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Figures

1.0 Barrier/Means to Control Entry

The active portion of the facility that includes the laboratory, landfill cells, container storage areas, stabilization tanks, wastewater treatment system, etc., is enclosed by a six (6) foot high cyclone fence topped with three (3) strands of barbed wire (Figure 1). Three (3) gates are primarily used for personnel and vehicle entry into the site, and new gates may be installed if the facility determines additional access points are needed for regular entry/exit. Other gates may be used for emergency exits and during construction. All entry gates are locked when the facility is not operational or when a gate attendant is not present to control entry[1]. Two vehicle entry gates can be electronically operated by a key activated control at the gate, from an office by a switch, or with the use of transmitters. Radios are usually used for communication with trucks and a gate attendant usually meets visitors during normal business hours.

When construction necessitates the removal of the fence surrounding the active portions of the facility, an attendant is employed to provide twenty-four (24) hour surveillance of the affected part of the facility fence or temporary barriers may be installed. The attendant prevents the unknowing and minimizes the unauthorized entry to the facility.

Mercury vapor, sodium vapor, and other lights are located throughout the facility so that all areas of major activity are lit during the night. Many lights, which are equipped with photo-electric cells, come on at dusk and go off at dawn.

2.0 Warning Signs and Procedures to Prevent Hazards

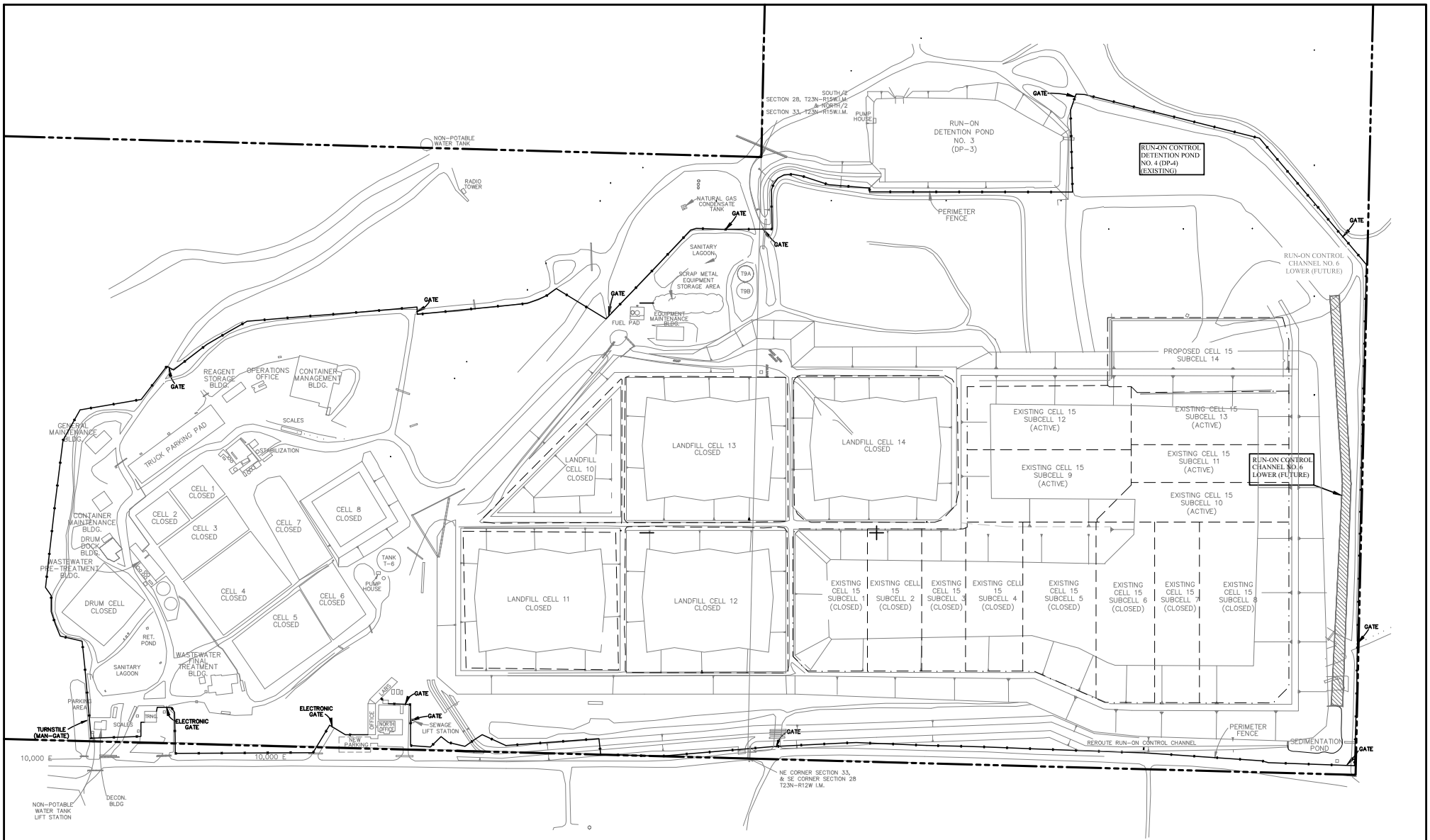
The warning signs posted at the facility are constructed and designed to provide information pertaining to the purpose and function of the facility, emergency information, and explicit warning against unauthorized entry. Prominent signs with the legend, "Controlled Industrial Waste Disposal Site - WARNING Potentially Harmful Materials, Unauthorized Entry Prohibited" are legible from a distance of fifty (50) feet (Figure 2). The signs, which are written in English, are posted at each entrance gate to the facility, every comer of the fence, and around the enclosing fence at four hundred (400) foot intervals. The signs can be seen from any approach to the active portion of the facility.

At the primary vehicle entrances to the facility from the county road, general information regarding the facility is also posted as shown in Figure 2. Both types of warning signs are visually checked

[1] This provision is true except for gates not bordering the county road. For gates not on the county road, the gates will be locked when not in use. For example, gates on the West side of the facility (which have limited or no public access) may be left open during the hours which they are in use and can be monitored by employees or contractors utilizing the gate. Other similar gates, such as the gates utilized during site audits and groundwater monitoring events can be left open temporarily during the time the respective employees are actively utilizing them provided, they are locked when the use is complete.

according to the inspection plan so as to ensure that the signs are clearly visible and properly maintained. If a warning sign is found to be obscured or in need of maintenance, the proper remedial action will be undertaken in accordance with 40 CFR .264.15(c).

Typically, underlined letters in Figures 2 and 3 are two (2) inches; bold letters are three (3) inches; and normal type letters are one and one-half (1 1/2) inches in height for Figure 1 or one (1) inch in height for Figure 3. Warning is printed in red. Other letters are in blue or black with a contrasting background.



LEGEND

FACILITY FENCELINE

0 400 800

SCALE IN FEET

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY

Clean Harbors LONE MOUNTAIN

DRAWN	CHECKED	SCALE	DATE
WRB		AS NOTED	9/10/20

TITLE 1111-06

FIGURE 1 – FACILITY SECURITY PLAN

LONE MOUNTAIN FACILITY

DRAWING NO.	REV.
1111-06	2

CONTROLLED
INDUSTRIAL WASTE
DISPOSAL SITE

WARNING

UNAUTHORIZED ENTRY PROHIBITED
POTENTIAL HARMFUL MATERIALS

LONE MOUNTAIN FACILITY

WASTE DISPOSAL SITE

ODEQ Permit Number	3547005
Operator:	Clean Harbors Lone Mountain LLC
Business Address:	Rt. 2, Box 170, Waynoka, Oklahoma 73860
Facility Phone Number:	580-697-3500
In Case of Emergency at Night or Holidays:	580-254-7677

Oklahoma Department of Environmental Quality
Phone: 405-702-5100

Major County Health Department
Phone: 580-227-3362

WARNING
UNAUTHORIZED ENTRY PROHIBITED
POTENTIAL HARMFUL MATERIALS

NOTE: This sign is typical of the signs posted at the entrances to the facility and the names, telephone numbers, etc. can be changed to reflect current names, telephone numbers, addresses, etc.

2.4 Inspection Program

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List of Appendices

1.0 Inspection Schedules

The inspection schedules detail items to be inspected during the construction and operation of various units. Any discrepancies, inconsistencies, or conflicts between requirements outlined herein and other sections of the RCRA/HSWA permit, application, and attachments will be governed by this section, as its primary purpose is to define facility inspections and schedules.

2.0 Construction Inspection Schedule

During the construction of landfill cells, it is imperative that the integrity of the structure be examined from initiation through completion of construction. The inspection items, procedures, and frequencies (see Appendix 1 of this section) provide general information on the typical facility inspections. However, the current Oklahoma Department of Environmental Quality (ODEQ) approved construction Quality Assurance Plan provides additional details on the construction inspection procedures.

Utilizing generally accepted engineering criteria, the supervising engineer will determine if technical characteristics (i.e., permeability, compaction, moisture content, etc.) of the roads, dikes, and clay liners are adequate. If not, the construction contractor will rectify the inadequacies. Similarly, the contractor will rectify any synthetic liner inadequacies.

3.0 Facility Inspection Schedule

The safe and productive operation of the Lone Mountain Facility requires that all equipment and structures be maintained in proper working order. In order to accomplish this goal, a comprehensive schedule (kept at the facility) for the inspection, maintenance, and repair of monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment has been developed.

The following inspection schedule indicates the areas to be inspected, what should be examined, and the frequency. The frequency of the inspections is based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections.

The following future units are included in the permit application: Tanks D1 and D2, solids handling building, and new tank systems. Inspection schedules for future units incorporate with the following inspection schedule.

4.0 Emergency Equipment Inspection

According to state and federal regulations:

> "*All facility communications or alarms systems, fire protection equipment, spill control/equipment, and decontamination equipment where required, must be tested and maintained as necessary to assure its operations in time of emergency*."

The following discussion and summation are presented to outline the procedures Lone Mountain uses to ensure emergency equipment is in proper condition when, and if, it is required by emergency conditions at the Facility.[1] All equipment on the facility inspection schedule is maintained and repaired as necessary unless otherwise stated. A visual inspection looks for cracks, gaps, flaking, chips, gouges, leaks and other signs of wear unless otherwise noted. Cracks and gaps in the concrete surface will be corrected in a timely fashion. It is noted that superficial or insignificant cracks or gaps may occur in the concrete surfaces that do not infringe upon the secondary containment.

4.1 Communications and Alarm Systems

The loud speakers at the facility are tested daily via signal broadcast. Confirmation of the signal broadcast is provided. Portable radios are operated daily as determined by individuals' needs. The internal/external telephone system is tested daily to ensure it is operational.

All of the above listed equipment is on the facility inspection schedule and is maintained and repaired, as necessary, as determined during the inspection.

4.2 Fire Protection Equipment

The water level in the 10,000-gallon fire water storage tank is gauged weekly by utilizing a gauge and freeboard stick. Additional water is added as necessary in order to ensure that the fire water storage tank is full. A reading of five (5) feet two (2) inches on the gauge stick indicates a full tank. The tags of fire extinguishers are inspected weekly for expiration dates. Weekly the pressure gauge for the dry chemical extinguisher is inspected for adequate pressure while a carbon dioxide extinguisher is inspected for adequate weight. The fire water pump and associated piping is inspected weekly for leaks, adequate discharge pressure, operability and external conditions.

All of the above listed equipment is on the facility inspection schedule and is maintained and repaired, as necessary, as determined during the inspection.

[1] Some equipment is inspected and repaired by equipment specialists (e.g. fire extinguisher sales/service companies) who are not facility employees. These service companies may either repair the equipment on-site or remove the equipment and return it when repaired.

4.3 Spill Control Equipment

Spill control equipment comes in many varieties. First, the collection sumps[2] in containment systems are checked daily for liquids. If the level of any liquid is above the intake suction of the associated sump pumps, where present, the sump pump will be activated. Liquids in other sumps low points will be removed, if present in greater than *de minimis* levels. Liquid in the secondary containment areas, sumps or low points that are the result of spill or leaks will be moved within 24 hours of discovery, while liquids resulting from precipitation will be removed within 48 hours of discovery or when the precipitation event has ended. *de minimis* volumes of liquids may remain in the sumps/low points for up to a week but must be removed at least weekly. All sumps/low points will be emptied weekly and visually inspected for cracks, gaps, flaking, chips, gouges, and other signs of wear[3].

Containment systems will be inspected daily for evidence of spills. Loading and unloading areas are inspected daily for signs of spills and to ensure these operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained. Spill control materials (i.e., stabilization agents) are inspected daily for adequate supply.

All of the above listed equipment is on the facility inspection schedule and is maintained and repaired, as necessary, as determined during the inspection.

4.4 Decontamination Equipment

Personnel decontamination equipment, such as eye wash stations and safety showers, are inspected weekly for operability and adequate pressure (for portable units).

All of the above listed equipment is on the facility inspection schedule and is maintained and repaired, as necessary, as determined during the inspection.

4.5 Miscellaneous Emergency Equipment

Besides those items specifically annotated in the state and federal regulations, the Lone Mountain Facility has other miscellaneous equipment that may be called upon during an emergency. Although these miscellaneous pieces of equipment are not set aside explicitly for emergencies, they are no less important when considering the facility's capabilities. For example, pick-up trucks can be utilized to carry personnel or equipment from one place to another. Heavy equipment may be utilized to dig a

[2] Some secondary containment systems are sloped to a low point instead of a sump. Liquids flow to the low point where they may be removed with a pump.

[3] The sump pumps leave *de minimis* levels of liquids in the sump after liquids removal. Therefore, the entire sump surface is not visible after liquid removal. The Facility fully empties the sumps weekly (i.e. remove *de minimis* liquids) for inspection of the sump surface for cracks, gaps, flaking, chips, gouges, and other signs of wear. Also see, Footnote 16 for additional clarification.

ditch or build a berm. Even though this equipment is not set aside for emergency use only, it does exist and is included in operations as a matter of course in performing the business of treatment, storage, and disposal of hazardous waste. In as much as this is operational equipment, it is not included in the facility inspection schedule.

However, there are other miscellaneous pieces of equipment that are not named in the state and federal regulations, but are maintained on-site for the primary, if not sole, purpose of responding to emergencies. This equipment is discussed below.

Weather Station. The weather station (temperature, wind speed, wind direction, and precipitation recorders) are inspected daily for operability.

Cascade Air System. This air supply system is checked weekly for adequate pressure, proper operation and condition, to ensure regulators are unobstructed, and to check masks and hoses for serviceability.

Self-Contained Breathing Apparatus (SCBAs). The SCBAs are inspected weekly for adequate pressure, for proper operation and condition, to ensure regulators are unobstructed, and to check masks and hoses for serviceability.

Trauma Kits. The trauma kits are audited by emergency medical personnel for appropriate items and then sealed to detect later tampering. The kits are then inspected weekly for a broken seal.

First Aid Kits. The first aid kits are maintained about the facility and are inspected weekly for missing items and adequate supply.

Entrance/Exit Gates. These gates deter the entrance of the unauthorized parties but may impede the exit of the facility personnel if not maintained in good condition. The gates are, therefore, inspected monthly to ensure operability and that locking mechanisms are functional.

Overpacks. Overpack drums may be used to overpack containers that are corroded, damaged, or leaking. An adequate supply (total 20 drums- on-site) is maintained.

All of the above listed equipment is on the facility inspection schedule and is maintained and repaired, as necessary, as determined during the inspection.

5.0 Container Inspection

Permitted container management exists or will exist at the Drum Dock, Container Management Building (CMB), Wastewater Pretreatment (WWPT), Wastewater Final Treatment (WWFT) and Tanks D1 and D2. The containers will be visually inspected daily for evidence of leaks, corrosion, or deterioration and for the presence of the facility shipment identification number on a daily basis.

Deteriorated container or the contents will be transferred to an overpack or a container in good condition that is compatible with the waste.

Concrete slabs and curbs (excluding sumps or low points) associated with container storage area secondary containment systems will be visually inspected for cracks, gaps, flaking, chips, gouges, and other signs of wear on a daily basis[4]. The concrete slabs, sumps, and low points associated with all container storage areas will be checked daily for the presence of liquid. Liquids in the secondary containment areas, sumps, or low points that are the result of the spill or leaks will be removed within 24 hours of discovery, while liquids resulting from precipitation will be removed within 48 hours of discovery or when the precipitation event had ended. *De minimis* volumes of liquids may remain in the sumps/low points for up to a week but must be removed at least weekly. All sumps/low points will be emptied weekly and visually inspected for cracks, gaps, flaking, chips, gouges, and other signs of wear.

Similarly, the roofs over the areas, where present, will be visually checked for significant leaks, tears, and other signs of deterioration. Insignificant amounts of water from minor roof leaks will be removed as necessary, but roof repair is not always required. All container storage areas will be checked daily to ensure aisle space is maintained in order to allow the unobstructed movement of personnel, emergency equipment, and firefighting equipment. The containment system loading/unloading areas will be checked daily for evidence of spills. A daily check of container storage areas will be performed to ensure that incompatible wastes are properly segregated.

6.0 Tank Systems Inspection

Current and proposed hazardous waste management tank systems at the Lone Mountain Facility include the Wastewater Treatment System, Miscellaneous Tank Systems, Tanks D1 and D2, Stabilization Tanks, Waste Fuel Tank Farm, Container Management Surge Tanks, and Solids Handling Building Tanks.

The exposed external portion of the tanks and the associate fixtures will be visually checked daily for evidence of corrosion, discoloration, leaks, cracks, bulges and buckling.[5] Tank bottoms will be visually checked, if accessible. In order that compliance with 40 CFR 264.15(b)(3) will be assured, the area immediately surrounding the tank will be checked daily in order to detect obvious signs of leakage. A daily inspection of the tank secondary containment system will also be performed.

The secondary containment for the tanks consists of both external liner systems as well as double walled tanks. The external liner systems (i.e., coated concrete liners and curbs), excluding the sumps/low points; are inspected daily for signs of cracks, gaps, faking, chips, gouges, and. other signs

[4] Cracks and gaps in the concrete surface will be corrected in a timely fashion. It is noted that superficial or insignificant cracks or gaps may occur in the concrete surfaces which do not infringe upon the secondary containment.

[5] Some tanks, of portions of tanks, are practically inaccessible for direct observation (e.g., Tank T6) since they are constructed as a tank within-a-tank. However, their leak detection systems are inspected.

of wear[6]. Furthermore, the external liner systems (i.e., concrete liner, sumps, and low points) are inspected daily to detect the presence of liquid within the containment area. Liquids in the secondary containment area, sumps, or low points that are the result of spill or leaks will be removed within 24 hours of discovery, while liquids resulting from precipitation will be removed within 48 hours of discovery or when the precipitation event has ended. *De minimis* volumes of liquids may remain in the sumps/low points for up to a week but must be removed at least weekly. All sumps/low points will be emptied weekly and inspected for cracks, gaps, flaking, chips, gouges, and other signs of wear[7]. Similarly, the roofs over the areas, where present, will be visually checked for significant leaks, tears, and other signs of deterioration. Insignificant amounts of water from minor roof leaks will be removed as necessary, but roof repair is not always required.

The externally accessible portion of any double-walled tank will be visually inspected daily for signs of corrosion, deterioration, and for signs of leaks or releases. Double walled tanks may be equipped with a leak detection system consisting of a pipe extending from the bottom of the primary tank through the secondary tank wall ending with a valve (e.g., T6). A sight glass is in line and preceding the valve, that allows for the detection of liquid. The valve may also be opened daily to inspect for the presence of liquid.

Ancillary equipment to these tanks systems (which includes pipes, valves, pumps, and flanges[8]) is inspected daily to detect signs of corrosion, deterioration, and releases of hazardous waste.

6.1 Inspection of Tank Overfill, Spill Prevention, and Monitoring Equipment and Controls

Overfill prevention control and spill prevention equipment, if applicable, will be checked daily to ensure that good working order is maintained per the requirements of 40 CFR 264.195(a).

Tanks D1 and D2 have float-activated level switches or other equivalent devices. If the level of the waste fuel in the tanks reaches a certain point, then the high level device should activate an alarm. The level alarm will be inspected by the method most appropriate for the device employed. In the future, replacement overfill monitoring equipment will be inspected in a manner consistent with the manufacturer's recommendations.

Uncovered tanks are inspected daily for the maintenance of sufficient freeboard. The Stabilization Tanks (existing) and the Solids Handling Building Tanks (future) are uncovered tanks used to store and treat predominantly solid hazardous waste. The freeboard in the Stabilization Tanks and Solids Handling Building Tanks will be determined by visual inspection. There is no specific monitoring equipment associated with these tanks that requires inspection. All uncovered tanks will maintain at least one (1) foot of freeboard except the Stabilization Tanks, for which a freeboard of two (2) feet

[6] See Footnote 4.
[7] See Footnote 5.
[8] This is not meant to be an all-inclusive list.

will be maintained, as measured from the top of the splash guards; and the uncovered Rotary Drum Filter tanks, for which a freeboard of six(6) inches will be maintained.

The future Waste Fuel Tank Farm and Container Management Surge Tanks may have the following: a level indicating controller in conjunction with a pressure differential transmitter to continuously monitor the liquid level; level switches to sound audible alarms and automatically shut off waste feed; dip tubes to minimize the generation of hazardous vapors; check valves to prevent reversal of flow; and dry disconnect coupling connections to eliminate spill in transfer operations.

The proposed Container Management Surge Tanks and Waste Fuel Tank Farm will be equipped with level indicating controllers that will indicate when the fluid level is too high. Once the high level is reached, an alarm will be activated, and the tank inlet valves will automatically close. This system will be inspected by adjusting conditions on the controller to simulate high level conditions. The inspector will then monitor the reaction of the various components of the control system to ensure that overfill will be prevented. Specifically, the signals on the display should indicate that all inlet valves to the tank are closed when the high level condition is simulated.

The (10) storage tanks in the Waste Fuel Tank Farm and two (2) Containers Management Surge tanks have been designed to withstand a full vacuum. The remaining tanks will have vacuum relief valves. A combination of pressure control valves, pressure relief valves, and rupture discs will eliminate the possibility of over pressuring the tanks. The above cited equipment on the future tank systems will be inspected daily to ensure that the tanks are operated within the specified design parameters.

The Wastewater Treatment System tanks are equipped with several types of overfill prevention control and spill prevention controls. These controls include check valves to prevent reversal of flow, continuous liquid level monitors, automatic pumps (some with backup pump), float and sensor activated high level alarms, and overflow tanks. In addition, tank transfers, which are batched processes, are monitored manually to ensure that the available tank volumes are sufficient to receive the incoming volume. All float type high level alarms are periodically activated to ensure operability. All sensor type high level alarms are electronically tested daily and are periodically activated to ensure operability. The outside of the check valves will be visually inspected daily for signs of corrosion, deterioration, and leaks. Continuous liquid level monitors are electronically tested daily. The automatic pumps in use at the time of the inspection are known to be operating effectively and will simply be observed for condition of the unit. All overflow tanks will be visually inspected (externally) daily for signs of corrosion, deterioration, and for the presence of liquid.

7.0 General Inspection Requirements

It is the ultimate responsibility of the Permittee to see that all inspections are performed as required. The inspections are part of the daily operations routine for the entire facility. The results of the inspections may be recorded using electronic equipment (e.g., computers and electronic tablets) or in an inspection log (e.g.; paper format). Alternatively, inspection logs that are not electronic may be scanned into an electronic database. Records (e.g., logs, works orders, etc.) are maintained for at

least three years from the date of the inspection. They include the date, time of the inspection, the name of the inspector, and the nature and date of any repairs or any remedial actions.

Should a deficiency that requires correction be noted during routine inspections, it is recorded on an Inspection Work Ticket. Such problems are then corrected as soon as possible and on a schedule that ensures the deficiency does not lead to an environmental or human health hazard.

Liquids accumulate in the sumps/low points of the secondary containment systems will be analyzed or classified based on the knowledge, then removed and treated as per procedures detailed in the WAP. After storm inspections are performed on the next day following the day(s) of the storm. All pertinent data obtained will become part of the facility operating record.

Appendix 1

Inspection Schedules

PERIMETER AND GENERAL FACILITY INSPECTION SCHEDULE

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Security Fence	Unless access is impossible, due to extreme weather conditions, visually check for: • Breaks or damage • Erosion underneath	Daily
No Smoking Signs	Check for clear visibility and proper maintenance.	Weekly
General Housekeeping	Check if area is kept neat and clear of debris.	Weekly
Entrance/Exit Gates	Check for one of the following: • Operate to check for proper function. • Ensure "Warning Signs" are posted and visible. • Unlock and relock all gates to be used for emergency evaluation.	Daily Daily Monthly
Access Roads	Visually check for deterioration, erosion, or spills.	Daily
Major Components – Including Shredders	Visually inspect for proper operation (obvious signs of malfunction, deterioration, operator errors, and discharges that may cause or lead to release to the environment or a threat to human health.	Daily
Truck Sampling Area	Check for evidence of spills or leaks.	Daily
Weather Station	Inspect for proper operation. • Temperature Recorder • Wind Speed Recorder • Wind Direction Recorder • Precipitation Recorder	Daily

SAFETY AND EMERGENCY EQUIPMENT INSPECTION SCHEDULE

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Load Speakers	Check for operability (receive positive confirmation or signal).	Daily
Telephone Systems	Check for operability.	Daily
Portable Radios	Check for operability as determined by individual needs.	Daily
Spill Control Measures	Inspect the drum dock and container management building for 2 bags or equivalent stabilization agent.	Daily
Overpacks	Check for adequate supply (total 20 drums on-site)	Weekly
Cascade Air System	Check for the following: • Adequate pressure (500 psi) • Proper operation and condition • Ensure regulators are unobstructed • Check masks and hoses for serviceability	Weekly
SCBAs (Reserved for emergencies.)	Check for the following: • Adequate pressure (red arrow in green zone) • Proper operation and condition • Ensure regulators are unobstructed • Masks and hoses for serviceability	Weekly
Shredder Gas Detection Equipment (CMB)	Check systems to ensure proper operation when shredder is in use.	Daily
Fire Suppression System for Shredders (CMB)	Check operability when shredder is in use (water or dry chemical)	Daily
Firewater Storage Tank	Ensure tank is full by gauging the tank (5'2" stick reading = full tank)	Weekly
Firewater Pump	Check external conditions and start and run pumps. Pressurize pump to check for adequate pressure (60 psi)	Weekly Weekly
Firewater Pump Piping	Pressurize piping to check for leaks.	Weekly
Fire Extinguishers	Inspect yearly tags for expiration date. Inspect dry chemical extinguishers and pressure gauges for adequate pressure (red arrow in green zone). Inspect CO_2 for adequate weight.	Weekly
Trauma Kits	Check seal for evidence of tampering.	Weekly
First Aid Kits	Check for missing items and adequate supply.	Weekly
Eye Wash Stations	Inspect for operability and check portable units for adequate pressure.	Weekly
Safety Showers	Inspect for operability (verify water flow or pressure for portable units) and check external conditions.	Weekly

GROUNDWATER MONITORING SYSTEM INSPECTION SCHEDULE

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Monitoring Wells	Check for damaged or missing caps and ensure locks are secure.	Weekly

LOADING AND UNLOADING AREA (CONTAINER & TANKS) INSPECTION SCHEDULE

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Drum Dock	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
Stabilization Tank Area	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
Tanks D-1/D-2 Unloading Pad	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
Truckwash Bay	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
Container Management Building	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
Acid Storage Area	Inspect for the following: • Signs of spills. Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
Reactive Unloading Pad	Inspect for the following: • Signs of spills. Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
WWFT Container Storage Pad	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily
T-6 Area	Inspect for the following: • Signs of spills. • Ensure unloading operations are executed within dikes, retention walls, or similar structures such that any leakage or spillage is sufficiently contained.	Daily

CONTAINER STORAGE AREAS INSPECTION SCHEDULE

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Containers	Visually inspection for evidence of leaks, corrosion, or deterioration, and for presence of facility shipment identification and numbers.	Daily
Secondary Containment Systems	Visually inspect the following: • Concrete slab and curbs (excluding sumps or low points) for cracks, gaps, flaking, chips, gouges, and other signs of wear. • Standing liquids in greater than *de minimis* quantities (including sumps and low points) • Ensure spills are removed within 24 hours and precipitation is removed within 48 hours of discovery or when precipitation event has ended.	Daily
Collection Sump/Low Point	Empty sump/low point and inspect for cracks, gaps, flaking, chips, gouges, and other signs of wear.	Weekly
Storage Areas	Visually inspect the following: • Check rook (where applicable) for significant leaks, tears, or other signs of deterioration. • Check for 3-ft of aisle space. • Check that aisle space is adequate for unobstructed movement of personnel, fire equipment, or spill control equipment. • Check for evidence of spills. • Verify that incompatible wastes are properly segregated.	Daily

TANK STORAGE AREAS INSPECTION SCHEDULE

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Uncovered Tanks	Check the following: • Liquid levels to ensure 1-ft of freeboard is maintained. • Liquid levels in rotary drum filter tanks to ensure 6-in of freeboard. • Levels in stabilization tanks to ensure 2-ft of freeboard below the tops of the splash guards.	Daily
Storage/Treatment Tanks	Check for the following: • Expose external portion of tank system for corrosion, deterioration, or leaks. • Exposed external protective coating for evidence of corrosion, discoloration, blister, or other film lifting. • Exposed seams and plates of the tops/roofs, walls and bottoms (if accessible) for leaks, corrosion, discoloration, cracks, bulges, and buckles. • Nozzles, piping, and ancillary equipment for corrosion, deterioration, or leaks. • Exposed foundation and pad for erosion/cracks. • Inspect overfill prevention controls, spill prevention and monitoring equipment, (i.e., valves, continuous liquid level monitors, high level alarms, automatic pumps, overflow tanks, and feed cut-off systems).	Daily
Secondary Containment System	Check the following: • Roof (where applicable) for significant leaks, tears, and other signs of deterioration. • Visually inspect concrete slab and curbs (excluding sumps and low points) for cracks, gaps, flaking, chips, gouges, and other signs of wear. • Standing liquids in greater than de minimis quantities (including sumps and low points). Ensure spills are removed within 24 hours and precipitation is removed within 48 hours of discovery or when precipitation event has ended. • Inspect area around containment system for signs of leaking (i.e., wet spots or dead vegetation). • Check overflow tanks for liquids. • Inspect leak detection system for presence of liquids.	Daily
Collection Sump/Low Point	Empty sump/low point and inspect for cracks, gaps, flaking, chips, gouges, and other signs of wear.	Weekly

LANDFILL CELLS

INSPECTION AREA/UNIT	INSPECTION ELEMENT	INSPECTION FREQUENCY
Open Landfill Cells	Visually inspect for evidence of wind dispersal.	Daily
Open and Closed Cells	Visually inspect for the following: • Plants or vegetation that could be damaging. • Burrowing rodents. • Signs or erosion, settling leaks or other deterioration. • Run-on and run-off ditches and drains for deterioration, improper operations, or erosion. • Check leachate detection and collection system for damaged casing or missing cap. • Inspect for the presences of liquids in the leachate collection and detection system. • Check to see that the leachate collection and detection system locks are secure. • Inspect leachate collection lines for leaks.	Weekly
Open Cells	Visually inspect for the following: • Run-on and run-off ditches and drains for deterioration, improper operations, or erosion. • For 1-ft freeboard in run-off control ditches. • Inspect for the presence of liquids in the leachate collection and detection systems.	After Storms

2.5 Manifest System, Recordkeeping, and Reporting

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1.0 Use of Manifest System

Each load of hazardous waste accepted at the facility should be accompanied by a properly executed manifest. The transporter of the waste is required to present, upon arrival at the facility, at least one legible copy of the manifest. A facility representative will inspect the manifest for completeness.

The information on the manifest is compared with the information previously supplied by the generator. Significant manifest discrepancies, as noted below in Section 2.0, are resolved or reported.

After the waste is accepted, the manifest copy is signed by a facility representative. One copy is given to the transporter, and one copy is returned to the generator. The generator's copy is returned within thirty (30) days after delivery of the waste to the facility. One copy is retained for the facility operating record. Manifests are maintained either in their original form or stored electronically at the facility for a period of at least three years after the date of delivery.

2.0 Manifest Discrepancies

Should a significant discrepancy be found, the waste generator is notified. Significant discrepancies include:

(1) Variation of more than 10% in weight for bulk waste;
(2) Piece count for batch waste; or
(3) Obvious physical or chemical differences from the approved waste stream that can be discovered by inspection or waste analysis.

If discrepancy resolution is achieved, it is noted on the manifest, including the generator representative contacted, the resolution, and date. A facility representative initials the additions to the manifest.

If the discrepancy is not resolved within fifteen (15) days after receipt of the waste, a letter describing the discrepancy and attempts to resolve it, along with a copy of the manifest are sent to the Oklahoma Department of Environmental Quality.

3.0 Operating Record

A record is maintained at the facility for each load of waste received. The record contains:

a) A description and quantity of the waste received;
b) The methods and dates of treatment, storage and disposal;
c) The location and quantity of each waste;
d) The results of waste analyses; and
e) The manifest number.

In addition, the following records are maintained until closure of the facility:

a) Incident reports for all occurrences requiring implementation of the contingency plan;
b) Records and results of all inspections as required in 40 CFR 264.15(d) for the past three (3) years;
c) Monitoring, testing or analytical data, and corrective action where required by 40 CFR Part 264, Subpart F;
d) Notices to generators as specified in 264.12(b);
e) Closure and post-closure cost estimates;
f) Waste minimization program requirements in 40 CFR 264.73(b)(9) and 264.75(h) (i);
g) Maps identifying: (1) the location and dimensions of each cell and (2) a grid system for placement of wastes within the cells; and
h) The notices and/or certifications required by 40 CFR268.7 or 268.8.

4.0 Availability, Retention, and Disposition of Records

The operating record of the facility is available at all reasonable times for inspection by duly authorized regulatory officials.

The operating record may be maintained in its original record form (paper) or stored in an electronic record system. The electronic record system will have the capability to reproduce high quality copies of records that include the images of the original handwritten signatures, if applicable. The electronic records system incorporates data integrity and security features to ensure the trustworthiness of the records and their general admissibility into evidence. Finally, the indexing and automated retrieval features must satisfy the RCRA statutory provisions to provide RCRA inspectors with reasonable access to the Lone Mountain Facility records, including the ability to inspect and copy records.

A copy of the records of waste disposal locations and quantities under 40 CPR 264.73(b)(2) will be submitted to the Oklahoma Department of Environmental Quality and local land authority upon closure of the facility.

5.0 Biennial Report

A biennial report will be prepared according to the latest EPA/ODEQ requirements.

6.0 Unmanifested Waste Report

Should an unmanifested waste be received, a report meeting the requirements of 40 CFR 264.76 will be prepared and submitted to the Oklahoma Department of Environmental Quality within fifteen (15) days of receiving the waste.

2.6 Preparedness and Prevention Procedures

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List of Appendices

1.0 Arrangements with Local Authorities

As detailed in the Contingency Plan, the local authorities have been familiarized with the various attributes of the facility. The fire departments have been informed of the location of various pieces of fire- fighting equipment. The location of the various operations has also been indicated. The Fairview, Oklahoma Fire Department is the designated primary fire department.

The Oklahoma State Highway Patrol has been informed of the location of the facility and the locations to establish roadblocks on access roads. The local hospitals and ambulance services have also been informed of possible injuries that could occur at the facility. The arrangements are documented in the Contingency Plan. The Contingency Plan also contains a list of available local contractors who can supply emergency equipment.

2.0 Unloading Operations

Various procedures, structures, and equipment have been incorporated into unloading operations to prevent hazards at the Lone Mountain Facility. The Drum Dock is three and one-half (3.5) feet in height. Since this equals the height of a tractor trailer van, portable ramps are not needed for unloading. The container unloading area in the Container Management Building has been constructed so as to eliminate the need for portable ramps.

The equipment and systems utilized to safely unload materials are as follows:

Tractor Trailer Vans. A van normally contains fifty-five (55) gallon or eighty-five (85) gallon steel drums and, on occasion palletized drums, fiber drums, and plastic drums. Plastic carboys (five (5) through thirty (30) gallon capacity), Marino bags, or other Department of Transportation (DOT) approved containers. The vans are typically backed to the container unloading area so that the van floor is level with the unloading area surface. Two persons should be present during unloading. The entire area is located within an enclosed area from which spills are incapable of being released beyond the containment area. The Wastewater Treatment System also has four (4) container unloading and storage areas (three (3) areas at WWPT and one (1) area at WWFT). Tanks D1 and D2 have one (1) container unloading and storage area.

- A bobcat or forklift lifts and removes the cargo. Minimal effort is required of the operator and thus the chances of personal injury are reduced.

- The bobcat or forklift operator is protected by the enclosed cab or cage.

- The bobcat or forklift operator should be cognizant of all employees in the unloading area. The operator ensures that the van is properly aligned with the unloading area surface. Ease of movement between the container unloading area and the van is thus assured.

- When using hand trucks or dollies, the operator must ensure that the drum will not fall from the hand truck or dolly. The drum is properly set or clamped before moving.

Tractor Trailer Tanks. Two persons should be present during unloading. The loading/unloading areas have secondary containment and heavy equipment is seldom used in tanker unloading. Tankers normally pump cargo into the Waste Water Treatment System by means of a pump or via gravity drainage. Prior to pumping, the operator verifies that the correct valves are opened, and plugs are removed in order to avoid excess pressure on the pump. All hoses must be secure. Any tanker unloading ignitable material must be grounded by means of a heavy clamp and cable. The stabilization tanks and Tanks D1 and D2 are also equipped with a loading and unloading area. These unloading areas are maintained to sufficiently contain any waste which may spill on the pad until the waste is removed.

Gondolas, Roll-Offs, Dump Trucks, Pneumatics, etc. Two persons should be present during unloading. The wind direction and velocity must be noted and considered prior to unloading. The wind can cause undue dispersion of materials or cause a dump trailer to overturn if it is raised perpendicular to and/or during high winds. These operations are conducted either at an area which has secondary containment or directly in the landfill.

Persons unloading bulk containers should:

- Stand at a distance from the rear of a gondola, roll-off, or dump truck;
- Know the location of all persons in the immediate area;
- Not enter a raised container to dislodge trapped material;
- Never transport a raised container; and
- Not go immediately[1] behind a raised container (when loaded) to inspect its contents. Unloading of containers and sludges at the Solids Handling Building will occur within an enclosed area of the building. Unloading of solids will be into a covered trough with a connecting chute to a tank inside the Solids Handling Building. The Solids Handling Building will be constructed with an adequate ventilation system to provide a safe working area for personnel.

3.0 Prevention of Run-off from the Hazardous Waste Handling Areas and Flooding of the Facility

The Lone Mountain Facility is designed and built to prevent run-off from hazardous waste handling and disposal areas to other areas of the facility and to prevent flooding. At least one (1) foot of freeboard is maintained at the landfill edge at all times except during closure. The twenty-five (25) year, twenty-four (24) hour rainfall is 6.1 inches. Therefore, sufficient freeboard will remain after a

[1] It may be acceptable to go behind raised end-dumps, but not raised gondolas suspended from a single wire cable. When ·cleaning or inspecting raised gondolas, the employee should avoid standing behind the unit where the employee could be struck by the falling unit. However, the employee may stand behind the unit, as long as the possibility of being struck by the falling unit is avoided.

storm. The secondary containment areas for the tank systems will have sufficient capacity to contain one hundred (100) percent of the capacity of the largest tanks within their boundaries. If the tank systems are not roofed, then the containment areas will have an additional sufficient capacity to contain a twenty-five (25) year, twenty-four (24) hour (6.1 inch) rainfall event. Based on capacities of the secondary containment area within the landfill cells and around the tanks, run-off from these units will be contained. Run-off from the elevated areas west of the facility is divided by ditches and dikes. These structures divert the flow to the north and south of the facility.

As discussed in Appendix 1, the facility does not lie in the 100-year flood plain of the Cimarron River. Such a flood will not approach closer than one (1) mile of the site.

4.0 Prevention of the Contamination of Water Supplies

The nearest surface waters to the facility are the Cimarron River, farm ponds, and Griever Creek (a perennial stream). They are located approximately one mile north of the facility, at various distances, and one to two (1-2) miles southeast of the facility, respectively. Precipitation that falls on hazardous waste management portions of the facility (e.g., open landfills cells) is contained within the hazardous waste or hazardous waste management units and, after removal, are normally stored and treated in the Wastewater Treatment System. Run-off is prevented by maintaining at least one (1) foot of freeboard in the landfill cells except during closure activities.

The subsurface environment is protected due to the proper construction and operation of the facility. The liners of the landfill cells are constructed of materials designed to impede flow of contaminants into the subsurface. If contaminants were to pass through the upper liner, the leak detection system would collect the leachate. Careful examination of the incoming waste streams prevents the disposal of contaminants that would impair the effectiveness of the liner. The safe and careful operation of the various structures ensures that serviceability is maintained. The ground water is monitored via the detection monitoring program. Refer to Ground Water Monitoring Program for a detailed discussion of the ground water and the ground water monitoring program. If contamination of the subsurface was to occur, this program will provide rapid detection. The Lone Mountain Facility will undertake remedial measures to stop contamination of the ground water and prevent further contamination, if contamination is detected.

Drinking water for the Lone Mountain Facility is provided by the rural water system. To protect the water lines from contamination, lines and outlets have block and check valves and/or are operated with siphon breaks. The on-site lines are typically buried between two and three (3) feet beneath the surface. The water supply is further protected from contamination by the location of the water outlets. In designing the system, the Lone Mountain Facility placed the outlets in areas where contact with hazardous wastes, either under normal conditions, during spills, or during other adverse conditions, would not occur.

5.0 Effect of Equipment or Power Supply Failure

In the event of an equipment failure that could result in fires, explosions, or releases to the environment, the affected operations will cease. Since the majority of the safety systems require no moving equipment or include secondary equipment systems, it is unlikely that safety equipment will fail.

The facility will experience difficulties in the event of a power failure, but it can continue to operate in a safe and reliable manner. Emergency fire water can be provided through a facility water haul truck equipped with a water cannon. The truck can be gravity filled from a 250,000-gallon emergency water storage located in a tank on the bluff west of the facility. The fire extinguishers provide additional fire protection in the event of power failure.

Some of the various treatment, storage, or disposal operations could operate without interruption during a power supply failure. Since the power supply for the light is the electricity for the facility, operations at night would be adversely affected. Based on these considerations, the Lone Mountain Facility is capable of operating some activities safely in the event of power outage. Other operations would be shut down, as necessary.

6.0 Personal Protective Equipment

All employees entering active operations are required to wear protective clothing in order to prevent potential exposure to hazardous waste. General on-site hazardous waste management work typically necessitates the use of chemically resistant coveralls or aprons, safety shoes or rubber boots (steel-toe), gloves, hard hats, and safety glasses. The required equipment for specific tasks is a function of the materials being managed, and typical equipment is outlined in Table 1. While working in the laboratory, all personnel must wear safety glasses and protective footwear. Personnel cannot smoke in working areas of the laboratory. To protect the laboratory personnel from noxious gases, hoods are located above some instruments, and all experiments that might produce hazardous gases are conducted under a hood. As necessitated by different or emergency conditions, personnel may also use SCBA, cascade breathing systems, cartridge air masks or more stringent protective equipment, as required to ensure their safety. These devices are discussed in the Contingency Plan.

TABLE 1- TYPICAL PROTECTIVE CLOTHING		
Activity	Type of Work	Protective Clothing
Unloading Bulk Trucks	Aqueous and Oily	Chemically resistant coveralls, respirator, foot protection, and eye protection
	Acid or Caustic	Chemically resistant coveralls, respirator, foot protection, and eye protection
	Sludges or Solids	Chemically resistant coveralls, respirator, foot protection, and eye protection
Unloading Containerized Waste	Acid or Caustic	Chemically resistant coveralls, respirator, foot protection, eye protection, and hand protection
	Asbestos or Similar Airborne Particulate	Chemically resistant coveralls, respirator with HEPA filters, foot protection, eye protection, and hand protection
	Herbicides, Pesticides, etc.	Chemically resistant coveralls, possibly full-face respirator or SCBA (dependent upon type of compounds), foot protection, eye protection, and hand protection
Transferring Liquids	Aqueous Liquids	Chemically resistant coveralls, respirator, foot protection, eye protection, and hand protection
	Acid or Caustics	Chemically resistant coveralls, possibly full-face respirator or cascade air, foot protection, eye protection, and hand protection
Neutralization or Treatment	All Types	Chemically resistant coveralls, possibly full-face respirator or cascade air, foot protection, eye protection, and hand protection
Shredding Drums	All Types	Chemically resistant coveralls or aprons, respirator, foot protection, eye protection, and hard hat

TABLE 1- TYPICAL PROTECTIVE CLOTHING		
Activity	Type of Work	Protective Clothing
Neutralization	All Types	Chemically resistant coveralls or rain suit, possibly full-face respirator or TESS, foot protection, eye protection, and hand protection
Lab Work	All Types	Eye protection and foot protection
Moving Solid Waste and Incinerated Wastes	Solids Handling Area	Chemically resistant coveralls, respirator, foot protection, eye protection, and hand protection
Inspections and Maintenance	Inside Kiln and Inside Tanks	Chemically resistant coveralls, full-face respirator or SCBA or TEES (dependent upon type of contamination), foot protection, eye protection, hand protection, and hard hat
General	Operations or Safety Inspections which do not necessitate contact with hazardous waste	Hard hat, eye protection, and hand protection

SCBA – Self Contained Breathing Apparatus
TEES – Totally Enclosed Environmental Suit

APPENDIX 1

Determination of the Location of The 100-Year Floodplain

1. Introduction

This is a study to determine if the 100-year flood flow will affect an area in Section 33, Township 23 North, Range 15 West, of the Indian Meridian, near the Cimarron River.

All elevations utilized in the study were taken from the USGS 7.5-minute Series, Topo, Oklahoma, Quadrangle Map, Scale 1:24000.

2. Water Surface Elevation Computation Method

The water surface for the 100-year flood was determined utilizing the HEC-2 Program, a water surface profile computer program developed by the Hydrologic Engineering Center, Corps of Engineers, Davis, California.

HEC-2 is recognized throughout the United States as the standard for floodway determinations.

3. Discharge Determination Method

The discharge or flow rate used in the computation of the 100-year flood water surface was determined as follows: (See Table 1)

a) The Waynoka, Oklahoma, Gage (USGS 07158000) is approximately ten miles upstream of the Cimarron River reach of this study. Therefore, the 100-year flood frequency of 122,000 CFS computed by the Log Person Type III Method presented in USGS Water Resources Investigation 52-73 (January 1974) (See Table 2) was initially utilized. The Log Pearson III method is recognized as the standard in the United States for determining flood-flow frequency by the U.S Water Resource Council.

b) The study reach has an additional contributing drainage area of approximately 100 square miles below the Waynoka Gage as determined from USGS 1:25000·scale map, Woodward, Oklahoma, sheet. Therefore, assuming a linear relationship between 100-year flood flow at Waynoka, Oklahoma, Gage (See Table 2) and the next downstream gage of Guthrie, Oklahoma, (See Table 3) an adjusted 100-year flow was computed to 123,000 CFS.

c) The 100-year flood flow adjacent to the study site determined by using Figure 13, in USGS Water Resource Investigation 52-73 is 124,000 CFS.

4. Results and Conclusions

A flow of 124,000 CFS was utilized in determining the 100-year flood water surface profile. Table 4 is a summary of the computations.

Cross-section 2 is the section which intersects the study area. The water surface elevation of the 100-year flood is 1339.4 and the channel centerline depth is 8.1 feet at this section.

TABLE 1
DISCHARGE DETERMINATION METHODS

1. Waynoka, OK Gage – U.S.G.S 07158000

   Drainage Area = 13,334 mi^2

   8,504 mi^2 (contributing)

   Q_{100} = 122,000 cfs (Log Pearson III)

2. Adjusted for Additional Drainage Area (DA)

   a) Additional DA

   96 mi^2, say 100 mi^2 – U.S.G.S 1:250000 Woodward

   b)

Gage	DA (Contributing)	Q_{100} (Log Pearson III)
Guthrie, OK	11,966 mi^2	161,000 cfs
Waynoka, OK	8,504 mi^2	122,000 cfs
Difference	3,462 mi^2	39,000 cfs

   (100)/(3462)x39,000 = 1,126 say 1,2000 cfs

   c) Q_{100} = 122,000 + 1,200 = 123,200 cfs

3. Using Figure II, (U.S.G.S. Figure 13)

   DA = 8,504+100 = 8,604 mi^2

   Q_{100} = 124,000 cfs

TABLE 2
0715800 CIMARRON RIVER NEW WAYNOKA, OK

BASIN CHARACTERISTICS		LOG-PEARSON TYPE III FLOOD FREQUENCY DATA (CFS)
Drainage Area (sq. mi)		
Total =	13,334	Q_2 = 20,200
Noncontributing =	4,830	Q_5 = 37,800
Contributing =	8,504	Q_{10} = 53,000
Channel Slope (ft/mi) =	9.4	Q_{25} = 76,700
Annual Precipitation (in) =	17.0	Q_{50} = 98,000
Bankful Stage (ft) =	8.0	Q_{100} = 122,000

TABLE 3
0716000 CIMARRON RIVER NEW GUTHRIE, OK

BASIN CHARACTERISTICS		LOG-PEARSON TYPE III FLOOD FREQUENCY DATA (CFS)
Drainage Area (sq. mi)		
Total =	16,892	Q_2 = 29,100
Noncontributing =	4,926	Q_5 = 57,800
Contributing =	11,966	Q_{10} = 80,200
Channel Slope (ft/mi) =	6.8	Q_{25} = 111,000
Annual Precipitation (in) =	20.1	Q_{50} = 136,000
Bankful Stage (ft) =	10	Q_{100} = 161,000

TABLE 4
SUMMARY TABLE

SECTION NUMBER	CHANNEL INVERT. FEET, M.S.L.	COMPUTED W.S. FEET M.S.L.	DEPT FEET	TOP WIDTH FEET
1	1,325.0	1,331.1	8.1	4,495
2*	1,331.3	1,339.4	8.1	7,856
3	1,335.0	1,344.6	9.6	3,845
4	1,338.6	1,349.3	10.7	6,509
5	1,343.6	1,352.3	8.7	7,184
6	1,350.0	1,356.9	6.9	5,977

*Section that passes through study area.
Q = 124,000 CFS

2.7 Contingency Plan

2.8 Ignitable, Reactive, and Incompatible Waste Procedures

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1.0 General Facility Requirements

The following are general procedures the Lone Mountain facility will follow when managing ignitable, reactive, and incompatible wastes.

1.1 General Ignitable or Reactive Waste Requirements

Ignitable and reactive[1] wastes are identified upon receipt at the facility. Based on such identification, facility personnel select the proper disposal or treatment techniques.

All pre-shipment samples and samples of arriving loads are checked for ignitability by performing an Explosivity Meter Vapor (TLV Sniff) Test. If the reading for a liquid on the TLV Sniff is above the threshold tolerance levels established in the Waste Analysis Plan, the flash point is determined if the waste is destined for wastewater treatment or the landfill.

Flash point testing of waste destined for fuels blending is not necessary, as other criteria determine the suitability of this management method (e.g., Btu). A flash point reading of one hundred-forty degrees Fahrenheit (140°F) or less indicates that the liquid is ignitable and may not be eligible for landfilling. If a material having a TLV Sniff reading greater than the threshold tolerance levels established in the Waste Analysis Plan is a solid or sludge, the Ignitable Solids Screen may be performed depending on the management method to be employed. If the solid or sludge fails the ignitability test, then the material is not able to be landfilled in bulk (i.e., must be containerized or treated). The "fingerprint analysis" conducted on the incoming waste helps to establish the appropriate handling method for the waste load.

The Waste Analysis Plan discusses the processing of ignitable materials. Lone Mountain handles ignitable using one of three options:

1. Solidify or stabilize in the container or stabilization system to render non-ignitable, then landfill.
2. Perform solid/liquid separation and store liquids for off-site fuels or energy recovery programs.
3. Ship off site for proper treatment (e.g., incineration), disposal, or reclamation or return to the generator.

For the purposes of this attachment, ignitable wastes are only those exhibiting a flash point of less than to the generator.

The pre-shipment analysis conducted on the incoming waste also includes testing for water reactives, cyanides, and sulfides per the Waste Analysis Plan. Prior to landfilling, the waste must be chemically oxidized or deactivated in the appropriate treatment process if the tests are positive and the wastes

[1] For the purposes of this attachment, ignitable wastes are only those exhibiting a flash point of less than 140°F and reactive wastes are only those classified as D003.

do not meet the land disposal restrictions. Cyanide waste may be subjected to alkaline chlorination to destroy all simple and some complex cyanides that are amenable to chlorination (also called free cyanides). The other complex cyanides that are not easily oxidized will be managed as required. Waste streams containing reactive sulfides may also be chemically oxidized. After treatment, the treated wastes may require further treatment by the wastewater treatment and/or stabilization systems prior to disposal.

1.2 General Precautions

Containers and tanks holding reactive or ignitable waste are separated and protected from sources of reaction or ignition as well as being located more than fifty (50) feet from the property line of the facility. "No Smoking" signs are placed wherever there is a hazard from ignitable or reactive waste. During the handling of ignitable, reactive, or incompatible waste, Lone Mountain personnel utilize the following procedures:

1. No smoking, open flames, or other sources of ignition are allowed at any time in the facility except in designated areas.
2. Prior to unloading bulk ignitables, facility personnel ground the trucks to avoid the accumulation of static charges in the tanker or transfer line.
3. Facility personnel utilize adequate protective gear when handling ignitable, reactive, or incompatible wastes.
4. Facility personnel do not place incompatible or reactive wastes in containers or tanks contaminated with other incompatible or reactive wastes.
5. Facility personnel monitor the reaction temperature to ensure that the temperature is not excessive during the neutralization of wastes.
6. When handling ignitables in buildings, the vapors are continually swept by ventilation systems (including open air buildings). All pump motors are enclosed and fan cooled.

2.0 Container Storage

The following are the procedures for managing containers with ignitable, reactive or incompatible waste.

2.1 General Requirements

Containers are inspected in accordance with the approved Inspection Program. Containers that appear unsafe are immediately treated, disposed of, or placed in an overpack. The others remain in storage until they are treated at the unit, transferred elsewhere for treatment, or shipped off-site for management.

If ignitable wastes are present in the containers received, the free liquids are typically decanted and collected in a container or tank to be candidates for energy recovery or incineration. The contents of the containers are further solidified, drained, or the entire container is shredded if necessary, at the

Container Management Building and/or Solids Handling Building, with the end-product being further tested per the Waste Analysis Plan. It should be noted that containers holding ignitable materials are **NOT** cut by torches.

Reactive and incompatible wastes are also received in containers. After sampling and analysis, reactive and incompatible wastes will be segregated and temporarily stored in container management areas pending treatment, off-site reclamation, off-site incineration, or disposal.

Drums containing cyanide or sulfide wastes are segregated from other drums containing inorganic sludges that are acidic in nature. Other reactive wastes are stored according to their hazard class. Segregation is accomplished by storing in segregated storage areas, placement of the container on or in portable containment devices, or similar means (e.g., distance). It is the Lone Mountain Facility's general practice not to keep containers of acidic material in storage longer than necessary. If free liquids are present, the free liquid is typically decanted, stabilized in the container, or the container is shredded, and the drum is transferred to the next appropriate management unit or area. If the drum contains significant quantities of acidic liquid, this liquid is typically processed in the wastewater treatment plant or transferred to the stabilization system.

Incompatible wastes at the Drum Dock, Container Management Building, and Miscellaneous Storage Areas are stored in a segregated manner that prevents commingling. Segregation is accomplished by means of concrete curbs, ramps, slopes, sumps, distance, etc. that effectively isolate areas.

2.2 Reusable Containers

Gondolas, dump trailers, roll-off boxes, totes, tankers, portable tanks, etc., and some small containers (e.g., drums) of suitable quality for reuse may be cleaned and reused. A water spray is typically used to clean any waste that is left inside the container. If that is inadequate, a detergent may be sprayed on the unclean areas, or steam spray may also be used to remove the residue. Containers that are clean after emptying can be reused directly.

3.0 Tank Systems

The following are the procedures for managing ignitable, reactive and incompatible waste in tanks.

3.1 General Requirements

Tank systems are permanently grounded. When ignitable, reactive, or incompatible waste is placed in a tank system, the waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

1. The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under 40 CFR 261.21 or 40 CFR 261.23 and 40 CFR 264.17(b) (as noted below) is complied with;

2. The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or
3. The tank system is used solely for emergencies.

As noted in 40 CFR 264.17(b), when ignitable, reactive, or incompatible waste is stored, treated, disposed, or mixed, precautions will be taken to prevent reactions that:

1. Generate extreme heat or pressure, fire or explosions, or violent reactions;
2. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment ;
3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk or explosion;
4. Damage the structural integrity of the device or facility; and
5. Through other like means threaten human health or the environment.

Tanks are designated by intended use, especially 01 and 02, and a change of use usually does not occur, except for the Stabilization Tanks. Should the designation of the tank be changed, and a new waste is incompatible with the previously stored/treated waste, the tank will be properly prepared prior to use unless 40 CFR 264.17(b) is complied with.

Due to the treatment operations and variety of waste types in the stabilization tanks, wastes that are potentially incompatible may be treated individually in successive batches. Special care is taken to ensure the tanks are decontaminated prior to a change of service, and to prevent adverse reactions, 40 CFR 264.17(b) is complied with.

Also, all incompatible tank systems are segregated by concrete containment walls and, therefore, do not share secondary containment sumps. See the Tank System Secondary Containment Systems Design and Description for a discussion regarding the secondary containment systems.

3.2 Special Requirements

Ignitable wastes may be stored in the Waste Fuel Tanks (D1 and D2), the Unloading and Oil Skimmer Tanks (UT1, OS1, and OS2), the Waste Fuel Tank Farm, and Container Management Surge Tanks. The Waste Fuel Tank Farm and the Container Management Surge Tanks will be equipped with flame arresters to aid in fire prevention. All tanks storing ignitable material will comply with the requirements for the maintenance of protective distances between the waste management area and any adjoining property lines as outlined in the NFPA's "Flammable and Combustible Liquids Code" (Appendix 1 contains the relevant section of this code). Table 1 of this section outlines the protective distances for tanks at the Lone Mountain Facility.

Ignitable and/or reactive wastes may be stored/treated in the Stabilization Tanks, the Unloading and Oil Skimmer Tanks (UT1, OS1 and OS2), the Cyanide Storage Tank (CT3), the Caustic/Cyanide Overflow Tank (CO2), and the Cyanide Reactor (CN1). As above, these tanks will comply with NFPA Codes.

4.0 Landfills

Containerized ignitable, reactive, or incompatible wastes are not placed into landfill cells, with the exception of lab packs, until treated to meet the applicable land disposal restriction. Bulk ignitable, incompatible, or reactive wastes are not placed in landfill cells without treatment.

5.0 Solids Handling Building

The following are the procedures for managing ignitable, reactive or incompatible waste in the Solids Handling Building.

5.1 Incompatible Wastes

When an ignitable or incompatible waste load is received, an analysis for characteristics of ignitability and incompatibilities will be made. From the lab analysis, the operator will determine the tank that the waste should be unloaded based on compatibility with wastes already in the tank. Ignitable and incompatible sludges and other wet wastes must go through a mixing and solidification procedure after pumpable liquids have been decanted and before being shredded. After waste analysis, the load will be unloaded into a hopper and stabilized with sufficient stabilizing agents to completely stabilize the sludge. The mixture is then conveyed to a processed sludge storage bin.

5.2 Reactive Sludges and Solids

Reactive sludges will be stabilized with sufficient stabilizing agents to completely stabilize the sludge. Thus, the reactive sludges will be rendered basic. When a load of reactive solids is received, the unloading area will be cleared of other reactants, and a bed of limestone or neutral material will be placed into the area.

TABLE 1
PROTECTIVE DISTANCES FOR TANKS CONTAINING IGNITABLE/REACTIVE WASTE

TANK	MINIMUM DISTANCE REQUIRED* (FEET)	PROPOSED (FEET)	MINIMUM DISTANCE REQUIRED** (FEET)	PROPOSED (FEET)
Waste Fuel Tank Farm 10 – 17,650-Gal. Storage Tanks	40	>200	5	>150
Waste Fuel Tank Farm 2 – 105,700-Gal. Mixing Tanks	160	>200	25	>150
Container Mgmt. Surge Tank 2 – 6,400-Gal.	30	>200	5	6
Waste Fuel Tanks 2 – 8,549-Gal. (D1&D2)	30	>50	5	>15
Stabilization Tanks	20	>200	5	>100
OS1 8,976-Gal.	15	>200	5	13
OS2 987-Gal.	15	>200	5	5′1″
CT3 33,108-Gal.	30	>200	10	18
C02 1,050-Gal.	15	>200	5	29′4″
CN1 7,373-Gal.	10	>200	5	5
UT1 1,191-Gal.	15	>200	5	15
CM1 1,496-Gal.	20	>200	5	22′4″

* Minimum distance in feet from property line, which is or can be built upon, including the opposite side of a public way.

** Minimum distance in feet from the nearest side of any public way or from nearest important building on the same property.

APPENDIX A

SELECTED PORTIONS OF NFPA CODE 3

Table 2-1 Stable Liquids (Operating Pressure 2.5 psig or Less) (17.2 kPa)

Type of Tank	Protection	Minimum Distance in Feet from Property Line Which Is or Can Be Built Upon, Including the Opposite Side of a Public Way and Shall Be Not Less Than 5 Feet	Minimum Distance in Feet from Nearest Side of Any Public Way or from Nearest Important Building on the Same Property and Shall Be Not Less Than 5 Feet
Floating Roof [See 2-2.1.1(a)]	Protection for Exposures*	⅛ times diameter of tank	⅛ times diameter of tank
	None	Diameter of tank but need not exceed 175 feet	⅛ times diameter of tank
Vertical with Weak Roof to Shell Seam (See 2-2.5.3)	Approved foam or inerting system** on tanks not exceeding 150 feet in diameter***	⅛ times diameter of tank	⅛ times diameter of tank
	Protection for Exposures*	Diameter of tank	⅓ times diameter of tank
	None	2 times diameter of tank but need not exceed 350 feet	⅓ times diameter of tank
Horizontal and Vertical with Emergency Relief Venting to Limit Pressures to 2.5 psig	Approved inerting system** on the tank or approved foam system on vertical tanks	⅛ times Table 2-6	⅛ times Table 2-6
	Protection for Exposures*	Table 2-6	Table 2-6
	None	2 times Table 2-6	Table 2-6

* See definition for "Protection for Exposures."
** See NFPA 69, *Explosion Prevention Systems.*
*** For tanks over 150 ft in diameter use "Protection for Exposures" or "None" as applicable.
SI Units: 1 ft = 0.30 m.

Table 2-2 Stable Liquids (Operating Pressure Greater Than 2.5 psig) (17.2 kPa)

Type of Tank	Protection	Minimum Distance in Feet from Property Line Which Is or Can Be Built Upon, Including the Opposite Side of a Public Way	Minimum Distance in Feet from Nearest Side of Any Public Way or from Nearest Important Building on the Same Property
Any Type	Protection for Exposures*	1½ times Table 2-6 but shall not be less than 25 feet	1½ times Table 2-6 but shall not be less than 25 feet
	None	3 times Table 2-6 but shall not be less than 50 feet	1½ times Table 2-6 but shall not be less than 25 feet

* See definition for "Protection for Exposures."
SI Units: 1 ft = 0.30 m.

Table 2-3 Boil-over Liquids

Type of Tank	Protection	Minimum Distance in Feet from Property Line Which Is or Can Be Built Upon, Including the Opposite Side of a Public Way and Shall Be Not Less Than 5 Feet	Minimum Distance in Feet from Nearest Side of Any Public Way or from Nearest Important Building on the Same Property and Shall Be Not Less Than 5 Feet
Floating Roof [See 2-2.1.1(a)]	Protection for Exposures*	⅛ times diameter of tank	⅛ times diameter of tank
	None	Diameter of tank	⅛ times diameter of tank
Fixed Roof [See 2-2.1.4(a)]	Approved foam or inerting system**	Diameter of tank	⅓ times diameter of tank
	Protection for Exposures*	2 times diameter of tank	⅔ times diameter of tank
	None	4 times diameter of tank but need not exceed 350 feet	⅔ times diameter of tank

* See definition for "Protection for Exposures."
** See NFPA 69, *Explosion Prevention Systems.*
SI Units: 1 ft = 0.30 m.

Table 2-4 Unstable Liquids

Type of Tank	Protection	Minimum Distance in Feet from Property Line Which Is or Can Be Built Upon, Including the Opposite Side of a Public Way	Minimum Distance in Feet from Nearest Side of Any Public Way or from Nearest Important Building on the Same Property
Horizontal and Vertical Tanks with Emergency Relief Venting to Permit Pressure Not in Excess of 2.5 psig	Tank protected with any one of the following: Approved water spray, Approved inerting,* Approved insulation and refrigeration, Approved barricade	Table 2-6 but not less than 25 feet	Not less than 25 feet
	Protection for Exposures**	2½ times Table 2-6 but not less than 50 feet	Not less than 50 feet
	None	5 times Table 2-6 but not less than 100 feet	Not less than 100 feet
Horizontal and Vertical Tanks with Emergency Relief Venting to Permit Pressure Over 2.5 psig	Tank protected with any one of the following: Approved water spray, Approved inerting,* Approved insulation and refrigeration, Approved barricade	2 times Table 2-6 but not less than 50 feet	Not less than 50 feet
	Protection for Exposures**	4 times Table 2-6 but not less than 100 feet	Not less than 100 feet
	None	8 times Table 2-6 but not less than 150 feet	Not less than 150 feet

* See NFPA 69, *Explosion Prevention Systems*.
** See definition for "Protection for Exposures."
SI Units: 1 ft = 0.30 m.

Table 2-5 Class IIIB Liquids

Capacity Gallons	Minimum Distance in Feet from Property Line Which Is or Can Be Built Upon, Including the Opposite Side of a Public Way	Minimum Distance in Feet from Nearest Side of Any Public Way or from Nearest Important Building on the Same Property
12,000 or less	5	5
12,001 to 30,000	10	5
30,001 to 50,000	10	10
50,001 to 100,000	15	10
100,001 or more	15	15

SI Units: 1 ft = 0.30 m; 1 gal = 3.8 L.

Table 2-6
Reference Table for Use in Tables 2-1 to 2-4

Capacity Tank Gallons	Minimum Distance in Feet from Property Line Which Is or Can Be Built Upon, Including the Opposite Side of a Public Way	Minimum Distance in Feet from Nearest Side of Any Public Way or from Nearest Important Building on the Same Property
275 or less	5	5
276 to 750	10	5
751 to 12,000	15	5
12,001 to 30,000	20	5
30,001 to 50,000	30	10
50,001 to 100,000	50	15
100,001 to 500,000	80	25
500,001 to 1,000,000	100	35
1,000,001 to 2,000,000	135	45
2,000,001 to 3,000,000	165	55
3,000,001 or more	175	60

SI Units: 1 ft = 0.30 m; 1 gal = 3.8 L.

2-2.1.8 Where end failure of horizontal pressure tanks and vessels can expose property, the tank shall be placed with the longitudinal axis parallel to the nearest important exposure.

2-2.2 Spacing (Shell-to-Shell) between Any Two Adjacent Aboveground Tanks.

2-2.2.1 Tanks storing Class I, II or IIIA stable liquids shall be separated in accordance with Table 2-7, except as provided in 2-2.2.2.

2-2.2.2 Crude petroleum tanks having individual capacities not exceeding 126,000 gal (3,000 barrels), when located at production facilities in isolated locations, need not be separated by more than 3 ft (0.90 m).

2-2.2.3 Tanks used only for storing Class IIIB liquids may be spaced no less than 3 ft (0.90 m) apart unless within a diked area or drainage path for a tank storing a Class I or II liquid, in which case the provisions of Table 2-7 apply.

2-2.2.4 For unstable liquids, the distance between such tanks shall not be less than one-half the sum of their diameters.

2-2.2.5 When tanks are in a diked area containing Class I or Class II liquids, or in the drainage path of Class I or Class II liquids, and are compacted in three or more rows or in an irregular pattern, greater spacing or other means may be required by the authority having jurisdiction to make tanks in the interior of the pattern accessible for fire fighting purposes.

Table 2-7 Minimum Tank Spacing (Shell-to-Shell)

	Floating Roof Tanks	Fixed Roof or Horizontal Tanks	
		Class I or II Liquids	Class IIIA Liquids
All tanks not over 150 feet diameter	⅙ sum of adjacent tank diameters but not less than 3 feet	⅙ sum of adjacent tank diameters but not less than 3 feet	⅙ sum of adjacent tank diameters but not less than 3 feet
Tanks larger than 150 feet diameter			
If remote impounding is in accordance with 2-2.3.2	¼ sum of adjacent tank diameters	¼ sum of adjacent tank diameters	¼ sum of adjacent tank diameters
If impounding is around tanks in accordance with 2-2.3.3	½ sum of adjacent tank diameters	½ sum of adjacent tank diameters	½ sum of adjacent tank diameters

SI Units: 1 ft = 0.30 m.

2-2.2.6 The minimum horizontal separation between an LP-Gas container and a Class I, Class II or Class IIIA liquid storage tank shall be 20 ft (6 m) except in the case of Class I, Class II or Class IIIA liquid tanks operating at pressures exceeding 2.5 psig (17.2 kPa) or equipped with emergency venting which will permit pressures to exceed 2.5 psig (17.2 kPa) in which case the provisions of 2-2.2.1 and 2-2.2.2 shall apply. Suitable means shall be taken to prevent the accumulation of Class I, Class II or Class IIIA liquids under adjacent LP-Gas containers such as by dikes, diversion curbs or grading. When flammable or combustible liquid storage tanks are within a diked area, the LP-Gas containers shall be outside the diked area and at least 10 ft (3 m) away from the centerline of the wall of the diked area. The foregoing provisions shall not apply when LP-Gas containers of 125 gal (475 L) or less capacity are installed adjacent to fuel oil supply tanks of 660 gal (2498 L) or less capacity. No horizontal separation is required between aboveground LP-Gas containers and underground flammable and combustible liquid tanks installed in accordance with Section 2-3.

2-2.3 Control of Spillage from Aboveground Tanks.

2-2.3.1 Facilities shall be provided so that any accidental discharge of any Class I, II or IIIA liquids will be prevented from endangering important facilities, adjoining property or reaching waterways, as provided for in 2-2.3.2 or 2-2.3.3. Tanks storing Class IIIB liquids do not require special drainage or diking provisions for fire protection purposes.

2-2.3.2 Remote Impounding. Where protection of adjoining property or waterways is by means of drainage to a remote impounding area, so that impounded liquid will not be held against tanks, such systems shall comply with the following:

(a) A slope of not less than 1 percent away from the tank shall be provided for at least 50 ft (15 m) toward the impounding area.

(b) The impounding area shall have a capacity not less than that of the largest tank that can drain into it.

(c) The route of the drainage system shall be so located that, if the liquids in the drainage system are ignited, the fire will not seriously expose tanks or adjoining property.

(d) The confines of the impounding area shall be located so that when filled to capacity the liquid level will not be closer than 50 ft (15 m) from any property line that is or can be built upon, or from any tank.

2-2.3.3 Impounding Around Tanks by Diking. When protection of adjoining property or waterways is by means of impounding by diking around the tanks, such system shall comply with the following:

(a) A slope of not less than 1 percent away from the tank shall be provided for at least 50 ft (15 m) or to the dike base, whichever is less.

(b) The volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank. To allow for volume occupied by tanks, the capacity of the diked area enclosing more than one tank shall be calculated after deducting the volume of the tanks, other than the largest tank, below the height of the dike.

(c) To permit access, the outside base of the dike at ground level shall be no closer than 10 ft (3 m) to any property line that is or can be built upon.

(d) Walls of the diked area shall be of earth, steel, concrete or solid masonry designed to be liquidtight and to withstand a full hydrostatic head. Earthen walls 3 ft (0.90 m) or more in height shall have a flat section at the top not less than 2 ft (0.60 m) wide. The slope of an earthen wall shall be consistent with the angle of repose of the material of which the wall is constructed. Diked areas for tanks containing Class I liquids located in extremely porous soils may require special treatment to prevent seepage of hazardous quantities of liquids to low-lying areas or waterways in case of spills.

(e) Except as provided in (f) below, the walls of the diked area shall be restricted to an average interior height of 6 ft (1.8 m) above interior grade.

(f) Dikes may be higher than an average of 6 ft (1.8 m) above interior grade where provisions are made for normal access and necessary emergency access to tanks, valves and other equipment, and safe egress from the diked enclosure.

1. Where the average height of the dike containing Class I liquids is over 12 ft (3.6 m) high, measured from interior grade, or where the distance between any tank and the top inside edge of the dike wall is less than the height of the dike wall, provisions shall be made for normal operation of valves and for access to tank roof(s) without entering below the top of the dike. These provisions may be met through the use of remote operated valves, elevated walkways or similar arrangements.