

May 17, 2017

Hand Delivery

Mrs. Kathleen Z. Lawson
Facility Management Branch
Hazardous Waste Section
North Carolina Department of Environmental Quality
1646 Mail Service Center
Raleigh, NC 27699



Re: RCRA Part B Permit Renewal Application and Fee
Safety-Kleen Systems, Inc. - Charlotte, NC
USEPA ID No.: NCD 079 060 059

Dear Mrs. Lawson:

Safety-Kleen Systems, Inc. is submitting herein the RCRA Part B Permit Renewal Application and the associated fee of \$14,000.00 for our Charlotte, North Carolina facility. The enclosed permit renewal application is being submitted in accordance with NCHWMR Section 270.10(h), as adopted in 15A NCAC 13A .0113, and condition I.D.2. of our existing permit. Please find enclosed one (1) original paper bound version of the complete permit application as well as three (3) electronic copies on compact disks. Additionally, please note that no additional permitted activities are being requested in the renewal application.

Lastly, Appendix F-2 of the application contains the documentation of mailing the facility contingency plan to the local authorities and emergency response entities, as well the response letters received to date, in order to fulfill the notification requirements of N.C.G.S. 130A-295(e).

If you have any questions regarding these permit application submittal, please feel free to contact me at (336) 644-0332.

Sincerely,

Todd M. Blake
Environmental, Health & Safety Manager

Enclosures

cc: EHS File 1020

RCRA HAZARDOUS WASTE FACILITY OPERATING PERMIT APPLICATION

SAFETY-KLEEN SYSTEMS, INC.

CHARLOTTE, NORTH CAROLINA


EPA ID No. NCD 079 060 059



MAY 2017

SECTION A
PERMIT APPLICATION FORMS, PHOTOGRAPHS,
AND WELL MAPS
TABLE OF CONTENTS

RCRA Subtitle C Site Identification Form
Hazardous Waste Permit Information Form
Topographical Map w/ 1,000' Boundary
Facility Photographs
Water Supply Well Location Map
Utility & Monitoring Well Location Map

<p>SEND COMPLETED FORM TO: The Appropriate State or Regional Office.</p>	<p>United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM</p>	
<p>1. Reason for Submittal</p> <p>MARK ALL BOX(ES) THAT APPLY</p>	<p>Reason for Submittal:</p> <p><input type="checkbox"/> To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)</p> <p><input type="checkbox"/> To provide a Subsequent Notification (to update site identification information for this location)</p> <p><input type="checkbox"/> As a component of a First RCRA Hazardous Waste Part A Permit Application</p> <p><input type="checkbox"/> As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # _____)</p> <p><input type="checkbox"/> As a component of the Hazardous Waste Report (If marked, see sub-bullet below)</p> <p style="margin-left: 20px;"><input type="checkbox"/> Site was a TSD facility and/or generator of >1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations)</p>	
<p>2. Site EPA ID Number</p>	<p>EPA ID Number <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	
<p>3. Site Name</p>	<p>Name: <input type="text"/></p>	
<p>4. Site Location Information</p>	<p>Street Address: <input type="text"/></p>	
	<p>City, Town, or Village: <input type="text"/></p>	<p>County: <input type="text"/></p>
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>
<p>5. Site Land Type</p>	<p><input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>	
<p>6. NAICS Code(s) for the Site (at least 5-digit codes)</p>	<p>A. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>C. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>
	<p>B. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>D. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>
<p>7. Site Mailing Address</p>	<p>Street or P.O. Box: <input type="text"/></p>	
	<p>City, Town, or Village: <input type="text"/></p>	
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>
<p>8. Site Contact Person</p>	<p>First Name: <input type="text"/></p>	<p>MI: <input type="text"/></p>
	<p>Last: <input type="text"/></p>	
	<p>Title: <input type="text"/></p>	
	<p>Street or P.O. Box: <input type="text"/></p>	
	<p>City, Town or Village: <input type="text"/></p>	
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>
	<p>Zip Code: <input type="text"/></p>	
	<p>Email: <input type="text"/></p>	
<p>Phone: <input type="text"/></p>	<p>Ext.: <input type="text"/></p>	<p>Fax: <input type="text"/></p>
<p>9. Legal Owner and Operator of the Site</p>	<p>A. Name of Site's Legal Owner: <input type="text"/></p>	
	<p>Date Became Owner: <input type="text"/></p>	
	<p>Owner Type: <input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>	
	<p>Street or P.O. Box: <input type="text"/></p>	
	<p>City, Town, or Village: <input type="text"/></p>	
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>
	<p>Phone: <input type="text"/></p>	
<p>B. Name of Site's Operator: <input type="text"/></p>		
<p>Date Became Operator: <input type="text"/></p>		
<p>Operator Type: <input type="checkbox"/> Private <input type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other</p>		

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; Complete all parts 1-10.

- Y N **1. Generator of Hazardous Waste**
 If "Yes," mark only one of the following – a, b, or c.
- a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs/mo.) or more of hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs/mo) of acute hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 100 kg/mo (220 lbs/mo) of acute hazardous spill cleanup material.
- b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs/mo) of non-acute hazardous waste.
- c. CESQG: Less than 100 kg/mo (220 lbs/mo) of non-acute hazardous waste.
- If "Yes" above, indicate other generator activities in 2-10.

- Y N **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes," provide an explanation in the Comments section.
- Y N **3. United States Importer of Hazardous Waste**
- Y N **4. Mixed Waste (hazardous and radioactive) Generator**

- Y N **5. Transporter of Hazardous Waste**
 If "Yes," mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)
- Y N **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.
- Y N **7. Recycler of Hazardous Waste**
- Y N **8. 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
- Y N **9. Underground Injection Control**
- Y N **10. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

- Y N **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes," mark all that apply.**
- 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; Complete all parts 1-4.

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

❖ You can ONLY Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

Y N 1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories
See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:

- a. College or University
- b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university
- c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

Y N 2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

A. 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.

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated 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.

12. 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 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes," you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

14. 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. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)

United States Environmental Protection Agency

HARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact	First Name:	MI:	Last Name:
	Contact Title:		
	Phone:	Ext.:	Email:
2. Facility Permit Contact Mailing Address	Street or P.O. Box:		
	City, Town, or Village:		
	State:		
	Country:	Zip Code:	
3. Operator Mailing Address and Telephone Number	Street or P.O. Box:		
	City, Town, or Village:		
	State:	Phone:	
	Country:	Zip Code:	
4. Facility Existence Date	Facility Existence Date (mm/dd/yyyy):		

5. Other Environmental Permits													
A. Facility Type <i>(Enter code)</i>	B. Permit Number										C. Description		

6. Nature of Business:

7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3

- A. PROCESS CODE** – Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For “other” processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 8.
- B. PROCESS DESIGN CAPACITY** – For each code entered in Item 7.A; enter the capacity of the process.
1. **AMOUNT** – Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
 2. **UNIT OF MEASURE** – For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.
- C. PROCESS TOTAL NUMBER OF UNITS** – Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity	Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
Disposal			Treatment (Continued)		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day	T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards	T82	Lime Kiln	
D81	Land Treatment	Acres or Hectares	T83	Aggregate Kiln	
D82	Ocean Disposal	Gallons Per Day or Liters Per Day	T84	Phosphate Kiln	
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards	T85	Coke Oven	
D99	Other Disposal	Any Unit of Measure Listed Below	T86	Blast Furnace	
Storage			T87	Smelting, Melting, or Refining Furnace	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards	T88	Titanium Dioxide Chloride Oxidation Reactor	
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards	T89	Methane Reforming Furnace	
S03	Waste Pile	Cubic Yards or Cubic Meters	T90	Pulping Liquor Recovery Furnace	
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards	T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards	T92	Halogen Acid Furnaces	
S06	Containment Building Storage	Cubic Yards or Cubic Meters	T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
S99	Other Storage	Any Unit of Measure Listed Below	T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
Treatment			Miscellaneous (Subpart X)		
T01	Tank Treatment	Gallons Per Day; Liters Per Day	X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
T02	Surface Impoundment	Gallons Per Day; Liters Per Day	X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; or Gallons Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour	X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour	X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour	X99	Other Subpart X	Any Unit of Measure Listed Below

Unit of Measure	Unit of Measure Code	Unit of Measure	Unit of Measure Code
Gallons.....	G	Short Tons Per Hour.....	D
Gallons Per Hour.....	E	Short Tons Per Day.....	N
Gallons Per Day.....	U	Metric Tons Per Hour.....	W
Liters.....	L	Metric Tons Per Day.....	S
Liters Per Hour.....	H	Pounds Per Hour.....	J
Liters Per Day.....	V	Kilograms Per Hour.....	X
		Million BTU Per Hour.....	X
		Cubic Yards.....	Y
		Cubic Meters.....	C
		Acres.....	B
		Acre-feet.....	A
		Hectares.....	Q
		Hectare-meter.....	F
		BTU Per Hour.....	I

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
	(1) Amount (Specify)	(2) Unit of Measure									
X 1	S	0	2	533.788	G	001					
1											
2											
3											
4											
5											
6											
7											
8											
9											
1 0											
1 1											
1 2											
1 3											

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the line sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04, and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04, and X99 process codes)

Line Number (Enter #s in sequence with Item 7)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number of Units	For Official Use Only				
	(1) Amount (Specify)	(2) Unit of Measure									
X 2	T	0	4	100.00	U	001					

9. Description of Hazardous Wastes - Enter Information in the Sections on Form Page 5

- A. EPA HAZARDOUS WASTE NUMBER** – Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY** – For each listed waste entered in Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE** – For each quantity entered in Item 9.B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all listed hazardous wastes.

For non-listed waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of Item 9.D(1).
3. Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.

2. PROCESS DESCRIPTION: If code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.
2. In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING Item 9 (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA Hazardous Waste No. (Enter code)					B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES														
	(1) PROCESS CODES (Enter Code)										(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))											
X	1	K	0	5	4	900	P	T	0	3	D	8	0									
X	2	D	0	0	2	400	P	T	0	3	D	8	0									
X	3	D	0	0	1	100	P	T	0	3	D	8	0									
X	4	D	0	0	2																	Included With Above

9. Description of Hazardous Wastes (Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)														
Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES										
				(1) PROCESS CODES (Enter Code)						(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))				
1														
2														
3														
4														
5														
6														
7														
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													
3	5													
3	6													

10. 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.

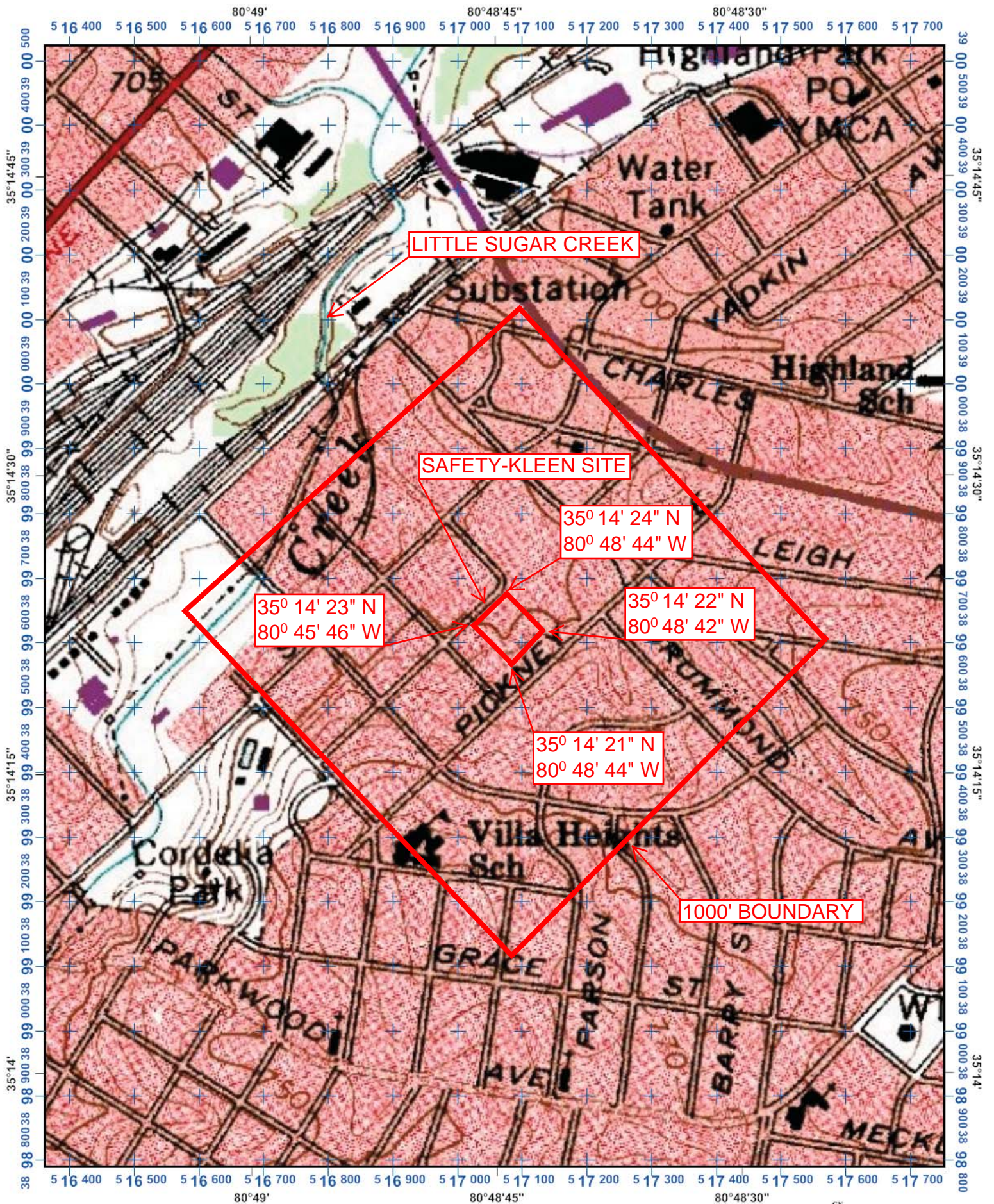
11. Facility Drawing

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

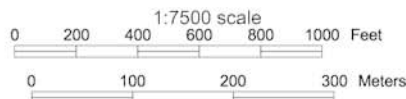
12. Photographs

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).

13. Comments



Universal Transverse Mercator (UTM) Projection Zone 17
 North American Datum of 1983
 100 meter UTM / USNG / MGRS
 Grid Zone Designation: 17S
 100,000-m Squares: NU



GN
 MN
 TN
 0°
 Magnetic declination of 7W at center of map
 on March 17, 2011

SAFETY-KLEEN SMALL SCALE TOPO MAP
 CHARLOTTE, N.C. DWG # 7055-SPOO-027



Photo # 1: View looking east of main Facility entrance off East 27th Street. Photo taken 2/27/17.



Photo # 2: View looking south toward the Facility from the corner of East 27th Street and Yadkin Avenue. Photo taken 2/27/17.



Photo # 3: View of Office Building looking east.



Photo # 4: Class 1B Flammable Container Storage Warehouse looking south (RCRA permitted Class 1B Container Storage Area located inside)



Photo # 5: Class 1B Flammable Container Storage Warehouse. Internal view of 10-day Transfer Storage Area looking south-southwest.



Photo # 6: Exterior view looking northeast at Class 1B Container Storage Warehouse. RCRA permitted Class 1B Container Storage Area (S01) located inside.



Photo # 7: RCRA permitted Class 1B Flammable Container Storage Area looking east (S01)



Photo # 8: RCRA permitted Class 1B Flammable Container Storage Area (S01) looking north.



Photo # 9: Non-Ignitable Container Storage Warehouse (S01) / Return and Fill Area looking west.



Photo # 10: Drum Washer/Dumpster Units (X99) located at Return and Fill Area.



Photo # 11: Interior view of Non-Ignitable Container Storage Warehouse looking west (RCRA permitted - S01)



Photo # 12: Interior view of Non-Ignitable Container Storage Warehouse looking north. (RCRA permitted - S01)



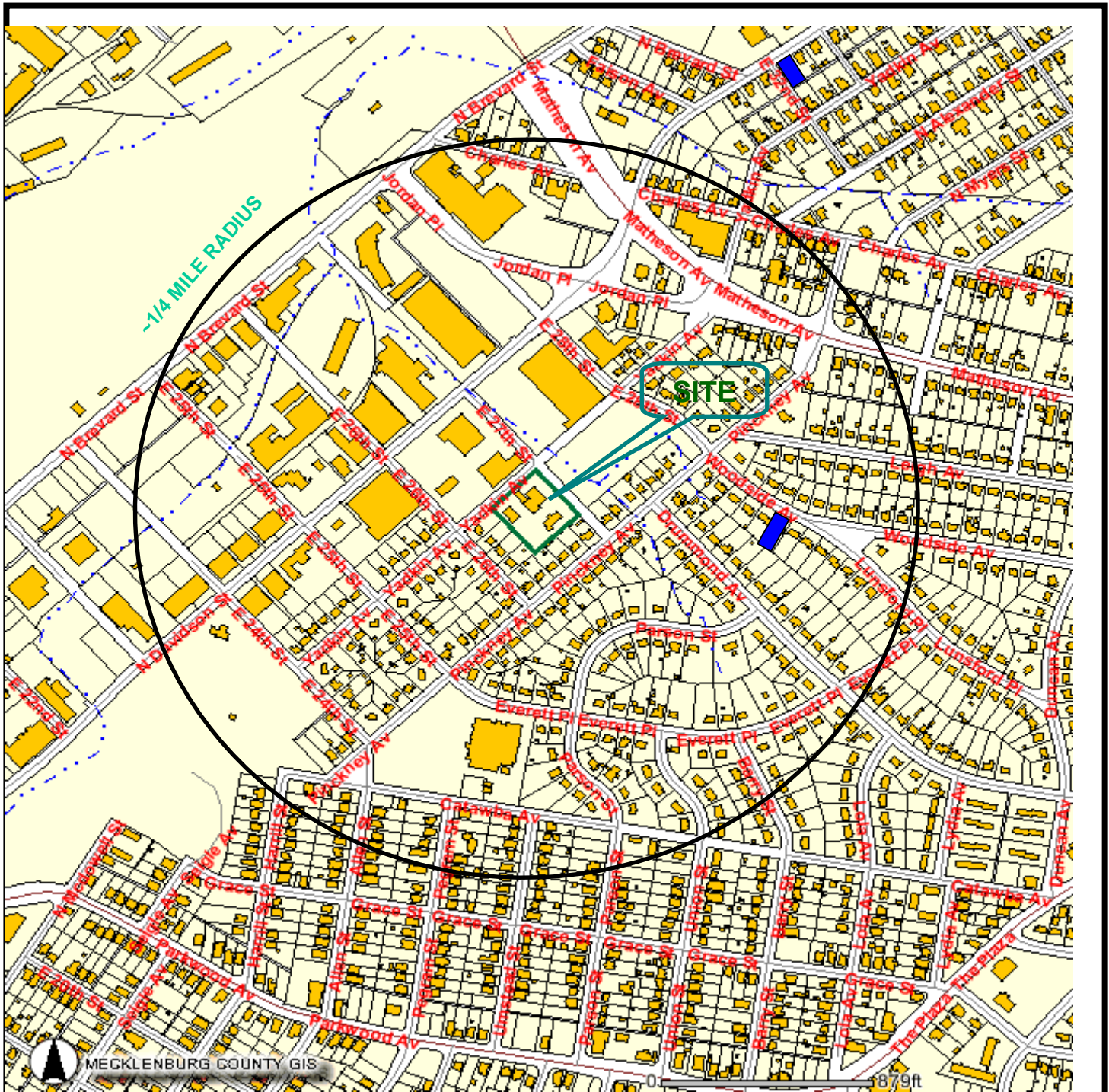
Photo # 12: Parts Washer Solvent Tank Farm looking west. RCRA permitted Used Parts Washer Storage Tank (S02) located on left inside tank farm. Photo taken 4/10/14.



Photo # 13: RCRA Permitted Used Parts Washer Solvent Storage Tank (S02) inside Parts Washer Solvent Tank Farm. Photo taken 4/10/14.



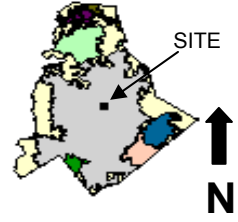
Photo # 14: View looking south of secondary Facility access gates (truck gate and man gate) located off Yadkin Avenue. Photo taken 2/27/17.



MECKLENBURG COUNTY GIS

 Private Well

Mecklenburg County Locator Map



SOURCE: MECKLENBURG COUNTY WELL INFORMATION SYSTEM



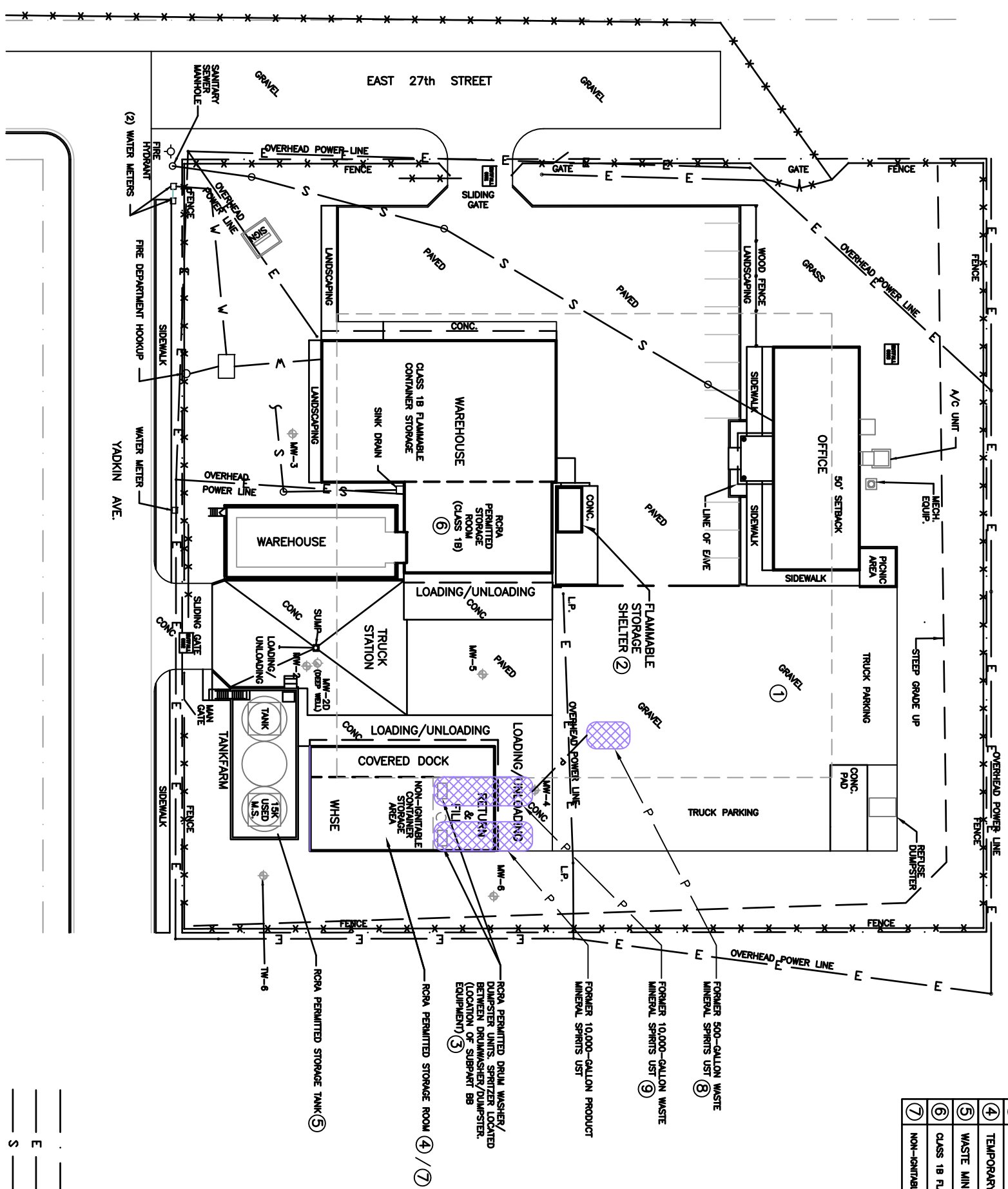
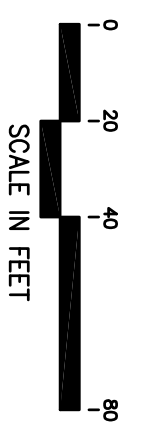
3417-A TRADE PARK COURT
CHARLOTTE, NC 28217
(704) 529-3200

WATER SUPPLY WELL LOCATIONS

SAFETY-KLEEN SYSTEMS, INC.
2320 YADKIN AVENUE
CHARLOTTE, NORTH CAROLINA 28205

PROJECT NO: 45.16031.0007

SCALE: AS SHOWN	DATE: 01-2006'	REVIEWED BY: GKO
-----------------	----------------	------------------



ID	SWMU DEFINITION
①	FORMER TRASH DUMPSTER
②	PAINT WASTE STORAGE ROOMS
③	WET DUMPSTER UNITS (2)
④	TEMPORARY DRUM STORAGE AREA
⑤	WASTE MINERAL SPIRITS AST
⑥	CLASS 18 FLAMMABLE CONTAINER STORAGE WAREHOUSE
⑦	NON-IGNITABLE CONTAINER STORAGE AREA (SAME AS SWMU-4)

- — — — — PROPERTY BOUNDARY LINE
- — — — — OVERHEAD ELECTRIC LINE
- — — — — SANITARY SEWER LINE
- — — — — WATER LINE
- — — — — FORMER PRODUCT LINE
- ◊ — — — — — MONITORING WELL
- ◊ — — — — — DEEP MONITORING WELL
- ④ — — — — — SWMU NUMBER

NOTES: REVISED BY PROJECT SOLUTIONS ON 3/14/14

TITLE
 UTILITY & MONITORING WELL LOCATION MAP
 SAFETY-KLEEN SYSTEMS, INC.
 2320 YADKIN AVENUE
 CHARLOTTE, NORTH CAROLINA



ATC ASSOCIATES OF NORTH CAROLINA, P.C.
 Raleigh, North Carolina 27604 (919) 871-0999 FAX (919) 871-0335

CAD FILE 1252896.dwg	TYPE CODE	PREP. BY AM	REV. BY GO	SCALE 1" = 40'	DATE 03-14-2014	PROJECT NO. 45.16031.0004
-------------------------	-----------	----------------	---------------	-------------------	--------------------	------------------------------

SECTION B
FACILITY DESCRIPTION
TABLE OF CONTENTS

SECTION	PAGE
B-1 General Description	1
B-1(a) Container Storage Areas	5
B-1(b) Parts Washer Solvent Tank Farm	6
B-2 Topographic Map	8
B-2(a) General Requirements	8
B-2(b) Additional Topographical Requirements for Land Disposal Facilities	9
B-3 Traffic Information	9
B-3(a) On-Site Traffic page	9
B-3(b) Off-Site Traffic page	10
B-3(c) Road Surfacing and Load Bearing Capacity	11
B-4 Location Information	12
B-4(a) Seismic Standard	12
B-4(b) Floodplain Standard	12
B-4(c) Additional North Carolina Location Standards	12
B-5 Additional North Carolina Requirements	13
B-5(a) Monitoring Wells for New Facilities	13
B-5(b) Public Participation for New Facilities	13

LIST OF FIGURES

B-1 Site Plan
B-2 Topographical Map
B-3 Tax Map
B-4 Flood Plain Map
B-5 Wind Rose

SECTION B

FACILITY DESCRIPTION

The information provided in this section is submitted in accordance with the requirements of 40 CFR Sections 264.18, 264.95, 264.97, 264 Appendix VI, 270.14 and 15A NCAC 13A.0113(c)(6).

B-1 GENERAL DESCRIPTION

The Safety-Kleen Service Center, located within the City of Charlotte (Mecklenburg County), North Carolina (hereinafter referred to as the Facility), occupies an approximate 1.5-acre site. The Facility is owned and operated by the Safety-Kleen Systems, Incorporated, a subsidiary of Clean Harbors, Inc., and has been in operation at this site since July 15, 1980.

Safety-Kleen Systems, Incorporated is an international service-oriented company whose customers are primarily engaged in after market automotive repair, industrial maintenance, manufacturing and dry cleaning. The company has been operating since 1968, offering solvent and reclamation services for its customers. The business activities conducted at the Facility relate to the leasing and servicing of parts cleaning equipment, the collection and distribution of solvents, the collection of paint wastes, and the collection and management of industrial wastes. The solvents are distributed from and returned to the service center, where separate aboveground storage tanks are utilized for the storage of clean and used parts washer solvent, and waste oil. Additional space is designated for the storage of drums containing both clean and spent immersion cleaner, dry cleaner wastes, photographic processing wastes, and paint wastes. The stored materials are periodically removed from the Facility and transported to other facilities for reclamation. No reclamation activities are performed at this Facility. All land and buildings currently associated with the Facility are owned by Safety-Kleen Systems, Incorporated.

Facility operations include the accumulation and storage of various waste streams, including used solvents, dry cleaner wastes, paint wastes, photographic processing wastes, and spent immersion cleaner. The facility functions as a hazardous waste storage facility pursuant to 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities. The Facility also meets the definition of a transfer facility under 40 CFR 263 and Rule 15A NCAC 13A.0118, Standards Applicable to Transporters of Hazardous Waste. As such, the facility may hold hazardous wastes in containers for a period of ten (10) days or less during the normal course of transportation. Transfer wastes are not subject to regulation under 40 CFR 264 but may be held in the same areas used for permitted waste storage. The Facility currently provides services for customers in portions of the south-central region of North Carolina and portions of eastern South Carolina. Occasionally, household hazardous wastes may be temporarily stored at this facility.

The Facility location address and U.S. EPA identification number are as follows:

Safety-Kleen Systems, Incorporated
2320 Yadkin Avenue
Charlotte, North Carolina 28205
U.S. EPA ID Number: NCD 079 060 059

The name and address of the Facility's corporate headquarters is:

Safety-Kleen Systems, Incorporated
2600 North Central Expressway, Suite 200
Richardson, Texas 75080

The Facility consists of the following main elements, which are depicted on Figure B-1:

- Class 1B Warehouse Building. Located in the central portion of Facility property, this building houses the Class 1B Flammable Container Storage Area for hazardous wastes on the southwest side of this building. The remaining portion of this Building is occupied by equipment and product storage areas, as well as storage for less than 10-day transfer wastes. Additional information pertaining to the types, methods, and quantities of hazardous wastes managed in the warehouse building is included in Section D of this permit application.
- Return and Fill Station/Non-Ignitable Waste Container Storage Warehouse. Located in the western portion of the facility property, this building contains the Return & Fill Station, the Non-Ignitable Waste Container Storage Area for hazardous wastes and a loading dock. The canopy covered Return and Fill Station occupies the south end of this building, and contains two (2) drum washer/dumpster units and one (1) drum rinsing unit. The covered loading dock is adjacent to the east side of the building, with the Non-Ignitable Waste Container Storage Area entrance located behind the loading dock, in the northwest section of the Return and Fill Area.
- Flammable Shelter. Located in the central portion of the Facility property, directly outside the southeast wall of the Class 1B Flammable Container Storage Area. The shelter is used primarily for the storage of clean product, empty drums, and various 10-day transfer wastes.
- Allied Products Storage Warehouse. This pre-fabricated metal frame building (constructed in 2003) is located northeast of the Class 1B Warehouse Building and inside the containment area of the former Used Oil Tank Farm. This building is used for the storage of product materials and equipment. This storage area is not a permitted hazardous waste storage unit.

- Office Building. This two-story building is located southeast of the Class 1B Warehouse Building in the south-central portion of the Facility property and houses the administrative offices and employee locker rooms.
- Parts Washer Solvent Tank Farm. This tank farm houses two (2) 15,000-gallon aboveground storage tanks, and is located directly north of the Return & Fill Station. Only one of these tanks is permitted and designated for the storage of used parts washer solvent. One of these tanks is used for the storage of used parts washer solvent. All tanks are marked with their contents and the applicable NFPA placard. Future plans may include the installation of an additional aboveground tank to store solvent product or other compatible non-hazardous waste materials.
- Truck Station Area. This concrete-paved area is located adjacent to the Parts Washer Solvent Tank Farm and contains a collection sump adjacent to the tank farm containment wall. A single storage tank access container unit is located within the tank farm containment area adjacent to the truck station. This unit contains the pipe header connections that allow tanker trucks to load and unload material (i.e., clean and used solvents) to and from the tanks via aboveground pipelines.

The remaining fenced Facility property either is covered with gravel or asphalt for facility ingress/egress, parking and miscellaneous storage, or consists of manicured grass and landscaping.

Access to the Facility is controlled by a 6-foot-high chain link fence, topped with barbed wire. Four (4) gates allow access to the Facility. Additional discussion regarding access control and site security is contained in Section F-1. The site fence and access gates are shown in Figure B-1.

Fire control devices include mounted fire extinguishers in each building, an automated dry chemical suppression system in the Flammable Product Storage Shed, and a

sprinkler system in the Class 1B Container Storage Warehouse Building. Fire response is provided by the Charlotte, North Carolina Fire Department. This is further discussed within Section F-(3)(a)(4).

The Facility is served by a public water supply and the City of Charlotte sanitary sewer system. All Facility bathrooms, sinks, and showers are connected to the sanitary sewer system. Storm water run-off from the Facility is directed northward to Yadkin Avenue and East 27th street where it enters storm drains located in the streets. These storm drains eventually discharge into Little Sugar Creek, located west of the Facility.

The hazardous waste management units subject to RCRA storage regulations at this Facility include:

- Non-Ignitable Waste Container Storage Area.
- The Class 1B Container Storage Area inside the Class 1B Warehouse Building.
- Used Parts Washer Solvent Tank System and Ancillary Equipment.
- Two (2) Parts Washer Solvent Drum Washer/Dumpster units – Return and Fill Dock.

The locations of these units are depicted in Figure B-1. A brief discussion of each of these units is provided within the following subsections. A comprehensive discussion of each of these units is presented within Section D.

B-1(a) Container Storage Areas

The Non-Ignitable Waste Container Storage Area is located within the Return and Fill Area, which is located on the northwestern side of the Facility property. The Class 1B Flammable Container Storage Area for hazardous waste is located in the southern portion of the Class 1B Container Storage Warehouse Building, which is located in the central portion of the Facility property. These two areas are used for the storage of the various containerized transfer wastes (as 10-day transfer), dry cleaning waste,

immersion cleaner waste, drum washer/dumpster sediment, perchloroethylene waste, waste paints/solvents, empty containers and new product.

A complete breakdown as to the area and storage type is provided in Section D of this application, Table D-2. The waste types stored in each area will vary based upon business demand; however, all waste types within a single storage area will be compatible with the container used and any other materials stored.

Each area has been designed with adequate secondary containment in the form of concrete curbs and sumps. Additional discussions regarding the secondary containment system for these areas are contained in Section D-1(a)(3).

B-1(b) Parts Washer Solvent Tank Farm

The Parts Washer Solvent Tank Farm is located north of the Return and Fill Station area. The Tank Farm consists of two (2) aboveground storage tanks that are situated within a concrete containment structure:

- Tank No. 1 is a 15,000-gallon capacity vertical steel aboveground tank used to store used parts washer solvent and is a RCRA regulated storage tank. It may also be utilized on an as-needed basis to store storm water that has collected within the Tank Farm or the Return and Fill Station.
- Tank No. 3 is a 15,000-gallon capacity vertical steel aboveground tank used to store petroleum related products that are compatible with the used parts washer solvent.

All materials stored within the entire tank system are chemically compatible with one another.

The diked structure serves as secondary containment for the storage tanks and is constructed of reinforced concrete. The interior surface of this structure has been sealed with an epoxy and/or urethane coating to prevent migration of spilled or leaked materials.

The Return and Fill Station surrounds the eastern and southern most portions of the Non-Ignitable Waste Container Storage Warehouse. Used parts washer solvent is collected from customers in drums and delivered to the off-loading dock at the Return and Fill Station. The drums are opened manually and the used solvent is poured into either of two (2) drum washer/dumpster units. The drum washer/dumpster units are specifically designed to transfer the contents of the containers to the used solvent storage tank and remove residuals from both the inside and outside of open-ended used solvent containers. The system uses two rotary brushes to rotate the drum. A recirculating pump lifts solvent from a collection reservoir and injects solvent inside the turning drum, which sufficiently cleans the container. In addition to cleaning drums, the unit serves as part of the transfer system for transferring the waste solvent into the used parts washer solvent storage tank.

A separate drum rinsing unit (i.e., drum spritzer), which may be used to provide a final rinse of Safety-Kleen's premium solvent to containers that are utilized for non-RCRA regulated parts cleaning wastes, is located at the Return and Fill Station (see Appendix D-3). The residues from this process are handled as Facility generated waste. The drum rinsing unit is hard-piped directly to a drum washer/dumpster unit that gravity drains to the tank system in order to minimize the possibility of emissions and minimize the chance of spills.

The secondary containment for the Return and Fill area consists of concrete flooring and curbing, with the floor sloped to a central collection sump. The interior surface of the secondary containment structure has been sealed with an epoxy and /or urethane

coating to prevent spilled or leaked materials from migrating out of the containment area. The Return and Fill area is covered by a roof, and enclosed on two (2) sides.

B-2 **TOPOGRAPHIC MAP**

B-2(a) **General Requirements**

The Topographic Maps (Section A and Figure B-2) and Tax Map (Figure B-3) present location-specific information on surrounding properties. The location of the Facility is noted on the Topographic Map in Section A and which includes a 1000 feet radius around the Facility property. Additional site-specific information is contained on the Site Plan (Figure B-1).

The Flood Plain Map (Figure B-4) shows that the Facility is in FEMA Zone C, which is an area outside of the 100-year floodplain. The Little Sugar Creek is located approximately 0.20 miles to the west of the Facility. The Facility's surface drainage is graded so that run-off is directed northwest onto Yadkin Avenue and East 27th Street, where the surface run-off enters storm drains.

Land use surrounding the Facility is primarily light industrial to the north and west with private residences to the south and east of Pinckney and 26th Street. The residential areas are separated from the Facility by a steep incline and perimeter fence. The Facility is zoned for light industrial (I-1) use.

Figure B-5 shows a Wind Rose with predominant regional wind patterns. This data was collected from the Charlotte-Douglas International Airport weather station, located approximately 5 miles west of Charlotte, North Carolina.

Fire control devices include mounted fire extinguishers located in key areas of each container and tank storage area and the Return and Fill loading dock area. Fire response is provided by the City of Charlotte Fire Department. One (1) fire hydrant is

located on the corner of East 27th Street and Yadkin Avenue near the north corner of the Facility property. The fire hydrant can be used in the event of a fire emergency at the Facility. In the event of an emergency requiring water usage for fire control, the Facility employees would implement the contingency plan provided in Section G of this application. This is further discussed within Section F-(3)(a)(4).

B-2(b) Additional Topographic Requirements for Land Disposal Facilities

This section is not applicable because the Charlotte Facility is not a land disposal facility.

B-3 TRAFFIC INFORMATION

B-3(a) On-Site Traffic

All employee vehicular traffic enters and exits the Facility off East 27th Street or Yadkin Avenue, with employee parking confined to the east parking area outside of the main gate. Visitor parking is located inside the fenced area along the front of the Facility Office Building. Specific Facility personnel also have parking spaces in front of the Facility Office Building.

The Class 1B Warehouse Building has a main entrance on the east and a separate entrance to the Class 1B Flammable Container Storage Area on the west side of the building. The Return and Fill Station contains a loading dock, plus an entrance to the Non-Ignitable Waste Container Storage Area, on the east side of the building. Trucks arriving at the Facility off-load drums of product and pick up stored drums of waste at the south end of the Class 1B Flammable Container Storage Area.

Fifteen to twenty-five commercial trucks/vans, including over-the-road trucks from common carriers and the Safety-Kleen Recycle Center, can potentially enter and exit the Facility on a daily basis. These trucks proceed to specified locations for loading/unloading operations as depicted on Figure B-1. All visitors and vendors are

required to check in at the main office and receive authorization to enter the Facility. All commercial trucks and vans are required to park within the secured fenced portions of the Facility grounds. Over-the-road bulk tanker trucks enter the facility by way of the gate adjacent to the tank farm directly off of Yadkin Avenue. These vehicles typically do not drive across the gravel areas of the facility, as they are staged on the concrete tanker containment apron adjacent to the tank farm during all loading and unloading activities.

Traffic control within the Facility gates is accomplished by issuing verbal instructions to drivers at the main gate as necessary. Most vehicular traffic consists of Safety-Kleen trucks and vans. As such, the personnel are familiar with the Facility layout. No other on-site traffic controls are necessary for anticipated traffic. Due to the relatively small area comprising the active portions of the Facility both incoming and outgoing vehicular traffic utilizes the controlled vehicle access gate located on the northeastern portion of the Facility fence off East 27th Street. All trucks and vans transporting hazardous wastes are required to load and/or unload in designated areas at the Facility as depicted in Figure B-1 (Site Plan). Access by non-Safety-Kleen personnel and vehicles is controlled through gates that remains closed unless manually or electronically opened.

B-3(b) Off-Site Traffic

Safety-Kleen utilizes various types of trucks and tanker trailers to transport material to and from the Facility. Davidson Street serves as the major approach road to the Facility and runs northeast to southwest in this area. Davidson Avenue is paved with asphaltic concrete, is wide enough for safe two-way movement, and is designed to serve anticipated vehicular traffic. The closest major highway providing access to Davidson Street is U.S. Highway 29S/NC Highway 49 (a.k.a. North Tryon Street), a four-lane undivided public thoroughfare that intersects Interstate 85 approximately 10 miles from the Facility. From U.S. Highway 29S/NC Highway 49 (N. Tryon Street) turn right on East 30th Street. East 30th Street turns into Matheson Avenue. Proceed on Matheson Avenue for approximately 0.25 mile and then turn right onto Jordon Place. Proceed on Jordon

Place for approximately 0.1 mile and turn left onto East 27th Street. East 27th Street dead ends into Yadkin Avenue.

The primary Facility access road, which is an extension of East 27th Street, is graded-covered and designed to carry the anticipated loading of transport vehicles used at the site. The secondary Facility access road is Yadkin Avenue, which is an asphaltic covered road designed to carry to anticipated load of bulk tanker trailers used at the site. The main access gate to the Facility interior, located off of the paved driveway, is electronically operated, and is located on the northeast side of the Facility. This gate remains closed at all times, except for deliveries and off-site transportation of product and material or waste, and is controlled electronically by remote control for ingress and by an electronic eye for egress. The secondary access gate to the Facility interior is located off of Yadkin Avenue, is manually operated and is located on the northwest side of the Facility. This gate remains closed and secured at all times, except for deliveries of bulk product and the off-site transportation of bulk used solvent targeted for offsite management. There are also two (2) secured emergency egress man-gates adjacent to the two vehicle access gates and an additional (double-swing variety) chain-link gate located approximately 75 feet southeast of the main access gate off of East 27th Street. These gates are not currently utilized for vehicular access and remain closed and locked.

B-3(c) Road Surfacing and Load Bearing Capacity

The Facility access roads, truck transfer, and parking lot areas are constructed of either reinforced concrete, asphalt over appropriate sub-bases, or gravel. All commercial motor vehicles, including bulk tanker trucks, used to transport materials to and from the Facility must comply with weight limits imposed by both State and Federal vehicle size and weight limitations. Bulk tanker trucks generally hold a maximum of 7,500 gallons and therefore must weigh below the legal weight limit of 80,000 pounds. Branch route trucks weigh considerably less than bulk tanker trucks. The Facility access roads and

the paving at this Facility can support at least 80,000 pounds. These trucks do not contribute a significant impact in traffic volume to these major highways nor on other traveled traffic routes. Historically, the company has not encountered problems regarding the load bearing capacity of the vehicle traffic areas within the Facility.

B-4 LOCATION INFORMATION

B-4(a) Seismic Standard

This section is not applicable because Mecklenburg County, North Carolina is not listed in Appendix VI of 40 CFR 264.

B-4(b) Floodplain Standard

As described in Section B-2, the Facility is not located within the 100-year floodplain; therefore, pursuant to 40 CFR 264.18(b), demonstration of compliance is not applicable.

B-4(c) Additional North Carolina Location Standards and Minimum Distances

The closest institution to the Facility, Villa Heights Elementary School, is located approximately 0.3 miles to the South of the Facility. In accordance with 15A NCAC 13A.0109(r)(2)(A) and .0113(c)(5), as an existing operation, this facility meets the minimum separation distance.

Ignitable waste (used solvent) may be stored in Tank No. 1 in the Part Washer Solvent Tank Farm. This tank is located within the 50-foot property setback zone; however, the installation age of the tank predates the State of North Carolina hazardous waste regulations and has therefore been waived from the setback requirement. In addition, containerized ignitable wastes within the Class 1B Warehouse Building meet the

setback requirement (see Figure B-1). The Facility does not store or treat liquid hazardous wastes classified as TC toxic in containers and tanks in any areas specified in the North Carolina location standards at Rule 15A NCAC 13A .0109(r)(2)(D)(vii) and .0113(c)(3).

The Safety-Kleen Charlotte, North Carolina Facility is not a waste landfill, long-term storage facility, land treatment facility or a surface impoundment. Therefore, the regulations pertaining to the following rules, 15A NCAC 13A.0109(r)(2)(C)(i), 15A NCAC 13A.0109(r)(2)(C)(ii), 15A NCAC 13A.0109(r)(2)(C)(iii), 15A NCAC 13A.0109(r)(4)(A)(i), 15A NCAC 13A.0109(r)(4)(A)(ii), 15A NCAC 13A.0109(r)(4)(iii), 15A NCAC 13A.0109(r)(4)(A)(iv), 15A NCAC 13A.0109(r)(4)(A)(v), 15A NCAC 13A.0109(r)(4)(A)(vi) and 15A NCAC 13A.0109(r)(4)(A)(vii) do not apply.

B-5 ADDITIONAL NORTH CAROLINA REQUIREMENTS

B-5(a) Monitoring Wells for New Facilities

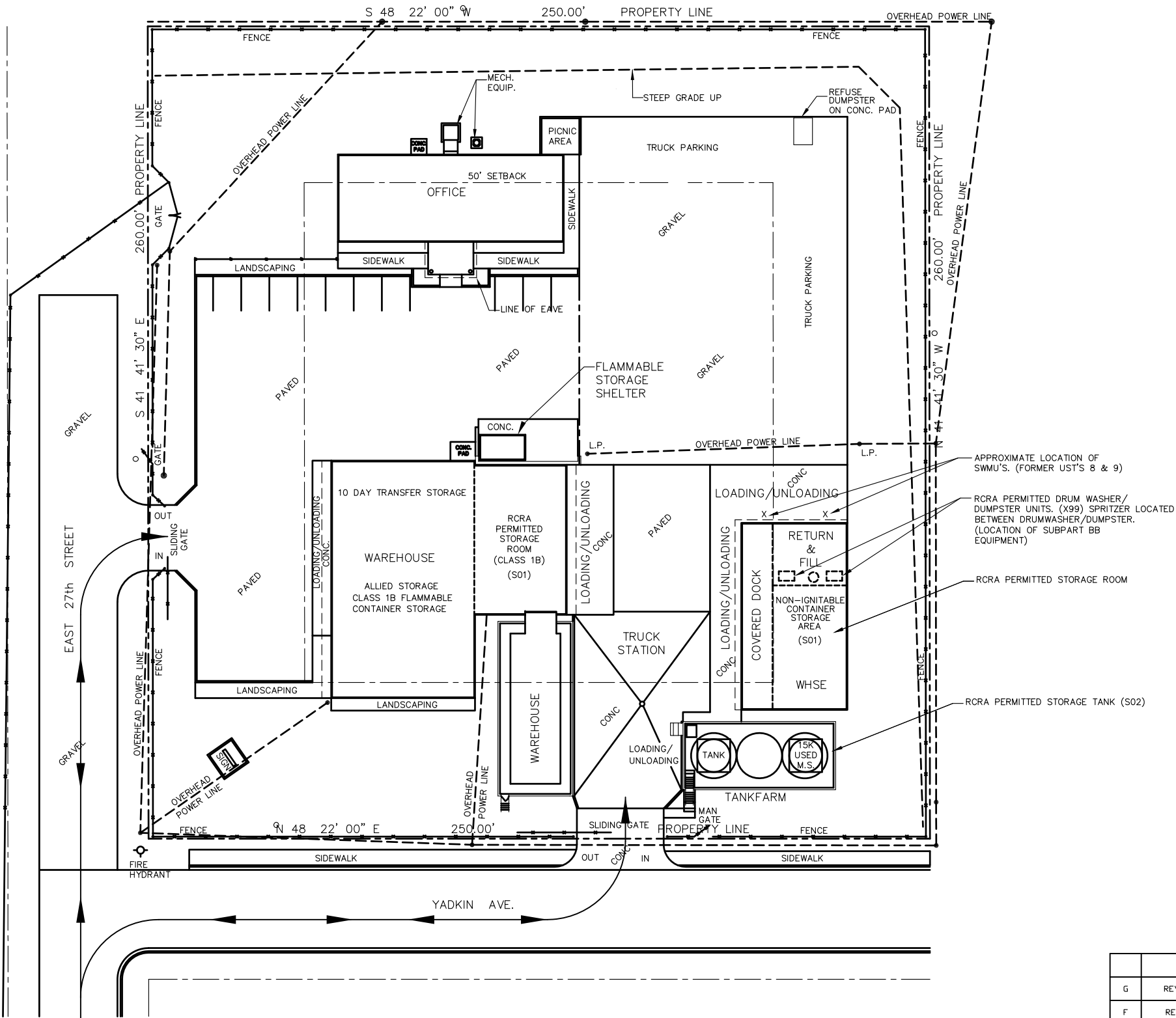
The Safety-Kleen Charlotte, North Carolina Facility is an existing facility. Therefore, this section does not apply.

B-5(b) Public Participation for New Facilities

The Safety-Kleen Charlotte, North Carolina Facility is an existing facility. This section does not apply since the facility is not requesting any Class 3 level permit modifications at this time.

FIGURE B-1

SITE PLAN



LEGEND

← TRAFFIC FLOW

--- PROPERTY LINE

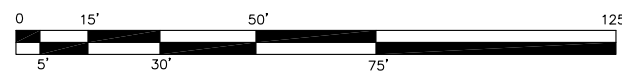
- GENERAL NOTES**
- NON-PERMITTED AREAS MAY CHANGE
 - CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions Companies

2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181 •



NO.	DESCRIPTION	BY	CHK	APPR	DATE
G	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
F	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		030912
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
D	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	110796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM	-	070292

TITLE

SITE PLAN EXISTING

SAFETY-KLEEN SYSTEMS, INC.

2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
 PHONE 800-669-5740

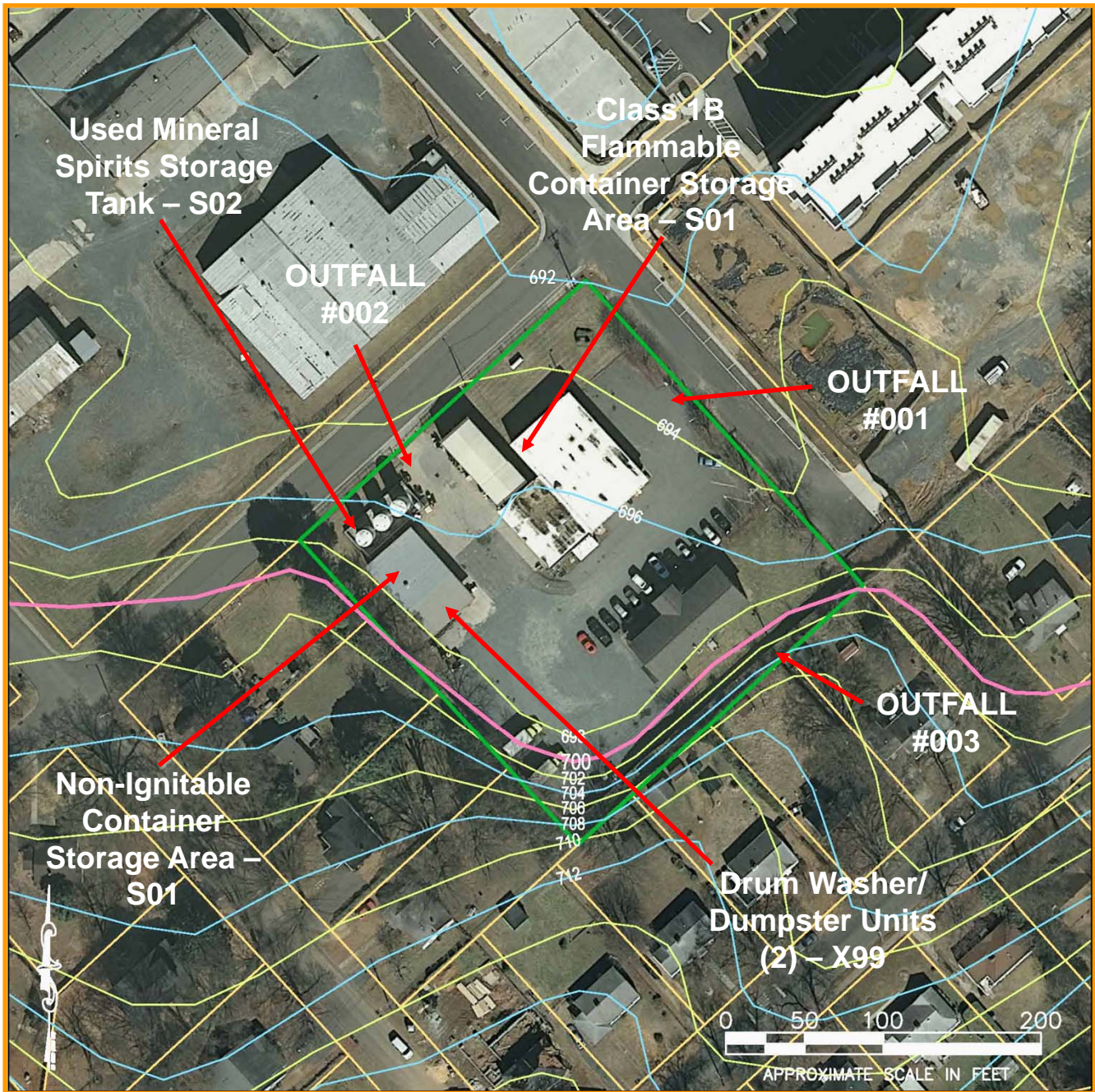
SCALE 1"=20'-0"



BY MBH	CHKD KJM	APPR -	OP. APPR -	DATE 06-03-92
--------	----------	--------	------------	---------------

SERVICE CENTER LOCATION: CHARLOTTE, NC
 SC-DWG NUMBER: 7055-SPOO-001
 REV. NO.: G

FIGURE B-2

TOPOGRAPHICAL MAP



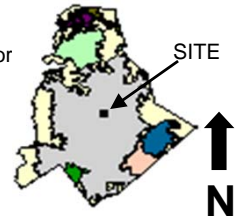
 -Indicates property boundary
 -Indicates topographic contours

Hazardous waste, treatment, storage, and disposal units with process codes and stormwater outfalls are shown in white.

Note: Other than stormwater outfalls (shown above), no existing or proposed intake and discharge structures or injection wells (other than those used for remediation) are associated with this facility.

SOURCE: NC DEPARTMENT OF TRANSPORTATION LIDAR DATA WEBSITE, 2-FOOT CONTOUR INTERVAL

Mecklenburg
County Locator
Map



3417-A TRADE PARK COURT
CHARLOTTE, NC 28217
(704) 529-3200

PROJECT NO: 45.16031.0007

SCALE: 1" = 100'

DATE:11-26-2012

REVIEWED BY: GKO

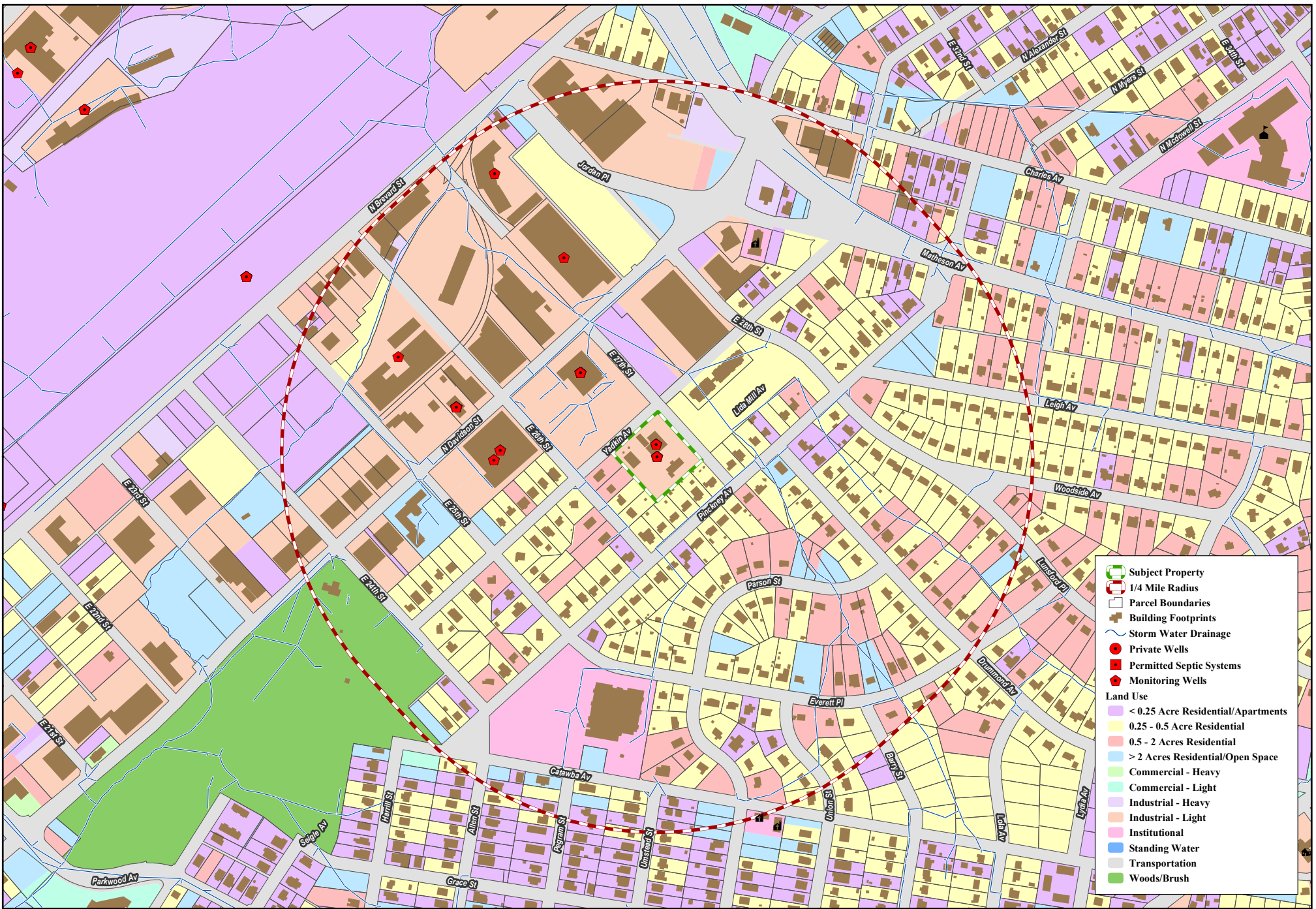
LARGE SCALE TOPOGRAPHIC MAP

SAFETY-KLEEN SYSTEMS, INC.
2320 YADKIN AVENUE
CHARLOTTE, NORTH CAROLINA 28205

Fig. B-2

FIGURE B-3

TAX MAP



- Subject Property
 - 1/4 Mile Radius
 - Parcel Boundaries
 - Building Footprints
 - Storm Water Drainage
 - Private Wells
 - Permitted Septic Systems
 - Monitoring Wells
- Land Use**
- < 0.25 Acre Residential/Apartments
 - 0.25 - 0.5 Acre Residential
 - 0.5 - 2 Acres Residential
 - > 2 Acres Residential/Open Space
 - Commercial - Heavy
 - Commercial - Light
 - Industrial - Heavy
 - Industrial - Light
 - Institutional
 - Standing Water
 - Transportation
 - Woods/Brush

0 250 500 1,000 Feet

Safety-Kleen Corp.
2312 Yadkin Avenue

Fig. B-3

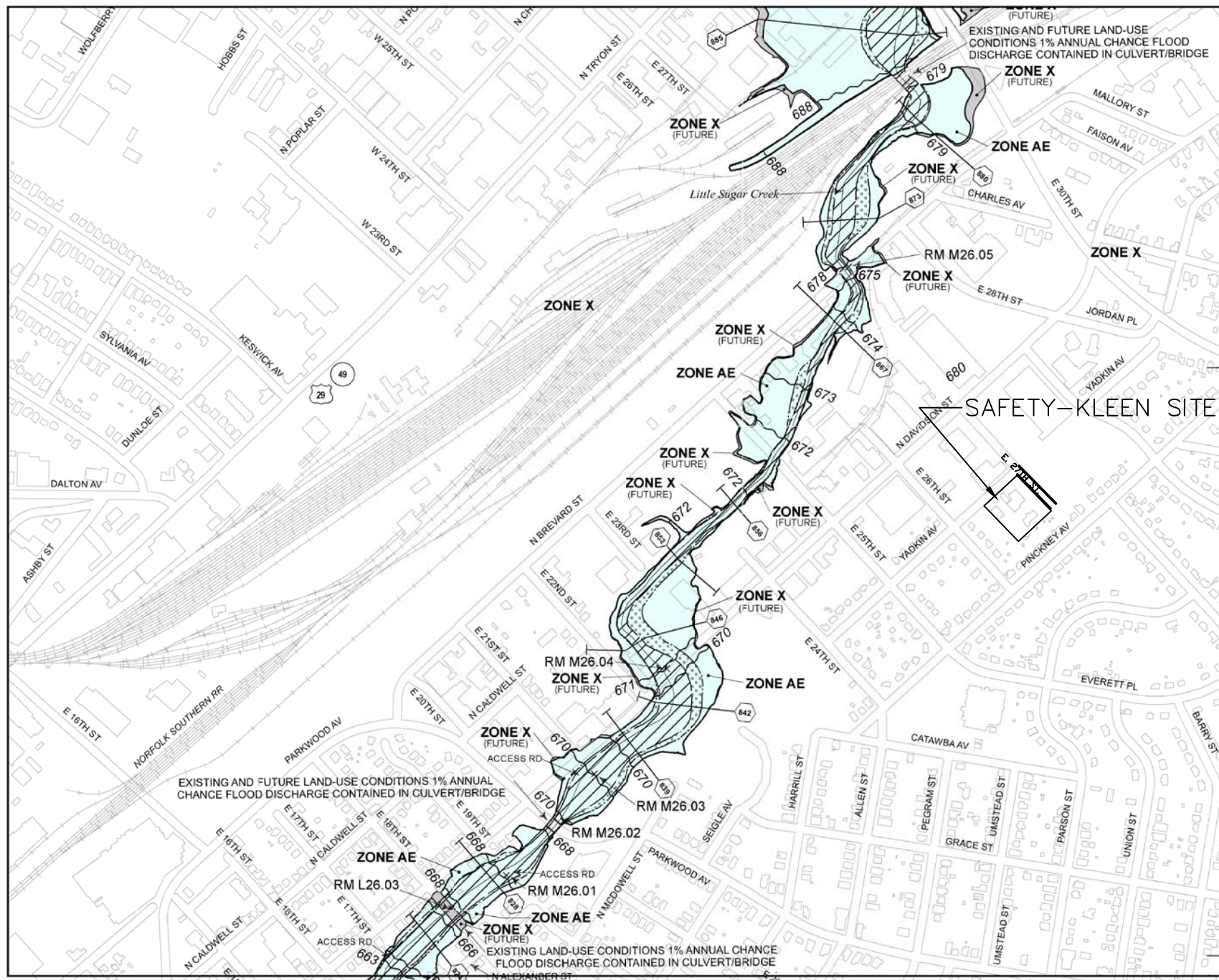
- Schools
- Daycare
- Rec Centers
- Churches
- Hospitals
- YMCA



Map prepared by Jamie Metz (Geospatial Information Services) : January 24, 2017

FIGURE B-4

FLOOD PLAIN MAP



GRID NORTH
SCALE 1" = 500' (1 : 6,000)

250 500 750 1,000 FEET

PANEL 4554J

FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 4554
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX
CHARLOTTE, CITY OF	370159	4554	J
MECKLENBURG COUNTY	370158	4554	J

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE **MAP NUMBER**
MARCH 2, 2009 **3710455400J**

State of North Carolina
 Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities
- Base Flood Elevation line and value; elevation in feet*
 (EL 987)
- Base Flood Elevation value where uniform within zone; elevation in feet*
 (EL 987)
- * Referenced to the North American Vertical Datum of 1988 (NAVD 88)
- Cross section line
- Transect line
- 97°07'30"; 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 42°00'00"N 1000-meter Universal Transverse Mercator grid ticks, zone 14
- 6000000 FT 5000-foot grid values: Texas State Plane coordinate system, north central zone (FIPSZONE 4202), Lambert Conformal Conic
- DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile

Fig. B-4

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

2005 West Broadway - Suite 210 - Columbia - MO 65203
 Phone: (573) 443-7100 • Fax: (573) 443-7181

TITLE

100 YEAR FLOOD PLAIN MAP

SAFETY-KLEEN SYSTEMS, INC.
 5400 LEGACY DR. CLUSTER III, BLDG. 3, PLANO, TX.
 PHONE 800-669-5740

NO.	DESCRIPTION	BY	CHK	APPR	DATE
0	ISSUED FOR PERMIT	JEK	TB	TB	030112
REVISIONS					

SCALE	BY	CHKD	P.E. APPR	DP. APPR	DATE
1" = 500'	JEK	TB	TB	TB	3/1/12
BRANCH LOCATION					STD-DWG-REV NO.
CHARLOTTE, N.C.					7055-SPO0-005

FIGURE B-5

WIND ROSE

WIND ROSE PLOT:

Station #13881 - CHARLOTTE/DOUGLAS INT'L ARPT, NC

DISPLAY:

**Wind Speed
Direction (blowing from)**

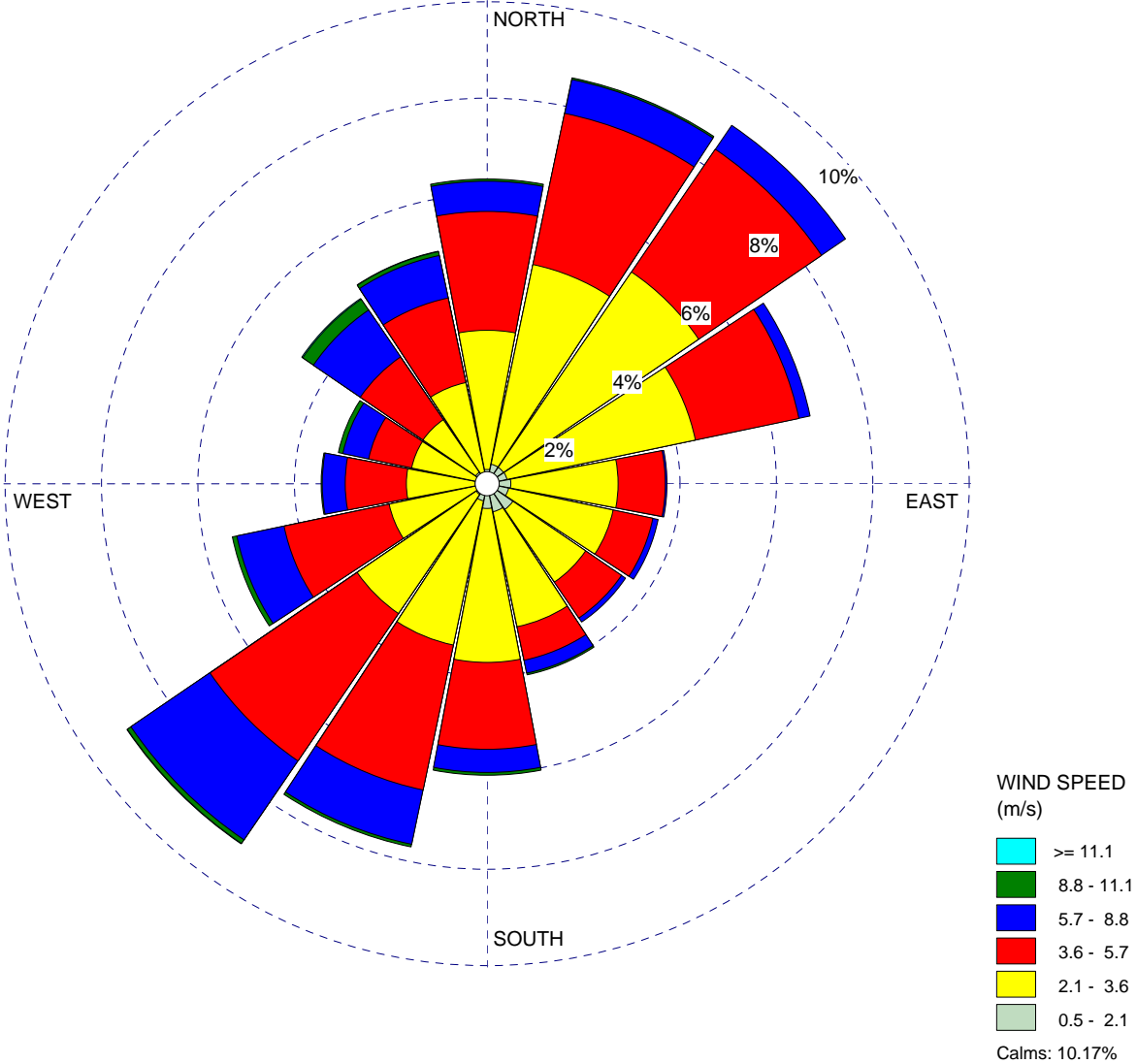


Fig. B-5

COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	1992 Jan 1 - Dec 31 00:00 - 23:00	SAFETY-KLEEN SYSTEMS INC. CHARLOTTE N.C.	
	CALM WINDS:	MODELER:	
	10.17%	JEK	
TOTAL COUNT:	8784 hrs.		
AVG. WIND SPEED:	DATE:	DRAWING #	
3.21 m/s	2/29/2012	7055-SPOO-049	

SECTION C
WASTE ANALYSIS PLAN
TABLE OF CONTENTS

SECTION		PAGE
C-1	Introduction and General Description of Wastes Managed	1
C-2	Quality Control Procedures	3
C-3	Description of the Wastes	5
C-3(a)	Used Parts Washer Solvent	5
C-3(b)	Used Immersion Cleaner	8
C-3(c)	Used Dry Cleaning Materials	10
C-3(d)	Paint Waste/Used Lacquer Thinner	13
C-3(e)	Spill Cleanup Wastes	16
C-4	Waste Analysis Procedures	16
C-4(a)	Qualitative/Visual Analysis	18
C-4(a)(1)	Volume	19
C-4(a)(2)	Color	20
C-4(b)	Quantitative/Confirmation Analysis	23
C-5	Protocols for Waste Acceptance and Qualitative Sampling and Analysis	25
C-5(a)	Rationale	25
C-5(a)(1)	Used Parts Washer Solvent Parameters, Test Methods and Rationale	28
C-5(a)(2)	Spent Immersion Cleaner Parameters, Test Methods and Rationale	38
C-5(a)(3)	Spent Paint Spray Gun Cleaner Parameters, Test Methods and Rationale	43
C-5(a)(4)	Paint Waste Parameters, Test Methods and Rationale	48
C-5(a)(5)	Dry Cleaner Wastes Parameters, Test Methods and Rationale	53
C-5(a)(6)	Wastes Generated by Safety-Kleen – Storage Tank Bottoms and Drum Washer Sediment	55
C-6	Description of Hazardous Waste Management Units/Process and Design Consolidations	55
C-7	Sampling Methods and Equipment	55
C-8	Analytical Methodology	56

SECTION C
WASTE ANALYSIS PLAN
TABLE OF CONTENTS (Continued)

SECTION	PAGE	
C-9	Statistical Analysis and Summary of Annual Waste Characterization Data	59
C-10	Health and Safety Protocols	59
C-11	QA / QC Procedures	59
C-12	Requirements Pertaining to Land Disposal Restrictions	60

LIST OF TABLES

C-1	Summary of Qualitative / Visual Acceptance Criteria
C-2	Incompatibles of Waste Stream Components
C-3	Summary of Test Methods and Acceptance Criteria for Used Parts Washer Solvent
C-4	Tier 2 Results and Resulting Tier 3 Analyses Decision Diagram For Used Parts Washer Solvent
C-5	Summary of Test Methods and Acceptance Criteria for Spent Immersion Cleaner
C-6	Summary of Test Methods and Acceptance Criteria for Spent Paint Gun Cleaner
C-7	Summary of Test Methods and Acceptance Criteria for Paint Waste
C-8	Acceptance Criteria for Visual Inspection of Dry Cleaner Wastes
C-9	Methods Used to Sample Hazardous Waste
C-10	Analytical Parameters and Test Methods

LIST OF APPENDICES

C-1	Statistical Analysis of Annual Waste Characterization Data
C-2	Summary of Annual Waste Recharacterization Analysis
C-3	Example Waste Acceptance Form
C-4	Example LDR Notification Form
C-5	Safety Data Sheets
C-6	Example Safety-Kleen Service Document

SECTION C

WASTE ANALYSIS PLAN

This Waste Analysis Plan has been formulated in accordance with 40 CFR 264.13, 40 CFR 270.14(b)(2) and (3), and the North Carolina Hazardous Waste Management Rules. This Waste Analysis Plan also conforms to the requirements of U.S. EPA Publication PB94-963603, OSWER 9938.4-03, Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Waste.

This Waste Analysis Plan is applicable only to those waste streams that are permitted for storage at each of the North Carolina Safety-Kleen facilities. It provides the Safety-Kleen North Carolina facilities with the information needed to:

- 1) verify that the waste received is the waste described on the shipping document, and
- 2) manage the hazardous wastes it is permitted to store.

C-1 INTRODUCTION AND GENERAL DESCRIPTION OF WASTES MANAGED

Safety-Kleen Systems, Inc. is an international supplier and reclaimer of parts-cleaner solvents known as parts washer solvent and immersion cleaner. Safety-Kleen provides solvent distribution, collection, and reclamation services to a variety of businesses primarily engaged in services such as industrial maintenance and automotive repair (i.e., garages, service stations, dealerships, etc.), whereby solvents are used to clean oil, grease, and dirt from metal parts. Safety-Kleen also operates a waste recovery system whereby a customer leases material from Safety-Kleen to be used in machines either provided by Safety-Kleen, or owned by the customer, and returns the used solvent material to Safety-Kleen for recycling and subsequent reuse of the recycled material.

These used parts cleaning solvents are collected by Safety-Kleen and replaced with clean solvents. The used solvents and related waste materials are transported to

Safety-Kleen facilities in North Carolina. Safety-Kleen also collects used materials from the dry cleaning industry and paint waste/used lacquer thinners. These materials are routinely transported to the North Carolina facilities, and then ultimately to a Safety-Kleen approved recycling facility. These wastes are stored at the North Carolina service facilities in permitted drum storage areas and/or in permitted aboveground storage tanks.

The used solvents of the Safety-Kleen waste streams are the primary feedstock for the generation of Safety-Kleen solvent products. As a result, quality control of the used solvents is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The purpose of this Waste Analysis Plan is to provide the information needed to manage the hazardous wastes that the North Carolina facilities are permitted to store. This is accomplished by establishing procedures consisting of qualitative/visual waste analysis and quantitative waste analysis. These procedures will also provide the quality control of the used solvents for the purpose of reclamation.

Safety-Kleen generates drum washer sediment from washing/cleaning drums containing used parts washer solvent. This sediment consists of soils, oils, grease, water, small amounts of solvent, and some metal parts. Safety-Kleen also generates waste solvent dumpster sludge, tank bottom sediment, personal protective clothing, spill debris (i.e. spills of wastes and/or products), and sampling debris. Characterization of these branch facility generated wastes is based on Safety-Kleen's knowledge of the waste stream and confirmed through annual waste recharacterization. The drum washer sediment and the tank bottom sediment are derived from the used parts washer solvent. These wastes are hazardous according to the Toxic Characteristic Leaching Procedure (TCLP) because of heavy metals (i.e., lead and cadmium) and other organic TCLP based waste codes. The facility-generated wastes may also exhibit the characteristic of ignitability.

Safety-Kleen also generates gloves, rags, used sampling equipment and occasional spill debris from the various product lines. Characterization of these wastes is based on knowledge of generation and by annual recharacterization analysis performed company-wide. Containers of facility generated hazardous wastes are uniquely labeled as such

and stored for less than 90 days and not subject to testing procedures in this Waste Analysis Plan. The wastes are stored in the existing permitted hazardous waste management units and subject to the inspection procedures specified in Section I of this permit application.

Safety-Kleen's customers are typically CESQG's and SQG's and often generate only one type of hazardous waste. Nearly 80% of Safety-Kleen's customers are in the automotive after-market business.

Safety-Kleen's extensive knowledge of the waste streams it accepts forms the basis for this Waste Analysis Plan. This knowledge is confirmed by fingerprint analysis (qualitative/visual) and further confirmed by annual confirmation analysis (quantitative). The following sections of this Waste Analysis Plan provide Waste Management Procedures. Included are sections on Quality Control Procedures, Description of the Wastes, and Waste Analysis Procedures, which includes sections on qualitative/visual analysis ('field' testing), and quantitative analysis ('laboratory' testing).

C-2 QUALITY CONTROL PROCEDURES

Safety-Kleen services several hundred thousand customers throughout North America and has operated for over 30 years. As such, the composition and quality of the wastes collected are well known, and the Company's operating experiences have shown that the used materials collected rarely deviate from Company specifications. Historical operating and analytical records have shown that the characteristics of the waste streams of Safety-Kleen customers do not significantly change from year to year. Safety-Kleen's records of chemical analyses of these wastes, particularly over the last ten years, actually demonstrate a continuing reduction in the trace levels of TCLP heavy metal and organic constituents in these wastes.

Many of the used materials managed at Safety-Kleen's Branch facilities are the primary feedstock for the generation of Safety-Kleen products. As a result, control of the used materials is necessary to ensure that reclamation occurs in the safest and most efficient manner possible.

Safety-Kleen controls the use and management of its solvents by:

- Limiting the solvents stored to those that are compatible with one another and their containers.
- Limiting the uses of each type of solvent (for example, dry cleaner waste is only collected from dry cleaners).
- Determining the customer's type of business, the purpose for which he will use the machine, and recording this information on the service document.
- Training the customer to properly use the parts cleaning equipment and solvents. The operation of non-Safety-Kleen equipment is governed by the manufactures guidelines. Any intentional misuse of Safety-Kleen parts cleaning solvents would result in rejection of the waste and potential termination of the customer's service contract.
- Training employees to inspect used solvent and to determine whether it is acceptable (qualitative/visual waste analysis).
- Indicating on the service document, every time a waste is collected, whether the used solvent meets Safety-Kleen's acceptance criteria.
- Marking each container with the customer's name, address, and EPA ID number (to the extent that an EPA ID number is required based on individual generator status).
- Keeping a record of each incoming and outgoing shipment in the operating records at each facility.
- Not combining the containers of spent immersion cleaner, dry cleaning, and paint waste/waste lacquer thinner collected at the North Carolina facilities with other containers of waste. They are stored and transported in the original containers in which they are collected.
- Informing customers of their responsibilities for proper waste management by requiring each customer to sign a service document for each waste pick-up containing the following information:

- a. Name, address, and EPA ID number of the facility to which the waste is being shipped.
 - b. Name and title of the owner/operator.
 - c. Generator status (CESQG, SQG, or LQG).
 - d. Customer's name, address, and (if required) EPA ID number; and,
 - e. Description and amount of waste generated.
 - f. A statement that the waste is unadulterated by the generator/customer, such that no other substances will be added to the waste, except to the extent that such substances are incidental to the normal use of the process producing the waste, and the introduction of such substances would not alter the physical or chemical composition or characterization of the waste.
- An example of a typical service document form is provided in Appendix C-6.

C-3 DESCRIPTION OF THE WASTES

The Safety-Kleen North Carolina facilities have applied for permits to store hazardous wastes. The hazardous properties of the wastes have been determined by Safety-Kleen's extensive experience in handling these waste streams, by knowledge of the processes that produce each waste, and through extensive analytical data. The following sections describe each waste stream.

C-3(a) USED PARTS WASHER SOLVENT

1. U.S.EPA Waste Code

The used parts washer solvents may exhibit the toxicity characteristics under the following RCRA Waste Codes: D001 (Ignitable Waste), D004 through D011, D018, and D019, D021 through D030 and D032 through D043 (TCLP Waste). The used parts washer solvent wastes that are classified as

hazardous wastes are managed under the non-wastewater treatability group classification as defined under the RCRA Land Disposal Restrictions.

2. Hazardous Properties of the Waste

- a. Physical and chemical properties: The used parts washer solvent consists primarily of solvent and/or water, solids (i.e., metal bearing residue), oil, and grease. The majority of the used parts washer solvent is a petroleum distillate solvent consisting predominantly of C-9 through C-13 saturated aliphatic hydrocarbons. To a lesser extent, aqueous based solvents are utilized. The specific gravity of the used parts washer solvent ranges between 0.70 –1.1.
- b. Ignitability: The used Safety-Kleen petroleum-naphtha based parts washer solvent may be a RCRA hazardous waste due to a flash point less than 140 degrees F. Aqueous based parts washer solvent will have a flashpoint greater than 140 degrees F.
- c. Corrosivity: The used solvent is not a corrosive waste.
- d. Reactivity: The used solvent is not a reactive waste.
- e. Toxicity: The used solvent may also exhibit the toxicity characteristic for heavy metals (i.e., lead) and/or other TCLP organic constituents.
- f. Incompatibility: The used solvent is potentially incompatible with oxidizers, which are not stored at the facility. The waste is compatible with the containers and tank in which it will be stored, and is compatible with all wastes that will be stored or handled in the permitted areas of the facility.

3. Waste Generation

Used solvents are generated off-site by Safety-Kleen customers during degreasing/cleaning operations. Safety-Kleen typically provides parts degreasing/cleaning units. Some are a “sink-on-a-drum”, while others are larger, vat-like devices. There is also a service for customers who own their

parts cleaning machines, whereby Safety-Kleen provides solvent and solvent reclamation services regardless of the machine model.

4. Waste Management

Safety-Kleen representatives collect used solvent in containers and transport these containers to a North Carolina Safety-Kleen facility. These containerized used solvents are then transferred into an aboveground storage tank via the drum washer/dumpster units at the North Carolina facilities. The used solvent in the tank is periodically transferred via tanker truck to a Safety-Kleen owned/operated recycle center. Used parts washer solvent waste may also remain in containers and be stored in a permitted container storage area of the facility.

A drum washer unit in the return/fill area uses the same type of solvent to clean empty containers. That solvent is then transferred into the storage tank via the drum washer. The solvent residues generated from rinsing drums in the drum spritzer (clean solvent rinse) unit are gravity drained into the drum washer units and managed along with the other used solvents in the aboveground used solvent storage tank.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions as found in 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

A comprehensive description of the design specifications and capacity limitations of the specific hazardous waste management units utilized for managing this waste is provided in Section D of the Part B Permit Application.

5. Process Design Capacity and Units of Measure for Processes Used for Handling the Waste

Safety-Kleen is limited as to how much waste can be stored at the facility by the capacity of the storage tank and the capacity of the permitted storage area. A daily inventory of the volume of waste in the tank is documented and transmitted to the corporate office. The dispatch of tanker trucks is controlled from there.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

C-3(b) SPENT IMMERSION CLEANER

1. U.S. EPA Waste Code

The spent immersion cleaner may exhibit the toxicity characteristics under the following RCRA Waste Codes: D004 through D011, D018, D019, D021 through D030 and D032 through D043 (TCLP Waste). The spent immersion cleaner is managed under the non-wastewater treatability group classification as defined under the RCRA Land Disposal Restrictions.

2. Hazardous Properties of the Waste

a. Physical and Chemical Properties: The spent immersion cleaner is a single-phased heavy aromatic naphtha-based formulation. This material is a hazardous waste because it exceeds the toxicity characteristics using TCLP criteria due primarily to heavy metal (lead, cadmium, etc.) and organic contamination. This organic contamination is typical of that found in auto repair shops and may include benzene from gasoline,

perchloroethylene and trichloroethylene from specialty cleaning solvents, and methyl ethyl ketone from paint thinners.

- b. Ignitability: The spent solvent is not an ignitable waste.
- c. Corrosivity: The spent solvent is not a corrosive waste.
- d. Reactivity: The spent solvent is not a reactive waste.
- e. Toxicity: The spent solvent may also exhibit the toxicity characteristic for heavy metals (i.e., cadmium) and/or other TCLP organic constituents.
- f. Incompatibility: The spent solvent is potentially incompatible with oxidizers, which are not stored at the facility. The waste is not incompatible with other wastes stored in the permitted areas of the facility or the containers in which it is stored.

3. Waste Generation

Spent immersion cleaner is generated off-site by Safety-Kleen customers. Immersion cleaner is spent for removing varnish and gum from such things as carburetors, transmissions, and other metal parts. The used material is basically unchanged from its product state, except that oil, grease, and other solids may be entrained in the solvent during operations.

4. Waste Management

Spent immersion cleaner is collected in containers by Safety-Kleen personnel. The wastes remain in the covered containers at all times during transport and storage. They are typically not opened at the North Carolina facilities. It may be necessary from time to time to open these containers in order to obtain samples for additional analytical testing or to perform additional visual qualitative inspections. The containers are ultimately shipped to a Safety-Kleen recycle center.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions as found in 49 CFR 173.

Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

A comprehensive description of the design specifications and capacity limitations of the specific hazardous waste management units utilized for managing this waste is provided in Section D of the Part B Permit Application.

5. Process Design Capacity and Units of Measure for Processes Used for Handling the Waste

Safety-Kleen is limited as to how much waste can be stored by the maximum permitted storage capacity of the drum storage area. Additional information on these drum storage areas is provided in Section D-1 of this permit application.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

C-3(c) SPENT DRY CLEANING MATERIALS

1. U.S. EPA Waste Code

Spent dry cleaning wastes may be a listed waste carrying the code F002. Spent dry cleaning wastes may also exhibit the toxicity characteristics under the following RCRA Waste Codes: D001, D004 through D011, D018, D019, D021 through D030 and D032 through D043 (TCLP Waste). These spent dry cleaning wastes are managed under the non-wastewater treatability group classification as defined under the RCRA Land Disposal Restrictions.

2. Hazardous Properties of the Waste

- a. Physical and Chemical Properties: The waste generated from dry cleaning operations contains various concentrations of tetrachloroethylene, mineral spirits (petroleum naphtha), and trichlorotrifluoroethane and other used products. The waste may also carry TCLP codes due to dirt and other contaminants removed from materials being cleaned.
- b. Ignitability: Spent dry cleaning materials may be ignitable.
- c. Corrosivity: The waste is not corrosive waste.
- d. Reactivity: The waste is not a reactive waste.
- e. Toxicity: The spent solvent may also exhibit the toxicity characteristic for various TCLP chlorinated organic characteristics.
- f. Incompatibility: Potentially incompatible materials include oxidizers, and in the case of halogenated solvents, lithium, barium, and beryllium. None of these materials are stored in the permitted area of the facility. The spent materials are compatible with the containers in which they are stored.

3. Waste Generation

The Spent Dry Cleaning Materials discussed below are generated off-site by contracted Safety-Kleen customers. These materials are generated through the use of different solvent types, as described above.

- a. Cartridge Filters: The spent dry cleaning cartridge filters retain the dry cleaning solvent, oil, grease, and undissolved elements (such as lint and soil). Filter construction materials (steel, paper, clay and/or carbon) are also part of the waste. The solvent retained in the filter cartridge generally amounts to less than 50 percent of the total cartridge weight, but the cartridges will range from dry to wet.

- b. Powder Residue: Some dry cleaners use a mixture of spent powdered materials as the filter medium for the dry cleaning solvent (instead of a cartridge filter). This filter medium generally consists of diatomaceous earth and carbon. Solvent, lint, soil, oil, and grease are retained in this filter medium. The solvent typically comprises between 40 and 50 percent of the spent powder residue by weight.
 - c. Still Residue: After filtration the dry cleaning solvent is distilled to remove the dissolved materials from the spent solvent. These dissolved materials, or still residues, are in liquid or solid form and consist primarily of detergent, oil, grease, vinyl acetate (a sizing compound), water and solvent.
 - d. Still Condensate: In some instances, dry cleaners will separate water generated from the dry cleaning still from the still residue. In these cases, Safety-Kleen will collect solvent contaminated separator water in a separate container instead of mixed with the still bottoms.
4. Waste Management

Dry cleaning waste is collected in containers. The wastes remain in the covered containers at all times during transport and storage. Dry cleaning waste containers remain closed until they are received at the recycling center, where they are inspected and/or tested in accordance with that facility's operating permit. Safety-Kleen does not require visual inspection of dry cleaner wastes at the customer's site or at the North Carolina facilities for the following reasons: 1) employee exposure concerns (primary reason); and 2) the negligible risk of foreign material contaminating the waste. These wastes are generated in very controlled environments, where other operations using significant amounts of other materials are not conducted. These wastes are generated within dry cleaning machines that would not

lend themselves to cross-contamination by other foreign materials. The containers are ultimately shipped to a Safety-Kleen recycle center or another approved TSDF.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions under 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

A comprehensive description of the design specifications and capacity limitations of the specific hazardous waste management units utilized for managing this waste is provided in Section D of the Part B Permit Application.

5. Process Design Capacity and Units of Measure for Processes Used for Handling the Wastes

Safety-Kleen is limited as to how much waste can be stored by the maximum permitted storage capacity of the drum storage area. Additional information on these drum storage areas is provided in Section D-1 of this permit application.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

C-3(d) PAINT WASTES/SPENT LACQUER THINNER

1. U.S. EPA Waste Code

Paint wastes/used lacquer thinners contain solvents, which are ignitable waste (D001) and are listed as RCRA hazardous wastes (F003 and F005). The paint waste/used lacquer thinner is also being permitted as a TCLP waste codes D004 through D011, D018, D019, D021 through D030 and D032 through D043. The used paint waste/used lacquer thinner wastes are managed under the non-wastewater treatability group classification as defined under the RCRA Land Disposal Restrictions. Aqueous-based paint waste may also be accepted for storage as less than 10-day transfer waste and managed in containers in permitted storage areas at the facilities.

2. Hazardous Properties of the Waste

- a. Physical and Chemical Properties: The primary constituents of the waste are non-halogenated solvents (toluene, xylene, methyl ethyl ketone). The waste is considered RCRA hazardous due to its toxic constituents (non-halogenated solvents) and is toxic (as determined by TCLP) due to its concentrations of TCE and methyl ethyl ketone. It is also an ignitable waste.
- b. Ignitability: The waste is an ignitable waste under RCRA
- c. Corrosivity: The waste is not a corrosive waste.
- d. Reactivity: The waste is not a reactive waste.
- e. Toxicity: The spent solvent may also exhibit the toxicity characteristic for heavy metals (i.e., chromium, lead) and/or other TCLP volatile and semi-volatile organic constituents.
- f. Incompatibility: The waste is potentially incompatible with oxidizers, which are not stored or handled at the facility. The waste is compatible with other wastes stored or handled in the permitted areas of the facility, and with the containers in which it is stored.

3. Waste Generation

The paint waste/used lacquer thinner reclamation program primarily services automobile body repair shops. The waste is generated through various painting operations at the customer's location, where the waste will be containerized.

4. Waste Management

Paint waste and spent lacquer thinner are collected in containers. The waste will remain in the covered containers at all times during transport and storage. They are typically not opened at the North Carolina facilities. It may be necessary from time to time to open these containers in order to obtain samples for additional analytical testing or to perform additional visual qualitative inspections. The containers are ultimately shipped to a Safety-Kleen recycle center or another approved TSDF.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions under 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

A comprehensive description of the design specifications and capacity limitations of the specific hazardous waste management units utilized for managing this waste is provided in Section D of the Part B Permit Application.

5. Process Design Capacity and Units of Measure for Process(es) Used for Handling the Wastes

Safety-Kleen is limited to how much waste can be stored at the facility by the permitted capacity of the container storage areas and by the National Fire Protection Association Standards. Additional information on these drum storage areas is provided in Section D-1 of this permit application.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

C-3(e) SPILL CLEANUP WASTES

Spill cleanup wastes will result from cleanup operations conducted by Safety-Kleen. These cleanups could occur at the facility or at a customer's place of operation because of releases of hazardous materials that are supplied by Safety-Kleen, or hazardous wastes generated from the materials supplied by Safety-Kleen. The spill cleanup wastes are thus materials that are of known identity and may include contaminated soils, contaminated waters (including decontamination rinses), contaminated materials used for spill control and cleanup, and disposable personnel protection equipment. The hazardous properties, including USEPA waste codes, associated with these spill cleanup wastes would be the same those identified in section C-3(a) – C-3(d) above. Additional information on the drum storage areas where these specific spill cleanup wastes would be stored is provided in Section D-1 of this permit application.

Safety-Kleen accepts these wastes from off-site only when the spill occurred in the presence of a Safety-Kleen employee, or if the customer can provide an analysis or other methods describing the constituents of the spill material. Spill cleanup wastes from customer's facilities where Safety-Kleen personnel did not participate in the cleanup are not accepted into permitted storage. Spills that occur on-site will be responded to as described in the Contingency Plan. Spilled material that does not fall under these scenarios will not be accepted into storage.

C-4 WASTE ANALYSIS PROCEDURES

The Waste Analysis procedures for the North Carolina facilities are comprised of knowledge of the waste streams handled, coupled with qualitative/visual (field-testing) and quantitative (laboratory) analysis. These procedures have been developed in order to meet Waste Analysis Requirements as found in 40 CFR 264.13 and the North Carolina Waste Management Rules. This Waste Analysis Plan also conforms to the requirements of U.S. EPA Publication PB94-963603, OSWER 9938.4-03, and Waste Analysis at Facilities That Generate, Treat, Store, and Dispose of Hazardous Wastes.

The regulations require that before an owner or operator transfers, treats, stores, or disposes of any hazardous waste, a detailed chemical and physical analysis of a representative sample of the waste must be obtained. This analysis, at a minimum, must contain all of the information that must be known to transfer, treat, store, or dispose of the waste. The analysis may include data developed under 40 CFR 261 of the regulations, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

As previously stated Safety-Kleen services hundreds of thousands of customers across North America and has operated for more than 40 years. As such, the Company has determined that the wastes generated are well known and relatively homogeneous. Safety-Kleen evaluates the homogeneity of the waste streams through its company-wide Annual Recharacterization Process. From this Annual Recharacterization Process, which is a thorough statistical analysis of the Company's Core Waste Streams, Safety-Kleen determines the pervasive TCLP codes for each waste stream. The Safety-Kleen North Carolina facilities are permitted for the majority of TCLP codes (excluding corrosives, reactives, herbicides and pesticides) that could be present in each waste stream.

The presence or absence of specific characteristic (i.e., TCLP) waste codes may change over time, or from year to year, based on Safety-Kleen's Annual Waste Recharacterization analytical data or other written documentation from the customer supporting waste code changes which may include customer specific analytical data. The presence of low concentrations (ppm) of TCLP constituents does not affect the

handling or management of the wastes at the Safety-Kleen North Carolina facilities. It also does not affect the handling or management standards that apply or Safety-Kleen's ability to recycle the material and maintain the health and safety of workers and protection of the environment.

The regulations also require an owner or operator of an off-site facility to inspect and, if necessary, analyze any hazardous waste received at the facility to determine whether it matches the identity of the waste specified on the shipping paper. This verification, or 'fingerprint' analysis is accomplished through qualitative/visual analysis (field-testing) that is described in this section. Detailed chemical analysis will be performed if the waste does not meet the field-testing criteria and the generator still wants Safety-Kleen to manage the waste. If a particular drum of waste does not meet the acceptance criteria, the Safety-Kleen Representative shall either reject the waste or arrange to have it sampled for testing at a laboratory. The generator can exercise other options.

As an additional safeguard, Safety-Kleen requires customers to inform Safety-Kleen of changes in waste characteristics. Each customer is required to sign documents that require that the customer inform Safety-Kleen of such changes. The waste shall be rejected or sampled and analyzed if information is obtained that indicates that the composition of the waste stream may have changed beyond acceptable limits.

C-4(a) QUALITATIVE/VISUAL ANALYSIS

Detailed in this section are field-testing (qualitative/visual analysis) procedures. These screening procedures include qualitative determinations for color and volume, and where applicable pH. Field-conformance requirements and their rationale are summarized in Table C-1 and described throughout this section.

The Safety-Kleen Representative will perform qualitative visual conformance analysis at the customer location. The volume of waste collected will be recorded on the Safety-Kleen service document. The service document will accompany the waste to the Safety-Kleen North Carolina facilities, and will be retained there in the operating record. Dry

cleaning customers usually generate only one type of waste from their operations. The likelihood of contamination is remote because dry cleaners do not generally handle other hazardous materials or generate other waste streams.

Similarly, contamination is also remote in the waste paint related line of business. This line of business is limited to automotive paints and such customers do not typically generate other waste streams.

If a particular container of waste does not meet qualitative/visual acceptance criteria established in Section C-5, the Safety-Kleen representative will notify the customer that Safety-Kleen cannot accept the container. The Representative shall reject the waste or arrange to have it sampled for laboratory testing, using the methods of sampling and the appropriate analytical method listed in Tables C-10. The generator may exercise other options for evaluating the waste. If the waste is sampled by Safety-Kleen for further analysis, the suspect container is left with the customer, pending the results of the laboratory tests.

Safety-Kleen will accept the waste from the customer if the laboratory analysis reveals that the sampled waste does not contain parameters that change the requirements for storage at a Safety-Kleen facility in North Carolina. If the laboratory confirms that the waste is contaminated beyond acceptance limitations then the generator will be responsible for securing an alternate means of disposal. Safety-Kleen may be able to provide that option. Safety-Kleen will work with the generator to determine the source of the contamination and ensure that further waste will not be contaminated if Safety-Kleen is to accept that waste for storage.

C-4(a)(1) Volume

Volume measurement will be performed for the Used Parts Washer and Spent Immersion Cleaner Lines of Business. In both of these lines of business a known quantity of product solvent is provided to the customer. The Safety-Kleen Representative will use a calibrated volumetric measuring device to determine the

volume of waste in a container. The measurement will be taken with the measuring device extending vertically to the bottom of a relatively level container allowing the liquid level at the top of the container to be observed by the service representative.

If the volume of solvent exceeds that which was originally provided to the customer, the Safety-Kleen Representative shall reject the waste or arrange to sample the waste for laboratory testing, as this may indicate the addition of foreign or unexpected materials. Some reduction in volume would be expected due to the customer's use of the solvent and evaporation. The generator may also exercise other options at his discretion.

C-4(a)(2) Color

The color of Safety-Kleen's Used Parts Washer Solvent and Spent Immersion Cleaner is well known. The color of the materials from these lines of business will be evaluated. Unused parts washer solvent has a clear or greenish tint. The more it is used, the darker it becomes until it is almost black. Therefore, if the used solvent does not appear to be green, brown, or black, the service representative shall reject the waste or arrange to sample the waste for laboratory testing. In most circumstances, adequate lighting necessary for evaluating solvent color is available during normal business hours. If necessary external lighting sources, such as the mechanical light provided by the parts washer machine, will be utilized to assist in determining color variations.

There are exceptions to this, such as when a pigmented material (transmission fluid, printer's ink, water-based paint, others) enters the solvent during its normal use. In that case, the solvent may have a different color and still remain acceptable as long as the origin of the color is justified.

Unused immersion cleaner is amber in color. It becomes brown or black as it is used. Therefore, if the spent immersion cleaner does not appear to be amber, brown, or black, the service representative shall reject the waste or arrange to sample the waste for laboratory testing.

Safety-Kleen service representatives are very familiar with the specific use of these solvents and can readily identify variations in the color of the used solvents, which may indicate misuse of the solvents, or changes in the types of material introduced into the parts cleaning equipment. Significant variations in color that cannot be explained or justified by the customer will result in the material be rejected until further analysis can be performed, or alternate arrangements for managing the waste are made by the customer.

TABLE C-1

SUMMARY OF QUALITATIVE / VISUAL ACCEPTANCE CRITERIA

Waste	Qualitative Acceptance Criteria and Rationale
Used Parts Washer Solvents	<p>Volume: No more solvent present than originally supplied. Greater volume indicates potential addition of an unknown substance.</p> <p>Color: New 105 or 150 premium parts washer solvents should be green or dark green, new premium parts washer solvents should be clear, recycled 150 solvent may be tan. Used parts washer solvents should be brown or black + Other color indicates potential addition of an unknown substance.</p> <p>pH: Check pH if water layer is visible to detect possible corrosive contamination. pH between 4 – 9.5 is acceptable.</p>
Used aqueous parts washer solvents	<p>Volume: No more solvent present than originally supplied. Greater volume indicates potential addition of an unknown substance.</p> <p>Visual: Opaque milky appearance with oily greasy layer and some particulate. Color may vary from off white to brown/black and be watery in appearance. Other color indicates potential addition of an unknown substance.</p>
Immersion Cleaner Waste	<p>Volume: No more than originally supplied (6 gallons in a 16 gallon drum for example).</p> <p>Color: New immersion cleaner is amber in color. Spent immersion cleaner can be amber, brown or black. Other color indicates potential addition of an unknown substance.</p> <p>pH: Check pH if water layer is visible to detect possible corrosive contamination. pH between 6 – 11.5 is acceptable.</p>
Dry Cleaner Wastes* Spent Filter Cartridges Powder Residue Still Bottoms	<p>Filter cartridge is present with or without dry cleaning solvent.</p> <p>A grayish-black powdery residue is present with or without dry cleaning solvent.</p> <p>A dark brown to black colored tar-like material is present with or without dry cleaning solvent.</p>
Paint Wastes #	<p>Volume: No more solvent than originally supplied (7.5 gallons in</p>

Waste	Qualitative Acceptance Criteria and Rationale
Lacquer Thinner Paint Waste	both pails for the small gun cleaner) without explanation (see text). Visual: No material present other than paint, thinner, water. No oily/greasy appearance. No more than two layers of liquid. May contain solidified paint.
Safety-Kleen Generated Waste	Statement of contents from Safety-Kleen employee responsible or witnessing the spill.

- + Where parts washer solvents are used to clean paint contaminated equipment this color may reflect the color of the paint.
- * Containers of dry cleaning waste, paint booth filters are only opened and assessed for qualitative acceptance criteria if the service representative suspects that other material has been added to the waste. Dry Cleaners usually generate one group of waste from dry cleaning operations. Since dry cleaners do not handle other materials or generate other waste streams, the potential for contamination is remote.
- # The Safety-Kleen paint gun cleaner service is primarily performed within the automotive painting industry. Since automotive paint customers do not typically handle other materials or generate other waste streams, the potential for contamination is remote.

C-4(b) QUANTITATIVE/CONFIRMATION ANALYSIS

Due to limited types of wastes managed at a Safety-Kleen Branch Facility, it is unlikely that wastes restricted from the facility would be accepted by mistake. Safety-Kleen facilities store only a limited variety of wastes having well-defined physical and chemical properties. The majority of these wastes are generated from products originally supplied by Safety-Kleen. These permitted wastes are subjected to visual verification by Safety-Kleen at the time of pickup to check for compliance with the acceptance criteria. Quantitative waste analysis will consist of sampling, analysis, and comparison to permitted waste codes. Wastes generated from materials supplied by a customer are subject to further evaluation and testing prior to be managed by Safety-Kleen. These types of wastes are handled as less than 10-day transfer waste at the North Carolina facilities.

The Quantitative Analysis performed on the wastes consists of each of the North Carolina facilities participation in Safety-Kleen's company-wide Annual Waste Recharacterization program. This program consists of an extensive analytical study that evaluates the presence and level of hazardous constituents in Safety-Kleen's core waste

streams in order to determine which hazardous characteristics and TCLP waste codes apply to these wastes on a yearly basis. The results of these analyses are subjected to statistical review to determine any changes in waste classification from the previous year. The general approach to implementing this analytical study and for evaluating the results is based on approved U.S. EPA sampling and analytical methodologies, as reflected in S.W. 846, or approved equivalent methods. The sampling, analytical, and testing methodology utilized in this program is discussed in the following sections. A summary and explanation of the statistical analysis approach taken to evaluate the analytical data obtained in the Annual Waste Recharacterization program is included in Appendix C-1. An example of the most recent Annual Waste Recharacterization Data Summary is included in Appendix C-2. A copy of the Annual Waste Recharacterization Summary is also maintained in the operating record at each of the Safety-Kleen North Carolina facilities.

Safety-Kleen includes each of the four Safety-Kleen North Carolina facilities in the company-wide Annual Waste Recharacterization program. The Safety-Kleen North Carolina facilities shall participate in this program to the extent that a minimum of one (1) sample per core waste stream, as described in Section C-3 above, from each of the North Carolina Safety-Kleen facilities will be collected and analyzed according to the analytical parameters set forth in Table C-10. These samples will be collected from containers of randomly selected customers at each North Carolina Facility at the time of Annual Recharacterization testing. Dry cleaning filters and filter residues are not necessarily included in this annual analysis since the chemical composition of the dry cleaning sludge (i.e., perchloroethylene) is sufficiently representative of these two types of dry cleaning wastes. Other wastes commonly generated at the North Carolina facilities, which consist of used parts washer solvent dumpster sludge and contaminated debris (related specifically to used parts washer solvent) will also be included in the Annual Waste Recharacterization program at each of the North Carolina facilities. These wastes will also be analyzed when Safety-Kleen is notified, or has reason to believe that the process or operation generating the hazardous waste has changed.

C-5 PROTOCOLS FOR WASTE ACCEPTANCE AND QUALITATIVE SAMPLING AND ANALYSIS

This section outlines the acceptance criteria used by Safety-Kleen representatives who pick up used solvents and other wastes to be stored at the Branch Facility as well as the protocols that will be utilized for associated sampling and analysis to support these acceptance procedures. The initial portion of this Section presents a discussion of the rationale for the waste acceptance protocols and associated testing of each of the wastes stored by the Facility. The remaining portions of the Section describe the parameters, test methods, sampling methods and frequency of analysis for the various waste types stored by the Facility.

The analytical methods used by Safety-Kleen in performing Tier 2 and Tier 3 analyses are cross-referenced in Tables C-3 through C-7. Safety-Kleen will utilize EPA and ASTM analytical methods, see Table C-10. This Waste Analysis Plan incorporates by reference the analytical protocols used by Safety-Kleen to perform waste analysis as previously described.

Each waste stream outlined in Section C-3 will be addressed individually within this Section.

C-5(a) Rationale

The primary function of the Acceptance Protocol is to identify wastes that the Facility is unable to handle (based upon the permit defined performance goals of the facility) before shipment of the waste is made from the customer. The performance goals of the Branch Facilities define the tolerance limits for the wastes that can be accepted, and form the basis for the acceptance and testing procedures outlined herein. Tolerance limits define the parameter boundaries that a waste must meet so that it can be managed in compliance with the Facility's permit.

The Branch Facility handles waste only for purposes of storing and bulking individual waste shipments from customers for subsequent off-site recycling. The performance goals of the Branch Facilities can be summarized as follows:

- Wastes need to be compatible with the containers they are stored in.
- Wastes that are bulked need to be compatible with each other.
- Flammable waste must be maintained in areas that meet applicable fire code regulations.
- Any incompatible materials that are present must be segregated.

Because the performance goals of the Branch Facilities are broad in scope, the tolerance limits for the wastes managed at these facilities are likewise broad. Therefore, the acceptance criteria and associated testing have been designed to address characteristics of wastes being accepted by a Branch Facility that could affect the performance goal of the facility (i.e., ensure the waste meets its tolerance limits). The acceptance criteria and associated testing protocols reflect the fact that various contaminants can be present within these wastes. Specifically, the following should be noted:

- These contaminants are reflected within the regulatory classifications assigned to each of the wastes streams, as discussed in the preceding Subsection.
- The presence of these contaminants does not affect the manner in which the wastes are handled by the Branch Facility.
- The presence of these contaminants does not affect the performance goals of the Safety-Kleen Recycle Center receiving the waste (which, by the nature of the recycling operations, are more restrictive than those of the Branch Facilities).

The introduction of a flammable material into nonflammable waste could affect the flammability of the waste. Therefore, flash point has been included as a test parameter

to support the waste acceptance protocol for each waste stream that is not handled as a flammable material.

As discussed within Section C-2, the wastes handled by the Branch Facilities are compatible with each other, and with the containers/tanks in which they are stored. As indicated in Table C-2, materials commonly utilized by Safety-Kleen customers that could be incompatible with the waste streams managed by the Branch Facilities include strong oxidizers, caustics and mineral acids.

The Waste Analysis Plan entails the use of a tiered acceptance and testing approach for most of the service-related waste streams, particularly those waste streams listed within Section C-3 that are generated by the customer. This tiered approach uses an initial tier (Tier 1) of visual screening for each of these waste streams to determine if the waste meets certain initial acceptance criteria before it is picked up. The Tier 1 inspections are performed at the customer's facility. If the waste does not meet the acceptance criteria, the customer is interviewed to determine whether an acceptable reason exists for the non-conforming criteria. For example, the discoloration of minerals spirits solvents may be the result of cleaning equipment contaminated with paint, inks, or dyes; however, the waste could still be accepted for recycling under such conditions. Tier 2 and Tier 3 analytical criteria have been selected to ensure that the waste is what it is claimed to be and not contaminated with other wastes, based upon the normal manner in which the wastes are generated. Additionally, the acceptance criterion addresses contamination indicative of the possible misuse of Safety-Kleen products and/or the inadvertent disposal of unacceptable waste materials. Thus, the acceptance criteria are considered conservative, and have been designed recognizing that the activities conducted by the Branch Facilities are an integral part of waste generation, storage and eventual recycling process which is the basis of the services provided by Safety-Kleen.

Tier 2 analytical criteria will be employed when the waste does not meet the acceptance criteria established under Tier 1 for each particular waste type and a decision is made by Safety-Kleen to either sample the waste or reject the shipment. If the waste fails any of these Tier 2 criteria, additional Tier 3 testing may be performed to further characterize

the waste. Tier 3 testing is performed to determine quantitative levels of contamination where the Tier 1 and Tier 2 testing suggest that they may exceed acceptable levels. Sometimes, based upon customer interviews or Tier 1 or Tier 2 testing, it may be determined that the waste is unacceptable without proceeding to Tier 3 testing. The results of testing conducted under the tiered approach will be maintained in the operating record (i.e., until final closure) at each of the Branch Facilities.

C-5(a)(1) Used Parts Washer Solvent Parameters, Test Methods and Rationale

Parameters, inspection and test methods, and acceptance criteria used to characterize used parts washer solvents are summarized within Table C-3. Tier 1 testing includes core sampling to check for phase separation, and pH of the aqueous (water-based liquid) layer, if present. A visual inspection of a core sample may reveal if other unacceptable materials are present. If an aqueous layer is present, pH testing will be conducted. Sampling for pH will reveal if the material is corrosive and is an acceptance criteria of the recycling center.

Wastes not meeting these Tier acceptance criteria as specified in Table C-3 will be screened for Tier 2 dependent upon customer approval. Wastes that do not meet the Tier 2 criteria will not be accepted by the Branch facility unless the waste meets the Tier 3 criteria. Disposition of wastes which do not meet those criteria will be dependent upon customer approval. Safety-Kleen will offer to do additional analysis to determine the composition for acceptance. If lab results indicate that the material is acceptable for either outside waste management services or a Safety-Kleen Recycle Center, the container will be handled at the Facility on a transfer basis. The customer can also choose to make alternative arrangements. The protocol includes Tier 2 testing for flash point/flame color. Tier 3 analyses will include total volatile organics and total organic halogens. This protocol provides a check for unacceptable levels of contamination potentially caused by halogenated or non-halogenated volatile organic-based wastes. Additionally, by reviewing flash point/flame color data, the potential for aqueous-based contamination can also be assessed.

Analyses have demonstrated that this waste stream will typically contain low concentrations of halogenated and non-halogenated volatile organics as well as metals. The presence of these materials within the waste will not impair the Branch facility's ability to properly manage said wastes, except in those instances where flammable organics may significantly lower the flash point. In addition to this latter situation, excessive contamination by halogenated or non-halogenated volatile organics suggests the improper use of the solvent by the customer. Although unlikely, this may have the potential for impairing the Recycle Centers ability to manage such wastes. Tier 3 acceptance criteria for total volatile organics and total halogenated volatile organics have been established in consideration of these factors. Flashpoint, odor, pH, and a chlorinated solvent screen are part of the acceptance criteria of the Recycle Center.

TABLE C-2
INCOMPATIBILITIES OF WASTE STREAM COMPONENTS

MATERIAL	WASTE TYPE	INCOMPATIBILITIES
Acetate Compounds	Paint Spray Gun Cleaner, Waste Paint	Strong Oxidizers, Nitrates, Alkali's, Acids
Acetone	Paint Spray Gun Cleaner, Waste Paint	Oxidizers, Acids
Isopropyl Alcohol	Paint Spray Gun Cleaner, Waste Paint	Strong Oxidizers, Acids, Acetaldehyde, Chlorine, Ethylene Oxide, Isocyanates
Methyl Ethyl Ketone	Paint Spray Gun Cleaner, Waste Paint	Very strong Oxidizers
Methyl Isobutyl Ketone	Paint Spray Gun Cleaner, Waste Paint	Strong Oxidizers, Potassium tert-butoxide
Mineral Spirits (aliphatic/ aromatic hydrocarbons)	Used Parts Washer Solvent, Spent Immersion Cleaner	Strong Oxidizers
Naphthalene	Spent Immersion Cleaner	Strong Oxidizers, Chromic anhydride
Perchloroethylene (Tetrachloroethylene)	Dry Cleaning Wastes	Strong Oxidizers, Alkalis, Chemically active metals
Toluene	Paint Spray Gun Cleaner, Waste Paint	Strong Oxidizers
Xylenes	Paint Spray Gun Cleaner, Waste Paint	Strong Oxidizers

Sources of Information: NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health & Human Services, COC/NIOSH, 1990. Dangerous Properties of Industrial Materials, N. Irving Sax, 1984.

Sampling Methods and Frequency

Tier 1

Every drum of used parts washer solvent is inspected by the Safety-Kleen representative for color, volume, and any unusual odors suggesting the addition of a foreign substance. For health and safety purposes, Safety-Kleen representatives are instructed not to purposefully sniff any wastes materials. However, if unusual odors are noticed during the routine handling of these materials, this information is not to be ignored and will be utilized as part of the waste acceptance procedure. In addition, the following parameters will be utilized to screen the waste: core sampling to check for phase separation, and pH of any noticeable aqueous layer (water-based liquid). Aqueous based parts cleaning wastes are not subject to pH field-testing, as water is a significant component of this material. If these criteria are met, the Safety-Kleen representative will accept the waste. If Tier 1 criteria are not met, the Safety-Kleen representative will interview the customer to attempt to determine the reason and will document this information on the waste acceptance form example provided in Appendix C-3. The representative will contact the Facility for information regarding prior sampling results of the customer's waste and will have the information relayed via the telephone. Alternatively, the container will be sealed and left at the customer's location. The customer file will be checked upon return to the Facility, and, if acceptable, the waste will be picked up at a later date. If this waste stream from the customer has been sampled in the past and:

1. the Tier 1 acceptance criteria results (color, volume, etc.) are the same documented for the previous sampling;
2. the results of the Tier 2 and/or Tier 3 analyses indicate that the material is acceptable; and,
3. the prior sampling results are on file at the Facility,

then the representative will accept the waste without further Tier 2 or Tier 3 analysis. If the waste does not meet Tier 1 criteria or the three conditions above, the waste will either be rejected or a sample will be collected for analyses. In either event, the waste

will remain with the customer until sufficient testing has been performed to either pass Tier 2 or Tier 3 criteria, or to dispose of the waste by other means. This method of inspection ensures that unacceptable wastes generated off site are not received by the Facility.

Tier 2

Used parts washer solvent waste will undergo Tier 2 testing if the waste does not meet Tier 1 acceptance criteria. A trained Safety-Kleen representative will utilize a drum thief or Coliwasa sampler to extract a representative sample of the drum contents. The sample will be placed in a sample jar, and the following information will be documented on the label of the sample jar:

- Customer name.
- Waste stream (i.e., used parts washer solvent).
- Sample collection date and time.

The sample will then be shipped to a Safety-Kleen laboratory or other laboratory selected by Safety-Kleen for the Tier 2 analyses indicated within Table C-3.

Tier 2 parameters include flash point, which is intended to identify potentially significant contamination by halogenated and non-halogenated organic materials.

The acceptable flash point range (95 to 140 degrees Fahrenheit, or 95 to 160 degrees Fahrenheit if, pursuant to the Service Document, high flash solvent was provided, or no flash point if aqueous parts washer solvent was provided) has been established as the range of this parameter in the reclaimed solvent supplied to the Customer, allowing for subsequent alterations likely to occur from the normal and accepted use of the solvent. Excursions of flash point outside this acceptance range may indicate the following:

- If the flash point is lower than 95 degrees Fahrenheit, significant amounts of a flammable organic may have been introduced.

- If the flash point is above 140 degrees Fahrenheit [or 160 degrees Fahrenheit (see preceding paragraph)], significant amounts of a noncombustible organic (e.g., chlorinated solvent) or aqueous-based material may have been introduced. The presence or absence of a green flame color will be used to assist in determining which may have occurred.

Tier 2 will also include testing for specific gravity. The acceptable specific gravity range (0.70 to 1.1) has been established as the range of this parameter in the reclaimed solvent supplied to the customer, allowing for subsequent alterations likely to occur from normal and accepted use of the solvent. Similarly, excursions of specific gravity outside the acceptance range indicated in Table C-3 may indicate the following conditions: If the specific gravity is lower than 0.70, significant amounts of potentially flammable organics could have been introduced. If the specific gravity is higher than 1.1, significant amounts of halogenated solvent (e.g., chlorinated solvent) material may have been introduced.

The results of a Tier 2 test will assist Safety-Kleen in assessing whether further testing (Tier 3) is necessary to accept the waste, or if the waste will be rejected.

Tier 3

The Tier 3 acceptance criteria have been established, recognizing that organic contaminants will normally be present in this waste stream. Significant amounts of such materials can be added to the waste stream without affecting the Branch Facility's or the Recycle Facility's ability to properly manage the waste.

Analyses of the sample for Tier 3 parameters will be dependent upon the results of the Tier 2 analyses, as indicated in Table C-4. If the flash point is lower than 95 degrees Fahrenheit, volatile organic compound analysis will be conducted. If the flash point is higher than 140 degree Fahrenheit and aqueous parts washer solvent was not provided, (or 160 degrees Fahrenheit if, pursuant to the Service Document, high flash solvent was supplied), halogenated organic volatile analysis will be conducted. If a green flame is present during the flash point test, halogenated organic volatile analysis will be

conducted, regardless of the flash point results. If the specific gravity is lower than 0.70, volatile compound analysis will be conducted. If the specific gravity exceeds 1.10, halogenated organic volatile analysis will be conducted. If the sample fails any of the Tier 3 acceptance criteria, the container will not be accepted into permitted storage at the Safety-Kleen facility. (This can be done at any prior stage, at the discretion of Safety-Kleen).

It should be noted that if an individual drum of used parts washer solvent tests with a flash point lower than 100 degrees Fahrenheit, it is a flammable liquid by National Fire Protection Association (NFPA) standards. If such a drum is subsequently accepted by the Branch Facility, it will be marked with an appropriate flammable liquid (Class 3) label. In the event the drum contents are not immediately processed in a drum washer and composited, the drum will be stored only in a container storage area designated and permitted for flammable liquid storage.

TABLE C-3
SUMMARY OF TEST METHODS AND ACCEPTANCE CRITERIA
FOR USED PARTS WASHER SOLVENT

ANALYSES	TEST METHOD	ACCEPTANCE CRITERIA
TIER 1^{1/}		
Volume in Container	Inspection	No greater than $\frac{3}{4}$ full
Color/Appearance	Inspection	Green or clear, grading to brown or black ^{2/}
Odor odor ^{3/}	If noted	Characteristic mineral spirits
Core Sampling	Drum Thief or Coliwasa	Phase separation
pH of Aqueous Layer	pH paper	4 – 9.5
TIER 2		
Specific gravity	ASTM Method D5057	0.70 – 1.1
Flash Point / Flame Color	EPA SW846 1010	95 – 140 degrees Fahrenheit ^{4/} Absence of green flame coloration (If Service document indicates high flash solvent [140 – 150 degrees Fahrenheit] was supplied, then an acceptable flash point range of 95 – 160 degrees Fahrenheit will be utilized.)

TABLE C-3 (continued)

ANALYSES	TEST METHOD	ACCEPTANCE CRITERIA
TIER 3		
Halogenated Organic Volatiles	EPA SW846 8121	< 10 percent total
Volatile Organic Compounds	EPA SW846 8260	< 10 percent total

- 1/ Tier 1 acceptance criteria are utilized by Safety-Kleen when picking up each container of used parts washer solvent at a customer's facility.
- 2/ Used parts washer solvent from printing companies may be a variety of colors because of the inks. Aqueous based used parts washer solvent is clear to blue grading to brown to black.
- 3/ For health and safety reasons wastes are not to be sniffed deliberately. If unusual odors are detected incidentally, this information will be incorporated into the acceptance procedure.
- 4/ Aqueous parts washer solvent will have no flash point.

TABLE C-4

**TIER 2 RESULTS AND RESULTING TIER 3 ANALYSES
DECISION DIAGRAM FOR
USED PARTS WASHER SOLVENT**

TIER 2 ANALYTICAL RESULTS

SUBSEQUENT TIER 3 ANALYSIS

FLASH POINT

< 95 degrees Fahrenheit ----- > Volatile Organic Compounds
95 – 140 degrees Fahrenheit ----- >Acceptable
>140 degrees Fahrenheit ----- > Halogenated organic volatiles*
> 160 degrees Fahrenheit if high flash solvent supplied -- > Halogenated organic volatiles*

FLAME COLOR

Green color present ----- >Halogenated organic volatiles
Green color absent ----- >Acceptable

SPECIFIC GRAVITY

< 0.7 ----- > Volatile organic compounds
0.7 – 1.1 ----- > Acceptable
>1.1 ----- > Halogenated organic
compounds

TIER 3 ANALYTICAL RESULTS

Acceptable range volatile organic compounds < 10 percent total
Acceptable range halogenated organic compounds < 10 percent total

* If aqueous parts washer solvent was not provided.

C-5(a)(2) Spent Immersion Cleaner Parameters, Test Methods and Rationale

Parameters, inspection and test methods, and acceptance criteria utilized in characterizing spent immersion cleaner are summarized within Table C-5. This protocol includes Tier 2 testing for flash point/flame color, and specific gravity. Tier 3 analyses will include total volatile organics and total organic halogens. This protocol provides a check for unacceptable levels of contamination potentially caused by halogenated or non-halogenated volatile organic-based wastes. Additionally, by reviewing flash point data, the potential for aqueous-based contamination can be assessed.

Analyses have demonstrated that this waste stream will typically contain volatile organic constituents, including chlorinated volatiles. The presence of these materials within the waste will not impair the Branch facility's ability to properly manage said wastes, except in those instances where flammable organics may significantly lower the flash point. In addition to this latter situation, excessive contamination from halogenated or non-halogenated organics (and conceivably by aqueous-based substances) suggests the improper use of the solvent by the customer. Although unlikely, this may have the potential for impairing the Recycle Center's ability to manage such wastes. Tier 3 acceptance criteria for total volatile organics and total halogenated organics have been established in consideration of these factors. The acceptance criteria of the Recycle Center include odor, specific gravity, flashpoint, volatile halogenated organic solvents.

Sampling Methods and Frequency

Tier 1

Every drum of spent immersion cleaner is inspected by the Safety-Kleen representative for color, volume, and unusual odors suggesting the addition of a foreign substance. For

health and safety purposes, Safety-Kleen representatives are instructed not to purposefully sniff any waste materials. However, if unusual odors are noticed during the routine handling of these materials, this information will not be ignored, and will be utilized as part of the waste acceptance procedure. If these criteria are met, the representative will accept the waste. In addition, the following additional parameters will be utilized to screen the waste: core sampling to check for phase separation, and pH of the aqueous layer, if present. If an aqueous layer is present, pH testing will be conducted. Sampling for pH will reveal if the material is corrosive and is an acceptance criteria of the recycling center.

If Tier 1 criteria are not met, the Safety-Kleen representative will interview the customer to attempt to determine the reason and will document this information on the waste acceptance form example provided in Appendix C-3. The representative will contact the Facility for information regarding prior sampling results of the customer's waste, and will have the information relayed via the telephone. Alternatively, the container will be sealed and left at the customer's location. The customer file will be checked upon return to the Facility, and, if acceptable, the waste will be picked up at a later date. If this waste stream from the customer has been sampled in the past and:

1. the Tier 1 acceptance criteria results (color, volume, etc.) are the same as documented for the previous sampling;
2. the results of the Tier 2 and/or Tier 3 analyses indicate that the material is acceptable; and,
3. the prior sampling results are on file at the Facility,

the representative will then accept the waste without further Tier 2 or Tier 3 analysis. If the waste does not meet the Tier 1 criteria or the three conditions above, the waste will either be rejected or a sample will be collected for analyses. In either event, the waste will remain with the customer until sufficient testing has been performed to either pass Tier 2 or Tier 3 criteria or to dispose of the waste through other means. This method of inspection ensures that unacceptable wastes generated off site are not received by the Facility.

Tier 2

Spent immersion cleaner will undergo Tier 2 testing if the waste does not meet Tier 1 acceptance criteria. Trained Safety-Kleen personnel will use a drum thief or Coliwasa sampler to extract a representative sample of the drum contents. The sample will be placed in a sample jar. The following information will be documented on the label of the sample jar:

- Customer name.
- Waste (i.e., spent immersion cleaner).
- Sample collection date and time.

The sample will then be shipped to a Safety-Kleen laboratory or other laboratory selected by Safety-Kleen for the Tier 2 analyses indicated within Table C-5. Tier 2 parameters include flash point, which is intended to assess the potential presence of significant aqueous-based contamination.

The acceptable flash point (greater than 140 degrees Fahrenheit) has been established as the minimum point for this parameter in the reclaimed solvent supplied to the Customer. A flash point below this acceptance level indicates that significant amounts of a flammable organic may have been introduced. The presence or absence of a green flame color will be used to assist in assessing whether chlorinated solvents have been added to the solvent.

Tier 2 testing will also include specific gravity. Excursion of specific gravity outside the acceptance range indicated in Table C-5 may include the following conditions: If the specific gravity is lower than 0.90, significant amounts of potentially flammable organics could have been introduced. If the specific gravity is higher than 1.2, significant amounts of heavy organics (e.g, chlorinated solvent) may have been introduced.

The results of a Tier 2 test will assist Safety-Kleen in assessing whether further testing (Tier 3) is necessary to accept the waste, or if the waste should be rejected.

Tier 3

The Tier 3 acceptance criteria have been established recognizing that significant amounts of organic materials can be added to the waste stream without affecting the Branch Facility's or the Recycle Facility's ability to properly manage the waste.

Analysis of the sample for the Tier 3 parameters will be dependent upon the results of the Tier 2 analysis. If any Tier 2 criteria are not met, the sample will be analyzed for the Tier 3 parameters. If the flash point is lower than 140 degrees Fahrenheit, volatile organic compound analysis will be conducted. If a green flame is present during the flash point test, halogenated organic volatiles analysis will be conducted, regardless of the flash point results. If the specific gravity is lower than 0.90, volatile organic compound analysis will be conducted. If the specific gravity exceeds 1.2, halogenated organic volatile analysis will be conducted. If the sample fails the Tier 3 acceptance criteria, the container will not be accepted into permitted storage at the Safety-Kleen facility. (This can be done at any prior stage, at the discretion of Safety-Kleen.)

TABLE C-5

**SUMMARY OF TEST METHODS AND ACCEPTANCE CRITERIA
 FOR SPENT IMMERSION CLEANER**

ANALYSES	TEST METHOD	ACCEPTANCE CRITERIA
TIER 1 ^{1/}		
Volume in container	Inspection	Not greater than 50% of drum or greater than 85% of a pail.
Color/Appearance	Inspection	Amber, grading to brown or black.
Odor	If noted	Characteristic naphtha odor ^{2/}
Core sampling	Drum thief or coliwasa.	Phase separation
pH of aqueous layer	pH paper	6 – 11.5
TIER 2		
Flash point/flame color	EPA SW846 1010	> 140 degrees Fahrenheit; Absence of green flame color
Specific gravity	ASTM Method D5057	0.90 – 1.20
TIER 3		
Volatile organic compounds	EPA SW846 8260	< 10% of total contaminants foreign to product formulation; and/or not > 10% over any single component within product.
Halogenated org. volatiles	EPA SW846 8121	< 5% total

1/ Tier 1 acceptance criteria are utilized by Safety-Kleen when picking up each container of spent immersion cleaner at a customers facility.

2/ For health and safety reasons wastes are not to be sniffed deliberately. If unusual odors are detected incidentally, this information will be incorporated into the acceptance procedure.

C-5(a)(3) Spent Paint Spray Gun Cleaner Parameters, Test Methods and Rationale

Parameters, inspection and test methods, and acceptance criteria utilized in characterizing spent paint spray gun cleaner are summarized within Table C-6. This protocol includes Tier 2 testing for flash point/flame color and specific gravity. Tier 3 analyses will include total organic halogens. This protocol provides a check for unacceptable levels of contamination potentially caused by halogenated organic-based wastes.

These wastes are generated in very controlled environments, where other operations using significant amounts of other hazardous materials are not conducted. These wastes are generated within units (i.e., spray gun cleaner machines), which would not lend themselves to cross-contamination by foreign materials. The processes used by the customer are well known to Safety-Kleen.

The paint gun cleaner is a service in which Safety-Kleen provides equipment specifically designed to clean spray gun equipment, a solvent exchange service, and collects the excess waste paint generated by the industry. The solvents from both the solvent and the paint are recycled and reused in the cleaning system. The solvents from these services are of a consistent nature, as evidenced by historical data. This data is constantly renewed and updated as material is received and processed, and thus provide the necessary pre-qualification information.

Analyses have demonstrated that this waste stream will typically contain volatile organic constituents. Based upon the formulation of the solvent, certain non-halogenated organics can be anticipated to be present in high concentrations. Typical concentrations of chlorinated organics are relatively low. The presence of these materials within the waste will not impair the Branch facility's ability to properly manage said wastes. Regardless of the actual flash point, all spent paint spray gun cleaner is assumed to be a flammable material and is managed accordingly. Significant contamination by halogenated organics suggests the improper use of the solvent by the customer.

Although unlikely, this may have the potential for impairing the Recycle Center's ability to manage such wastes. Thus, Tier 3 acceptance criteria for total halogenated organics have been established in consideration of these factors. The acceptance criterion of the Recycle Center includes physical appearance, specific gravity, flash point, and volatile organic analysis.

Sampling Methods and Frequency

Tier 1

Every drum of spent paint spray gun cleaner is inspected by the Safety-Kleen representative for color, volume, and unusual odors suggesting the addition of a foreign substance. For health and safety purposes, Safety-Kleen representatives are instructed not to purposefully sniff any waste materials. However, if unusual odors are noticed during the routine handling of these materials, this information will not be ignored, and will be utilized as part of the waste acceptance procedure. If these criteria are met, the representative will accept the waste.

If Tier 1 criteria are not met, the Safety-Kleen representative will interview the customer to attempt to determine the reason and will document this information on the waste acceptance form example provided in Appendix C-3, or an equivalent form may be used. The representative will contact the Facility for information regarding prior sampling results of the customer's waste, and will have the information relayed via the telephone. Alternatively, the container will be sealed and left at the customer's location. The customer file will be checked upon return to the Facility, and, if acceptable, the waste will be picked up at a later date. If this waste stream from the customer has been sampled in the past and:

1. the Tier 1 acceptance criteria results (color, volume, etc.) are the same as documented for the previous sampling;

2. the results of the Tier 2 and/or Tier 3 analyses indicate that the material is acceptable; and,
3. the prior sampling results are on file at the Facility,

the representative will then accept the waste without further Tier 2 or Tier 3 analysis. If the waste does not meet the Tier 1 criteria or the three conditions above, the waste will either be rejected or a sample will be collected for analyses. In either event, the waste will remain with the customer until sufficient testing has been performed to either pass Tier 2 or Tier 3 criteria or to dispose of the waste through other means. This method of inspection ensures that unacceptable wastes generated off site are not received by the Facility.

Tier 2

Spent spray gun cleaner will undergo Tier 2 testing if the waste does not meet Tier 1 acceptance criteria. Trained Safety-Kleen personnel will use a drum thief or Coliwasa sampler to extract a representative sample of the drum contents. The sample will be placed in a sample jar. The following information will be documented on the label of the sample jar:

- Customer name.
- Waste (i.e., spent paint spray gun cleaner).
- Sample collection date and time.

The sample will then be shipped to a Safety-Kleen laboratory or other laboratory selected by Safety-Kleen for the Tier 2 analyses indicated within Table C-6. Tier 2 parameters include flash point/flame color and specific gravity, which is intended to identify potential significant and unusual contamination by halogenated volatile organic materials.

The acceptable flash point (less than 100 degrees Fahrenheit) has been established as a maximum flash point for this parameter considering the potential for significant increases in flash point over that of the reclaimed solvent supplied to the customer, based upon the type of paints being cleaned. A flash point above this acceptance level may indicate that significant amounts of halogenated organics may have been introduced. The presence or absence of a green flame color will be used to assist in assessing whether chlorinated solvents have been added to the solvent.

The acceptable specific gravity (less than 1.10) has been established as the maximum point for this parameter, which is likely to occur from the normal and accepted used of the solvent. However, a wide variation in specific gravity may occur, based upon the types of paints being cleaned. Similarly, excursions of specific gravity above the acceptable limit may indicate that significant amounts of a chlorinated solvent have been introduced.

The results of a Tier 2 test will assist Safety-Kleen in assessing whether further testing (Tier 3) is necessary, or if the waste should be rejected.

Tier 3

Analysis of the sample for the Tier 3 parameters will be dependent upon the results of the Tier 2 analysis. If any Tier 2 parameters, including flame color, are not met, halogenated organic volatiles analysis will be conducted. If the sample fails the Tier 3 acceptance criteria, the container will not be accepted into permitted storage at the Safety-Kleen Facility.

TABLE C-6

**SUMMARY OF TEST METHODS AND ACCEPTANCE CRITERIA
 FOR SPENT PAINT SPRAY GUN CLEANER**

ANALYSES	TEST METHOD	ACCEPTANCE CRITERIA
TIER 1 ^{1/}		
Appearance	Inspection	Solvent/paint appearance No unusual odors ^{2/}
Volume in Container	Inspection	< 7 ½ gallons between (2) 5-gallon pails ^{3/} (clean and dirty), combined.
TIER 2		
Flash point/flame color	EPA SW846 1010	< 100 degrees Fahrenheit Absence of green flame coloration
Specific gravity	ASTM Method D5057	< 1.10
TIER 3		
Halogenated org. volatiles	EPA SW846 8121	< 5% total

1/ Tier 1 acceptance criteria are utilized by Safety-Kleen when picking up each container of spent paint spray gun cleaner at a customers facility.

2/ For health and safety reasons wastes are not to be sniffed deliberately. If unusual odors are detected incidentally, this information will be incorporated into the acceptance procedure.

3/ Container sizes are subject to change.

C-5(a)(4) Paint Waste Parameters, Test Methods and Rationale

Parameters, inspection and test methods, and acceptance criteria utilized in characterizing paint waste are summarized within Table C-7. This protocol included Tier 2 testing for flash point/flame color, and Tier 3 analyses for total organic halogens. The protocol provides a check for significant, unusual contamination by halogenated organic-based wastes.

Analyses have demonstrated that this waste stream will typically contain volatile organic constituents. Notable, non-halogenated volatile organics can be anticipated to be present in high concentrations. Typical concentrations of chlorinated volatile organics are relatively low. The presence of these organic materials within the waste will not impair the Branch facility's ability to properly manage said wastes. Regardless of the actual flash point, all waste paint is assumed to be flammable material, and is managed accordingly. Significant contamination by halogenated organics suggests the improper or accidental disposal of materials other than paint into this waste stream. Although unlikely, this may have the potential for impairing the Recycle Center's ability to manage such wastes. Tier 3 acceptance criteria for halogenated organic volatiles have been established in consideration of these factors. The acceptance criterion of the Recycle Center includes physical appearance, specific gravity, flash point, and volatile organic analysis.

Sampling Methods and Frequency

Tier 1

Every drum of paint waste is inspected by the Safety-Kleen representative for visual appearance, volume of material, and any unusual odors or other conditions suggesting the addition of a foreign material, as referenced in Table C-1. For health and safety purposes, Safety-Kleen representatives are instructed not to purposefully sniff any waste

materials. However, if unusual odors are noticed during the routine handling of these materials, this information will not be ignored and will be utilized as part of the waste acceptance procedure. If these criteria are met, the representative will accept the waste. If the Tier 1 criteria are not met, the Safety-Kleen representative will interview the customer to attempt to determine the reason and will document this information on the waste acceptance form example provided in Appendix C-3. The representative will contact the Facility for information regarding prior sampling results of the customer's waste, and will have the information relayed via the telephone. Alternatively, the container will be sealed and left at the customer's location. The customer file will be checked upon return to the Facility, and if acceptable, the waste will be picked up at a later date. If this waste stream from the customer has been sampled in the past and:

1. the Tier 1 acceptance criteria results (color, volume, etc.) are the same as documented for the previous sampling;
2. the results of the Tier 2 and/or Tier 3 analyses indicate that the material is acceptable; and,
3. the prior sampling results are on file at the Facility,

then the representatives will accept the waste without further Tier 2 or Tier 3 analysis. If the waste does not meet Tier 1 criteria or the three conditions above, the waste will either be rejected or a sample will be collected for analyses. In either event, the waste will remain with the customer until sufficient testing has been performed to either pass Tier 2 or Tier 3 criteria or to dispose of the waste through other means. This method of inspection ensures that unacceptable wastes generated off site are not received by the Facility.

Tier 2

Paint waste will undergo Tier 2 testing if the waste does not meet Tier 1 acceptance criteria. Trained Safety-Kleen personnel will use a drum thief or Coliwasa sampler to extract a representative sample of the drum contents. The sample will be placed in a sample jar. The following information will be documented on the label of the sample jar:

- Customer name.
- Waste (i.e., paint waste).
- Sample collection date and time.

The sample will then be shipped to a Safety-Kleen laboratory or other laboratory selected by Safety-Kleen for the Tier 2 analyses indicated within Table C-7. Tier 2 parameters include flash point/flame color, which is intended to identify potential significant and unusual contamination by halogenated organic materials. Because of the often extremely viscous nature of this waste stream, specific gravity is neither a useful nor practical parameter for establishing acceptance protocol. However, if free liquids are present in the waste stream, specific gravity analysis would be performed. Additionally, many non-oil-based paints will contain significant water content, which renders the assessment of potential aqueous-based (water content of paint) contamination pointless. The service representative obtains information on whether the paint waste is aqueous-based or oil-based from customer material safety data sheets and/or inquiries of the customer's process at the time of service.

The acceptable flash point (less than 100 degrees Fahrenheit) has been established as a maximum flash point for this parameter, considering that wide variations in flash point can occur normally from the accumulation of various types of organic constituents contained in waste paints. Excursions of flash point above this acceptance level may indicate that significant amounts of halogenated organics have been introduced. The presence or absence of a green flame color will be used to assist in determining whether halogenated organics have been added to the waste.

Tier 3

Analyses of the sample for Tier 3 parameters will be dependent upon the results of the Tier 2 analyses. If the flash point of the waste exceeds 100 degrees Fahrenheit or if a green flame is encountered, then halogenated solvent analysis will be conducted. If the sample fails the Tier 3 acceptance criteria, the container will not be accepted into permitted storage at the Safety-Kleen facility. (This can be done at any prior stage, at the discretion of Safety-Kleen).

TABLE C-7
SUMMARY OF TEST METHODS AND ACCEPTANCE CRITERIA
FOR PAINT WASTE

ANALYSES	TEST METHOD	ACCEPTANCE CRITERIA
TIER 1 ^{1/}		
Appearance	Inspection	Paint/solvent appearance. No unusual odors. ^{2/}
TIER 2		
Flash point (free liquids)/ Flame color	EPA SW846 1010	< 100 degrees Fahrenheit. Absence of green flame coloration.
Specific gravity (free liquids only)	ASTM Method D5057	< 1.10
TIER 3		
Halogenated organic volatiles	EPA SW846 8121	< 5% total.

1/ Tier 1 acceptance criteria are utilized by Safety-Kleen when picking up each container of paint waste at a customers facility.

2/ For health and safety reasons wastes are not to be sniffed deliberately. If unusual odors are detected incidentally, this information will be incorporated into the acceptance procedure.

C-5(a)(5) Dry Cleaner Wastes Parameters, Test Methods and Rationale

For health and safety purposes, Safety-Kleen representatives are instructed not to open perchloroethylene dry cleaning waste containers prior to pick-up from the customer. However, if unusual odors are noticed during the routine handling of these materials, this information will not be ignored and will be utilized as part of the waste acceptance procedure. If these criteria are not met, the representative will not accept the waste.

These types of wastes are generated in very controlled environments (dry cleaning establishments), where other operations using significant amounts of other hazardous material are not conducted. These wastes are generated within dry cleaning machines, which would not lend themselves to cross-contamination by other foreign materials. The process used by the customer is well known to Safety-Kleen.

Dry cleaning waste containers are not typically opened at the facility. The containers are not opened until they are received by the Safety-Kleen Recycling Center. At that time, visual inspection of the contents is made in a controlled environment to minimize the risk of employee exposure. If the inspection reveals a condition suggesting potential contamination of the waste by foreign material, the service representative will not accept the waste unless further information is obtained from the generator to substantiate the visual non-conformance. If the visual inspection criteria are not met, the Safety-Kleen representative will interview the customer to attempt to determine the reason and will document this information on the waste acceptance form example provided in Appendix C-3.

TABLE C-8
ACCEPTANCE CRITERIA FOR VISUAL INSPECTION
OF DRY CLEANER WASTES

WASTE STREAM	ACCEPTANCE CRITERIA
Spent filter cartridges	Container should hold only cartridge units, no other foreign objects or materials not typically associated with dry cleaning operations. The filters should be clear or have a light brownish tint. Some free liquid may be present in the container; this should be single phased. They may also contain rags from an absorbent spill cleanup and container wipe down.
Dry cleaner powder residue	Fluffy and powder-like, may have the appearance of wet clothes dryer lint. No other foreign objects or materials not typically associated with dry cleaning operations. They may also contain rags from an absorbent spill cleanup and container wipe down.
Dry cleaner still bottoms	Dark, viscous, tar-like material. No other foreign objects or materials not typically associated with dry cleaning operations. They may also contain rags from an absorbent spill cleanup and container wipe down.

C-5(a)(6) Wastes Generated by Safety-Kleen – Storage Tank Bottoms and Drum Washer Sediment

Storage tank bottoms and drum washer sediments are generated by on-site activities involving the management of used parts washer solvent. As the generator, Safety-Kleen has adequate knowledge of the processes and materials producing such wastes as well as from analytical data obtained through Safety-Kleen's Annual Waste Recharacterization program. This information provides Safety-Kleen with sufficient information regarding the nature and composition of these wastes to properly handle and store them until they are sent off site for recovery. Therefore, no specific Tier 1 or Tier 2 qualitative or quantitative analyses are considered necessary for these waste streams. Used solvent storage tank bottoms are removed/generated on an as needed basis.

C-6 DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT UNITS / PROCESS AND DESIGN CONSIDERATIONS

Refer to Section D of this permit application.

C-7 SAMPLING METHODS AND EQUIPMENT

Waste streams are typically sampled using single use, disposable sampling equipment (e.g. COLIWASAs). Other types of EPA approved sampling devices may include augers, shovels, stainless steel trowels, or other appropriate sampling devices. Table C-9 details sampling methods and devices. Samples are then placed in borosilicate glass containers with Teflon or other acceptable lined closures. Samples taken for TCLP analysis are chilled to approximately 4 ± 2 degrees C for shipping and storage (samples for TCLP Metals analysis only may not be chilled) and are subjected to EPA approved holding times. Safety-Kleen personnel will follow the protocol for maintaining and decontaminating sampling equipment (non-disposable) referenced in EPA sampling procedures (i.e., "Samples & Sampling procedures for Hazardous Waste Streams")

EPA-600/2-80-018, or equivalent methods). Sample containers are also properly packaged and shipped in accordance with USDOT and IFTA Dangerous Goods regulations.

C-8 ANALYTICAL METHODOLOGY

Analytical methods are summarized in Table C-10. Ranges for detection limits are determined by the procedures outlined in SW-846, or equivalent methods. The actual detection limit achieved is influenced by a number of factors, including the waste matrix, presence of potentially interfering compounds, laboratory instrument operating parameters, and laboratory policies regarding reporting limits. Therefore, it is not possible to provide analytical detection limits that would be achieved during all analyses.

TABLE C-9
METHODS USED TO SAMPLE HAZARDOUS WASTE

Hazardous Waste	Reference for Sampling	Description of Sampling Method	Sampler
Parts Washer Solvents, Spent Immersion Cleaner, Waste Paint Related Material.	Sampling a drum "Samples & Sampling procedures for Hazardous Waste Streams" EPA-600/2-80-018, or equivalent methods.	Test Methods for the Evaluation of Solid Waste/Physical/ Chemical Methods, SW846, U.S. EPA Section 1.2.1.1, or equivalent methods.	Representative composite sample Using a Coliwasa tube
Dry Cleaning Wastes	Sampling a drum "Samplers & Sampling Procedures for Hazardous Waste Streams" EPA-600/2-80-018, or equivalent methods.	Test Methods for the Evaluation of Solid Waste/Physical/ Chemical Methods, SW846, U.S. EPA Section 1.2.1.1, or equivalent methods.	Representative composite sample Using a stainless Steel trowel, Auger, or shovel

TABLE C-10
ANALYTICAL PARAMETERS AND TEST METHODS

WASTE STREAM	ANALYTE /GROUP	METHOD¹
Parts Washer Solvent Aqueous Brake Cleaner Solvent	TCLP Metals	6010
	TCLP Mercury	7470/7471
	TCLP Volatiles	8260
	TCLP Semi-volatiles	8270
	Specific Gravity	ASTM D5057
	Ignitability	1010
	pH	9040/9045
Immersion Cleaner	TCLP Metals	6010
	TCLP Mercury	7470/7471
	TCLP Volatiles	8260
	TCLP Semi-volatiles	8270
	Specific Gravity	ASTM D5057
	Ignitability	1010
	pH	9040/9045
Dry Cleaning Waste (Filters, Liquid Portion)	TCLP Metals	6010
	TCLP Mercury	7470/7471
	TCLP Volatiles	8260
	TCLP Semi-volatiles	8270
	Specific Gravity	ASTM D5057
	Ignitability	1010
	pH	9040/9045
Paint Waste/Spent Lacquer Thinner	TCLP Mercury	7470/7471
	TCLP Metals	6010
	TCLP Volatiles	8260
	TCLP Semi-volatiles	8270
	Specific Gravity	ASTM D5057
	Ignitability	1010
	pH	9040/9045

¹ Method references are from EPA SW846, most current revision, unless otherwise specified.

These procedures are subject to periodic update as technology improves. Updates of the procedures would be considered a Class 1 permit modification.

**C-9 STATISTICAL ANALYSIS AND SUMMARY OF ANNUAL WASTE
CHARACTERIZATION DATA**

Refer to Appendix C-1 and Appendix C-2 for a description of Safety-Kleen's Annual Waste Characterization Process.

C-10 HEALTH AND SAFETY PROTOCOLS

Safety-Kleen employees follow the Corporate Health and Safety Standard Operating Procedures, including those pertaining to personnel protection, which are available at the Branch Facility. These procedures comply with 29 CFR 1910.120. Additional health and safety considerations are specified in the Safety Data Sheets (SDSs) for the products supplied by Safety-Kleen. Example SDSs for products described in this Waste Analysis Plan that are supplied by Safety-Kleen are included in Appendix C-5.

C-11 QA / QC PROCEDURES

The ultimate goal of the analytical QA/QC program is to ensure that materials of known, acceptable quality are handled by the facility or sent to the recycle center or to other waste management facilities as appropriate. The QA/QC procedure also ensures that all data generated is technically and legally defensible and valid. To achieve this goal, the QA/QC program contains procedures to ensure that analytical data is representative of the waste streams managed at the facility. All appropriate QA/QC procedures will be followed throughout the waste analysis program including, but not limited to, collecting blanks and duplicates, and chain-of-custody procedures. Analytical results received for all testing described herein will include the proper QA/QC information.

QA/QC is also controlled through the use of specific Chain of Custody procedures. All sample containers will be labeled with the sample number, generator's name and address or facility name and address, waste type, date of sample collection and name of collector.

For the purposes of all Tier II, Tier III, and Annual Waste Recharacterization analysis described in this Waste Analysis Plan, Safety-Kleen utilizes third party commercial laboratories who maintain comprehensive QA/QC programs, technical and analytical expertise, as well as effective information management systems. Such laboratories must also adhere to approved SW-846, or other EPA equivalent testing procedures, and maintain state and/or federal certifications or accreditations, including those equivalent to and acceptable by the State of North Carolina.

C-12 REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS

In accordance with 40 CFR 268.7, each regulated generator will provide notification/certification for each land disposal restricted waste. The Notice is required paperwork for all Safety-Kleen wastes that require land disposal notification/certification. Shipments lacking the proper notice will not be accepted by any Safety-Kleen facility. When a shipment with the proper notice is received; that Notice is kept in the files of the receiving facility with the shipping papers. Since the Branch Facility only performs storage of these wastes and does not conduct treatment or disposal to comply with a LDR treatment standard, the Branch Facility only provides notification to the next receiving facility satisfies this LDR requirement. An example of the LDR Notification form is included in Appendix C-4.

APPENDIX C-1

**STATISTICAL ANALYSIS
OF
ANNUAL WASTE CHARACTERIZATION DATA**

Statistical Analysis of Annual Waste Characterization Data

Prepared by
Robert D. Gibbons Ph.D.

for

Safety Kleen
July 23, 1998

1 Introduction

Since 1990, Safety-Kleen has undertaken a major analytical study each year to document the contaminants in some of its most common waste streams to determine which TCLP waste codes should appear on the manifest for that waste. This Annual Waste Recharacterization Program is both expensive and extensive. Upon review, it appeared that regulatory agency instructions for how to interpret the data might not have been in line with current policy, as reflected in SW846. The general approach is based on development of an upper 90% confidence limit¹ for the true concentration of each constituent, which can in turn be directly compared to regulatory standards to determine if the waste code should or should not be added to a particular waste stream (e.g., Premium Gold Parts Washer Solvent 150). The regulatory basis for this type of comparison stems from U.S. EPA SW846 Chapter 9 (September 1986) guidance on determining if a waste stream is hazardous.² The primary complicating feature is the presence of large numbers of nondetects which raises serious question regarding the use of the parametric approach. In light of this concern, nonparametric methods are used throughout.³ Specifically, following U.S. EPA SW846, we construct a nonparametric 90% upper confidence limit (UCL) for the 50th percentile of the distribution (i.e., median), which is equivalent to the 90% UCL for the mean in the case of a symmetric distribution such as the normal distribution.

¹"Consequently, the CI employed to evaluate solid wastes is, for all practical purposes, a 90% interval." U.S. EPA SW846 (1986) chapter 9 page 6.

²"The upper limit of the CI for μ is compared with the applicable regulatory threshold (RT) to determine if a solid waste contains the variable (chemical contaminant) of concern at a hazardous level. The contaminant of concern is not considered to be present in the waste at a hazardous level if the upper limit of the CI is less than the applicable RT. Otherwise the opposite conclusion is reached. "U.S. EPA SW846 (1986) chapter 9 page 3

³"If the data do not adequately follow the normal distribution even after logarithm transformation, a nonparametric confidence interval can be constructed. This interval is for the median concentration (which equals the mean if the distribution is symmetric)." U.S. EPA Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, April 1989, page 6-8

2 Method

Following Chapter 9 of SW846, the 90% UCL for the mean concentration obtained from a series of n representative samples is to be compared to the appropriate regulatory standard to determine if the waste stream is hazardous. If the UCL exceeds the standard, the waste stream is considered hazardous. The applicant must compute the UCL that is appropriate for the specific distributional form of the data. Given the large number of nondetects for many of the constituents, it is difficult if not impossible to clearly identify the underlying distributional form of the data. In this case, the U.S. EPA guidance indicates that a nonparametric alternative should be used.⁴

Nonparametric confidence limits are derived as follows. Given an unknown $P \times 100$ th percentile of interest (e.g. the 50th percentile or median),⁵ where P is between 0 and 1, and n concentration measurements, the probability that any randomly selected concentration measurements being less than the $P \times 100$ th percentile is simply P and the probability of exceeding the $P \times 100$ th percentile is $1 - P$. In light of this, the number of sample values falling below the $P \times 100$ th percentile out of a set of n measurements follows a Binomial distribution with parameters n and P .

The connection with the Binomial distribution can be used to determine an interval formed by a given pair of order statistics (i.e. ranked values) that will contain the percentile of interest, in this case the 50th percentile. Similarly, the Binomial distribution can also be used in constructing an upper limit (i.e. one-sided) for the percentile (e.g. a 90% upper confidence limit for the 50th percentile of the distribution). The computational formula for the cumulative binomial distribution $B(x;n,p)$, representing the probability of getting x or fewer successes in n trials with success probability p is given by

$$Bin(x;n,p) \equiv \sum_{i=0}^x \binom{n}{i} p^i (1-p)^{n-i}$$

To draw inference regarding the $P = 50$ th percentile, we set $p = .5$ in the previous equation. For a one-sided UCL we compute

$$1 - \alpha = 1 - Bin(U - 1; n, .5)$$

beginning from the sample median. We then increase U by one until in this case $1 - \alpha$ is equal to at least .90. The smallest value of U that provides $1 - \alpha \geq .9$ is then the order statistic (i.e., ranked value) that is the nonparametric 90% UCL for the 50th percentile of the distribution.

⁴“If the data do not adequately follow the normal distribution even after logarithm transformation, a nonparametric confidence interval can be constructed.” U.S. EPA, 1989

⁵“This interval is for the median concentration (which equals the mean if the distribution is symmetric).” U.S. EPA (1989), page 6-8

3 Illustration

Consider the following most recent 50 data values for PCE (D039) obtained from Premium Gold Parts Washer Solvent-150.

Table 1
Premium Gold Parts Washer Solvent - 150
50 most recent samples in order of increasing concentration
in ppm

<50.000	<1.000	<0.100	<0.100	<0.100
<0.100	<0.100	<0.100	<0.100	<0.100
<0.100	0.110	0.200	0.200	0.220
0.230	0.260	0.510	0.870	0.880
1.000	1.300	1.500	1.800	2.000
2.700	2.700	3.300	5.400	7.000
7.100	12.000	12.300	17.200	19.700
20.000	20.000	21.200	23.600	32.300
51.100	52.500	136.000	211.000	286.000
508.000	635.000	771.000	940.000	2810.000

For $n = 50$, $p = .5$ and $1 - \alpha = .9$, we find that $U = 31$ is the smallest order statistic that provides 90% confidence or more ($1 - \alpha = .941$). As such, we select the 31st largest value in Table 1 which is 7.1 ppm as our UCL. Since 7.1 ppm is larger than the standard of 0.7 ppm, then the D039 waste code is required for this waste stream.

4 Conclusion

The data in the following package have been interpreted using the methodology described. The waste codes for each stream were determined as those parameters for which the 90% UCL for the median concentration was above the regulatory limit, based on review of the last two years of samples or the most recent 50 samples, whichever yielded the larger number of samples to consider.



May 26, 2004

Ms. Jane Spetalnick
Director Technical Services
Safety-Kleen Systems, Inc.
20 Park Hill Terrace
Princeton Junction, NJ 08550

**Subject: Review of Safety-Kleen Systems, Inc. (Safety-Kleen)
 Waste Characterization Methodology**

Dear Ms. Spetalnick:

At your request, Tetra Tech EM Inc. (Tetra Tech) has independently reviewed the statistical methods used by Safety-Kleen to assign waste codes to its hazardous waste streams. Specifically, Tetra Tech was asked to evaluate whether the mean or the median is a more appropriate statistical parameter for a given waste stream and constituent.

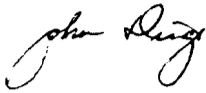
Tetra Tech evaluated several waste stream and constituent combinations in Safety-Kleen's 2003 annual recharacterization data set. The review indicates that the data typically have the primary characteristics summarized below.

- A large number of results are reported as not detected (ND). The concentration of the constituent in the waste stream (if present) is below the laboratory reporting limit.
- The distribution of the results is not symmetrical. Statistical tests indicate that the data are not normally or lognormally distributed. A typical distribution consists of a large number of ND results and low concentrations, with a small number of high concentrations at the upper end of the distribution.

Based on these characteristics, Tetra Tech believes that the median is a more appropriate statistical parameter than the mean for evaluating Safety-Kleen waste streams. U.S. Environmental Protection Agency (EPA) guidance states that "the sample mean is influenced by extreme values (large or small) and nondetects," while the median "is not influenced by extreme values and can easily be used in the case of censored data (nondetects)" (EPA 2000). Gilbert (1987) also notes that the median is a better measure than the mean "when the data set is censored" and is "not affected by erratic extreme values." Thus, for a typical Safety-Kleen data set, the median is a better measure of the true center of the distribution.

If you have any questions about this evaluation, please contact me at (312) 856-8765 or Lisa Graczyk at (312) 856-8721.

Sincerely,

A handwritten signature in black ink, appearing to read "John Dirgo". The signature is written in a cursive style with a large, looping initial "J".

John Dirgo
Quality Assurance Manager

cc: Stan Smith, Safety-Kleen Director Analytical Services
Lisa Graczyk, Tetra Tech Project Manager
File

References:

Gilbert, Richard O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley & Sons. New York, NY.

U.S. Environmental Protection Agency (EPA). 2000. "Guidance for Data Quality Assessment—Practical Methods for Data Analysis (EPA QA/G-9, QA00 Update)." Office of Environmental Information. Washington, DC. EPA/600/R-96/084

APPENDIX C-2

SUMMARY OF ANNUAL WASTE RECHARACTERIZATION ANALYSIS

2017 AR Codes and SKDOTS.xlsx - National

Waste Stream	Description Subcategory	2016 NATIONAL Profile	2016 National Waste Codes	Changes from 2016 to 2017	2017 National Waste Codes	2017 NATIONAL Profile
Aqueous Brake Cleaner	N/A	150100	None	No Change	None	150100
Branch Contaminated Debris (Solid would not carry D001)	N/A	Refer to CH Outbound	F002, F003, F005, D001, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043	No Change	F002, F003, F005, D001, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043	Refer to CH Outbound
Immersion Cleaner	N/A	150133	D027, D039, D040	No Change	D027, D039, D040	150133
Parts Washer Solvent 105 Virgin	under 100 lbs	150045	D001, D018, D039, D040	No Change	D001, D018, D039, D040	150045
	over 100 lbs (RQ)	150085				150085
	Non-RQ DF container (no DOT SP)	157045				157045
Bulk MS Solvent	N/A	Refer to CH Outbound	D001, D018, D039, D040	No Change	D001, D018, D039, D040	Refer to CH Outbound
Parts Washer Solvent Sludge/Dumpster Mud	N/A	Refer to CH Outbound	D001, D018, D039, D040	No Change	D001, D018, D039, D040	Refer to CH Outbound
Parts Washer Solvent Tank Bottoms (bulk)**	N/A	Refer to CH Outbound	D001, D018, D039, D040	No Change	D001, D018, D039, D040	Refer to CH Outbound
Premium (150) / PRF / PDF Mil Spec Solvent	N/A	150055	D039	No Change	D039	150055
	DF container (no DOT SP)	157055				157055
Paint Gun Cleaner (SK)	under 100 lbs	150370	F003, F005, D001, D018, D022, D035, D039, D040	Remove D022	F003, F005, D001, D018, D035, D039, D040	150380
	over 100 lbs (RQ)	152002				150425
Clear Choice Paint Gun Cleaner	under 100 lbs	156370	F003, D001, D018, D022, D035, D039, D040	Remove D022	F003, D001, D018, D035, D039, D040	150426
	over 100 lbs (RQ)	156371				150427
Paint Waste Other ***	Any size container	157372	F003, F005, D001, D018, D022, D035, D039, D040	Remove D022	F003, F005, D001, D018, D035, D039, D040	150375
	30 Gal Container	157373				150376
	55 Gal Container	157374				150377
Universal Paint Gun Cleaner	N/A	157375	D001, D018, D022, D035, D039, D040	Remove D022	D001, D018, D035, D039, D040	403901294
Dry Cleaner (Perc) Bottoms	N/A	154000	F002, D007, D030, D033, D039, D040	Remove D030, D033	F002, D007, D039, D040	150589
Dry Cleaner (Perc) Filters	N/A	154001	F002, D007, D030, D033, D039, D040	Remove D030, D033	F002, D007, D039, D040	150621
Dry Cleaner (Perc) Separator Water	N/A	154002	F002, D030, D033, D039, D040	Remove D030, D033	F002, D039, D040	150520
Dry Cleaning Naphtha Bottoms	N/A	150422	D001, D007, D039, D040	No Change	D001, D007, D039, D040	150422
Dry Cleaning Naphtha Filters	N/A	150424	D001, D007, D039, D040	No Change	D001, D007, D039, D040	150424
Dry Cleaning Naphtha Separator Water	N/A	150423	D001, D039, D040	No Change	D001, D039, D040	150423
Aqueous Parts Washer Tank Bottoms	N/A	Refer to CH Outbound	NONE	No Change	NONE	Refer to CH Outbound
Aqueous Parts Washer Dumpster Sludge	N/A	Refer to CH Outbound	NONE	No Change	NONE	Refer to CH Outbound
Parts washer solvent tank bottoms are SK-generated wastes from the cleanout of solvent storage tanks. Safety-Kleen does not accept this waste stream from non-SK generators.		**				

APPENDIX C-3

EXAMPLE WASTE ACCEPTANCE FORM

EXAMPLE FORM

**SAFETY-KLEEN CORPORATION
WASTE ACCEPTANCE FORM**

Customer Name _____ EPA ID# _____

Address _____
_____ If applicable,
_____ If not enter 'CESQG'.

Customer Number _____ Waste Type _____

Description of unacceptable criteria _____

Customer indicated that the reason the waste does not meet acceptance criteria _____

Waste analysis performed? ____yes ____no (If yes, attach a copy of the results.)

Does analysis indicate compliance with Tier 2 criteria _____ Tier 3 criteria _____

Waste stream approved? ____yes ____no

Branch Manager _____ Date _____

Approval can only be given when Tier 2 or Tier 3 criteria are met. Note that according to the Waste Analysis Plan, an analysis must be performed even with customer certification. Records must be kept on file.

APPENDIX C-4

EXAMPLE LDR NOTIFICATION FORM

GENERATOR NAME: SAFETY-KLEEN SYSTEMS, INC. MANIFEST NO.: 00357
OR SALES SERVICE NO.: 0
CUST#: 0000000000

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

LDR FORM LINE NO.: 1 MANIFEST PAGE/LINE# 01A SK PROFILE NO.: 0000000000 0000
SKDOT#: 0011656

EPA WASTE CODES & LDR SUBCATEGORIES (IF ANY):
D001 ICW IGNITABLE CHARACTERISTIC WASTE
D039

TREATABILITY GROUP: NONWASTEWATERS

- WASTE CONSITITUENT NOTIFICATION:
- 100 O-CRESOL
 - 101 M-CRESOL (DIFFICULT TO DISTINGUISH FROM P-CRESOL)
 - 229 TETRACHLOROETHYLENE
 - 237 TRICHLOROETHYLENE
 - 250 CADMIUM
 - 251 CHROMIUM (TOTAL)
 - 255 LEAD
 - 260 SILVER

EXAMPLE

----- N O T E S -----

EXP NOTICE: THIS LDR EXPIRES ON 12/31/2004

GENERATOR'S AUTHORIZED SIGNATURE: *[Signature]* NAME & TITLE: *Material Handler* DATE: *12/28/03*

(PRINTED OR TYPED)

SEQ#: 0 LOC: 306401 TERR: REF#: 0 SW:
TOP COPY: GENERATOR MIDDLE COPY: FACILITY BOTTOM COPY: TRANSFER

APPENDIX C-5

**SAFETY DATA SHEETS (SDSs)
(EXAMPLES)**



ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution

Safety Data Sheet # 820070

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Revision Date: 04/27/2015

Date of issue: 04/27/2015

Supersedes Date: 03/24/2013

Version: 1.0



SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution

Intended Use of the Product

Aqueous cleaner. For professional use only. If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

Name, Address, and Telephone of the Responsible Party

Manufacturer

Church & Dwight
The ArmaKleen™ Company
469 North Harrison Street
Princeton, NJ 08543 USA
T (800) 332-5424

www.churchdwight.com

Supplier

Safety-Kleen Systems, Inc.
2600 North Central Expressway, Suite 200
Richardson, TX 75080 USA
T (800) 669-5740

Emergency Telephone Number

Emergency Number : For Medical Emergency: 1-888-234-1828, For Chemical Emergency: 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Not classified

Label Elements

GHS-US Labeling

No labeling applicable

Other Hazards

Repeated exposure may cause skin, eye, and digestive tract irritation. May cause skin dryness or cracking. Product may be heated during use and could cause serious thermal burns. High concentrations of vapor or mist may irritate the respiratory tract.

Unknown Acute Toxicity (GHS-US)

No additional information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	% (w/w)
Water	(CAS No) 7732-18-5	60 - 100

Contains no hazardous components above 1% or carcinogens above 0.1%

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing and shoes. Flush with plenty of water. Seek medical advice if irritation develops or persists. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Ingestion: Rinse mouth. Do not induce vomiting. Get medical advice and attention.

Most Important Symptoms and Effects Both Acute and Delayed

General: None expected under normal conditions of use.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Ingestion: May cause irritation to the digestive tract. Ingesting large amounts may cause systemic alkalosis.

Chronic Symptoms: Repeated exposure may cause skin dryness or cracking.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive. Containers may rupture when exposed to excessive heat.

Reactivity: Hazardous reactions will not occur under normal conditions. May react vigorously with strong acids.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Nitrogen oxides.

Reference to Other Sections

Refer to section 9 for flammability properties. Refer to section 16 for NFPA information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray. Spilled material may present a slipping hazard.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Environmental Precautions Prevent entry to sewers and public waters. Contact competent authorities after a spill.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Keep in suitable, closed containers for disposal.

Reference to Other Sections

See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Container remains hazardous when empty. Continue to observe all precautions.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container tightly closed.

Incompatible Materials: Acids. Oxidizers. Reducing agents.

ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Specific End Use(s) Aqueous cleaner. For professional use only. If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government

Exposure Controls

Appropriate Engineering Controls: Not generally required. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Materials for Protective Clothing: As required, chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Safety glasses with side shields, or goggles, are recommended.

Skin and Body Protection: Wash contaminated clothing before reuse.

Respiratory Protection: None normally required. If irritation is experienced, approved respiratory protection should be worn.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Amber Clear
Odor	: Mild detergent
Odor Threshold	: Not available
pH	: 2.5% Solution: 10.4 5% Solution: 10.5 10% Solution: 11.0
Evaporation Rate	: < 1 (butyl acetate = 1)
Melting Point	: 0 °C (32 °F)
Freezing Point	: Not available
Boiling Point	: 100 °C (212 °F)
Flash Point	: > 100 °C (212 °F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: 17.5 mm Hg at 68°F (20°C) (approximately)
Relative Vapor Density at 20 °C	: < 1 (air = 1)
Specific Gravity	: 1.005
Solubility	: Complete in water
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions. May react vigorously with strong acids.

Chemical Stability: The product is stable at normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Extremely high or low temperatures. Incompatible materials.

Incompatible Materials: Acids. Oxidizers. Reducing agents.

Hazardous Decomposition Products: Thermal decomposition generates: Carbon oxides (CO, CO₂). Nitrogen oxides.

ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause respiratory irritation.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause eye irritation.

Symptoms/Injuries After Ingestion: May cause irritation to the digestive tract. Ingesting large amounts may cause systemic alkalosis.

Chronic Symptoms: Repeated exposure may cause skin dryness or cracking.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data: Not available

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Toxic to aquatic life with long lasting effects.

Persistence and Degradability Not established

Bioaccumulative Potential Not established

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: This product, if discarded, would not be a hazardous waste by listing and is not expected to be a characteristic hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT Not regulated for transport

In Accordance with IMDG Not regulated for transport

In Accordance with IATA Not regulated for transport

In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

US Federal and International Regulations

ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations


VOLATILE ORGANIC COMPOUNDS (AS REGULATED)

2.5% Solution	0.51 WT%; 0.044 LB/US gal; 5.25 g/L; As per 40 CFR Part 51.100(s) Product Vapor Pressure @20°C = 17.5 mmHg Product does not contain photochemically reactive solvents
5.0% Solution	1.02 WT%; 0.088 LB/US gal; 10.5 g/L; As per 40 CFR Part 51.100(s) Product Vapor Pressure @20°C = 17.5 mmHg VOC Vapor Pressure @38°C = 0.644 mmHg Product does not contain photochemically reactive solvents
10% Solution	2.04 WT%; 0.175 LB/US gal; 21g/L; As per 40 CFR Part 51.100(s) Product Vapor Pressure @20°C = 17.5 mmHg VOC Vapor Pressure @38°C = 0.734 mmHg Product does not contain photochemically reactive solvents

US State Regulations

No additional information available

Canadian Regulations

ArmaKleen™ 4 in 1 Cleaner – Cleaning Solution	
WHMIS Classification	Class E - Corrosive Material
	

Water (7732-18-5)

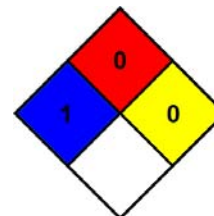
Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
----------------------	---

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date	: 04/27/2015
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.
NFPA Health Hazard	: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA Fire Hazard	: 0 - Materials that will not burn.
NFPA Reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Party Responsible for the Preparation of This Document

Church & Dwight
500 Charles Ewing Blvd
Ewing Township, NJ 08628
T 1-800-332-5424

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Church&Dwight NA GHS SDS

Section 1 - PRODUCT AND COMPANY IDENTIFICATION**Material Name**

SAFETY-KLEEN VIRGIN 105 SOLVENT

Product Code

6617

Synonyms

Parts Washer Solvent; Petroleum Distillates; Petroleum Naphtha, Solvent; Mineral Spirits

Product Use

Cleaning and degreasing metal parts. If this product is used in combination with other products, refer to the Safety Data Sheet for those products. SDS for use in Canada and the U.S.

Restrictions on Use

None known.

MANUFACTURER/SUPPLIERSafety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 200
Richardson, TX 75080**IMPORTER/DISTRIBUTOR, Canada**Safety-Kleen Canada, Inc.
25 Regan Road
Brampton, Ontario, Canada L1A 1B2www.safety-kleen.com

Phone: 1-800-669-5740

Emergency Phone #: 1-800-468-1760

Issue Date

November 8, 2016

Supersedes Issue Date

September 2, 2014

Original Issue Date

February 13, 1991

Section 2 - HAZARDS IDENTIFICATION**Classification in accordance with Schedule 1 of Hazardous Products Regulations (HPR) (SOR/2015-17) and 29 CFR 1910.1200**

Flammable Liquids - Category 3

Specific Target Organ Toxicity – Single Exposure, Category 3 (central nervous system)

Aspiration Hazard - Category 1

GHS Label Elements**Symbol(s)****Signal Word**

Danger

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

Hazard Statement(s)

Flammable liquid and vapor.
May cause drowsiness and dizziness.
May be fatal if swallowed and enters airways.

Precautionary Statement(s)

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing vapor or mist. Use only outdoors or in a well-ventilated area.

Response

In case of fire: Use Class B/C or Class A/B/C fire extinguisher, carbon dioxide, regular form, or dry chemical for extinction. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
64742-47-8	Distillates (petroleum), hydrotreated light	<100

Additional information

This product may be regulated, have exposure limits or other information identified as the following:
Stoddard solvent.

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops or persists.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

Ingestion

IF SWALLOWED: Aspiration hazard. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Call a poison control center or doctor immediately for treatment advice.

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

Most Important Symptoms/Effects

Acute

May be fatal if swallowed and enters airways. Central nervous system depression.

Delayed

Central nervous system damage.

Indication of any immediate medical attention and special treatment needed

IF exposed: Call a POISON CENTER or doctor/physician. Treat symptomatically and supportively.

Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Class B/C or Class A/B/C fire extinguisher, carbon dioxide, regular foam, regular dry chemical, water spray, water fog

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Flammable liquid and vapor. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Run-off to sewer may create a fire hazard. Heated containers may rupture or be thrown into the air. Empty containers may retain product residue including flammable/explosive vapors. Product may be sensitive to static discharge, which could result in fire or explosion.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and unidentified organic compounds.

Fire Fighting Measures

Keep away from sources of ignition - No Smoking. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Special Protective Equipment and Precautions for Firefighters

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment. SEE SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal. There may be specific regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see SECTION 15: REGULATORY INFORMATION.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. When transferring large quantities of product, trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, shoes. Do not smoke while using these products.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Empty product containers may retain product residue and can be dangerous. Store in a well-ventilated area. Keep container tightly closed. Keep cool. See SECTION 14: TRANSPORTATION INFORMATION for Packing Group information.

Incompatible Materials

Strong oxidizing materials.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Distillates (petroleum), hydrotreated light	64742-47-8
Alberta	100 ppm TWA ; 572 mg/m ³ TWA (related to Stoddard solvent)
British Columbia	200 mg/m ³ TWA (application restricted to conditions in which there are negligible aerosol exposures) as total Hydrocarbon vapor; Skin notation; 580 mg/m ³ STEL (related to Stoddard solvent)
Manitoba	100 ppm TWA (related to Stoddard solvent)
New Brunswick	100 ppm TWA ; 525 mg/m ³ TWA (related to Stoddard solvent)
Northwest Territories	100 ppm TWA (related to Stoddard solvent); 125 ppm STEL (related to Stoddard solvent)
Nova Scotia	100 ppm TWA (related to Stoddard solvent)
Nunavut	100 ppm TWA (related to Stoddard solvent); 125 ppm STEL (related to Stoddard solvent)
Prince Edward Island	100 ppm TWA (related to Stoddard solvent)
Quebec	100 ppm TWAEV ; 525 mg/m ³ TWAEV (related to Stoddard solvent)
Saskatchewan	100 ppm TWA (related to Stoddard solvent); 125 ppm STEL (related to Stoddard solvent)
Yukon	100 ppm TWA ; 575 mg/m ³ TWA (related to Stoddard solvent); 150 ppm STEL ; 720

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

	mg/m3 STEL (related to Stoddard solvent)
ACGIH	100 ppm TWA (related to Stoddard solvent)
OSHA Final	500 ppm TWA; 2900 mg/m3 TWA (related to Stoddard solvent)
OSHA Vacated	100 ppm TWA; 525 mg/m3 TWA (related to Stoddard solvent)
NIOSH	350 mg/m3 TWA (related to Stoddard solvent) 1800 mg/m3 Ceiling (15 min, related to Stoddard solvent)

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Where explosive mixtures may be present, equipment safe for such locations should be used.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

Skin Protection

To avoid prolonged or repeated contact with products where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

Respiratory Protection

Respiratory Protection

Use NIOSH-certified P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection by air purifying respirators is limited.

Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Glove Recommendations

Where skin contact is likely, wear neoprene, nitrile, or equivalent protective gloves; use of natural rubber or equivalent gloves is not recommended.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, gloves, lab coat or apron.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES			
---	--	--	--

Appearance	Clear.	Physical State	Liquid
Odor	aromatic	Color	Colorless to pale yellow.
Odor Threshold	30 ppm (Stoddard solvent)	pH	Not available
Melting Point	-43 °C (-45 °F Maximum)	Boiling Point	177 °C (350 °F Initial)
Boiling Point Range	Not available	Freezing point	Not available

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

Evaporation Rate	<0.1 (Butyl acetate = 1)	Flammability (solid, gas)	Not available
Autoignition Temperature	249 °C (480 °F Minimum)	Flash Point	40 °C (105 °F.)
Lower Explosive Limit	0.7 vol% (Minimum)	Decomposition temperature	Not available
Upper Explosive Limit	5 vol% (Maximum)	Vapor Pressure	0.2 mmHg @ 68 °F (20° C)
Vapor Density (air=1)	5 (Approximate Air = 1)	Specific Gravity (water=1)	0.77 - 0.82 at 15.6 °C
Water Solubility	(Insoluble)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	6.4 - 6.7 lb/gal at 60 °F (Water = 1.)	Physical Form	Liquid.
Volatile Organic Compounds (As Regulated)	100 WT%; 6.4 to 6.7 LB/US gal; 770 to 800 g/l As per 40 CFR Part 51.100(s). VOC Vapor Pressure: <1.0 mmHg @20°C Product may or may not be considered photochemically reactive (100% by weight). Consult your state or local air district regulations for location specific information.		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition Avoid contact with incompatible materials.

Incompatible Materials

Acids, alkalis, oxidizing agents, reducing agents, or reactive halogens.

Hazardous decomposition products

None under normal temperatures and pressures. See also SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause irritation, nausea, loss of appetite, headache, drowsiness, dizziness, disorientation, tremors, lung damage (from aspiration), convulsions, coma.

Skin Contact

May cause irritation of the skin.

Eye Contact

May cause eye irritation.

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

Ingestion

May cause, headache, drowsiness, dizziness, loss of coordination, aspiration hazard.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Distillates (petroleum), hydrotreated light (64742-47-8)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat >5.2 mg/L 4 h

Product Toxicity Data

Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Oral	> 2000 mg/kg

Immediate Effects

Central nervous system depression, lung damage (from aspiration).

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

May cause respiratory tract irritation, skin irritation, eye irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, or NTP.

Germ Cell Mutagenicity

Based on best current information, there is no known mutagenicity associated with this product.

Tumorigenic Data

No data available

Reproductive Toxicity

No epidemiological data is available for this product.

Specific Target Organ Toxicity - Single Exposure

Central nervous system.

Specific Target Organ Toxicity - Repeated Exposure

Central nervous system.

Aspiration hazard

Lung aspiration hazard if swallowed.

Medical Conditions Aggravated by Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), central nervous system, kidneys, and eye and/or skin disorders may have increased susceptibility to the effects of exposure.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

Distillates (petroleum), hydrotreated light	64742-47-8
Fish:	LC50 96 h Pimephales promelas 45 mg/L [flow-through]; LC50 96 h Lepomis

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

	macrochirus 2.2 mg/L [static]; LC50 96 h Oncorhynchus mykiss 2.4 mg/L [static]
--	--

Persistence and Degradability

This material is believed not to biodegrade.

Bioaccumulative Potential

This material is believed not to bioaccumulate.

Mobility

Expected to have high mobility in soil.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Based on available data, this information applies to the product as supplied to the user. Processing, use, or contamination by the user may change the waste code applicable to the disposal of this product. Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal. D018. D001.

Section 14 - TRANSPORT INFORMATION

DOT **NON-BULK PACKAGES (≤119 Gallons) (Shipments via vessel and aircraft must use bulk shipping description.):**

Shipping Name: Cleaning compounds (petroleum naphtha)(Not US DOT Regulated)

BULK PACKAGES (≥120 Gallons):

Shipping Name: Combustible liquid, n.o.s. (petroleum naphtha)

UN/NA: NA1993 Hazard Class: Combustible liquid Packing Group: III Required Placards: Class 3, NA1993

TDG **SMALL MEANS OF CONTAINMENT (Shipments via aircraft must use large means of containment shipping description):**

Shipping Name: CLEANING COMPOUNDS (petroleum naphtha)(Not TDG regulated)

LARGE MEANS OF CONTAINMENT

Shipping Name: PETROLEUM DISTILLATES, N.O.S. (petroleum naphtha)

UN/NA #: UN1268 Hazard Class: 3 Packing Group: III

Required Placards: Class 3, UN1268

Emergency Response Guide Number 128: Reference . North American Emergency Response Guide Book

Section 15 - REGULATORY INFORMATION

Canada Regulations

CEPA - Priority Substances List

None of this product's components are on the list.

Ozone Depleting Substances

None of this product's components are on the list

Council of Ministers of the Environment - Soil Quality Guidelines

None of this product's components are on the list

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

Council of Ministers of the Environment - Water Quality Guidelines

None of this product's components are on the list

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes **Chronic Health:** No **Fire:** Yes **Pressure:** No **Reactivity:** No

U.S. State Regulations

None of this product's components are listed on the state lists from MA, MN, NJ or PA

WARNING! This product can expose you to chemicals including benzene, ethylbenzene, and naphthalene which are known to the State of California to cause cancer and benzene and toluene which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.gov.

Component Analysis - Inventory

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR.

All of the components of this product are listed on or are exempt from the TSCA inventory listing.

Distillates (petroleum), hydrotreated light (64742-47-8)

US	CA
Yes	DSL

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 1 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe

Summary of Changes

Revision to comply with WHMIS 2015.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada).

Safety Data Sheet

Material Name: SAFETY-KLEEN VIRGIN 105 SOLVENT

SDS ID: 82341

Other Information

Disclaimer:

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.



Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER

SDS ID: 82343

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

SAFETY-KLEEN HEAVY DUTY LACQUER THINNER

Product Code

5850, 5825, 6782

Synonyms

None

Product Use

For cleaning coating equipment (e.g., paint spray guns). If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

Restrictions on Use

THIS PRODUCT IS NOT FOR SALE OR USE IN THE STATE OF CALIFORNIA.

MANUFACTURER/SUPPLIER

Safety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 200
Richardson, TX 75080
www.safety-kleen.com

IMPORTER/DISTRIBUTOR

Safety-Kleen Canada, Inc.
25 Regan Road
Brampton, Ontario, Canada L1A 1B2

Phone: 1-800-669-5740

Emergency Phone #: 1-800-468-1760

Issue Date

February 8, 2017

Supersedes Issue Date

February 1, 2016

Original Issue Date

July 20, 1989

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with Schedule 1 of Hazardous Products Regulations (HPR)(SOR/2015-17) and paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 2

Aspiration Hazard - Category 1

Acute Toxicity - Oral - Category 4

Acute Toxicity - Dermal - Category 4

Acute Toxicity - Inhalation - Vapor - Category 2

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 1

Germ Cell Mutagenicity - Category 1B

Carcinogenicity - Category 1B

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3

Specific Target Organ Toxicity - Repeated Exposure - Category 2

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Fatal if inhaled.
Harmful if swallowed or in contact with skin.
Causes skin irritation and serious eye damage.
May cause genetic defects and cancer.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation and drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s)

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Keep away from heat/sparks/open flame/hot surfaces - No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Do not breathe fume/gas/mist/vapors/spray. Wear protective gloves/ clothing, eye, face, and respiratory protection. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response

In case of fire: Use carbon dioxide, regular foam, regular dry chemical and water spray.
IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Rinse mouth.

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Statement(s) of Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

None known.

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
63231-51-6	Aromatic hydrocarbons	30-75
*MIXTURE	Ketones	0-60
**MIXTURE	Aliphatic hydrocarbons	0-60
***MIXTURE	Acetates	0-17
763-69-9	Ethyl 3-ethoxypropanoate	0-17
68475-56-9	Alcohols, C1-3	0-12
****MIXTURE	Other alcohols	0-10
*****MIXTURE	Chlorinated solvents	0-1

Component Information/Information on Non-Hazardous Components

*Mixture of 67-64-1, 78-93-3, 108-10-1, 110-43-0, 107-87-9
**Mixture of 64741-89-5, 8030-6
***Mixture of 123-86-4, 110-19-0, 108-21-4, 108-65-6, 141-78-6
****Mixture of 71-36-3, 75-65-0
*****Mixture of 75-09-2, 127-18-4, 71-55-6

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion

IF SWALLOWED: Aspiration hazard. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms/Effects

Acute

May be fatal if swallowed and enters airways. Fatal if inhaled. Harmful if swallowed or in contact with skin. Causes skin irritation, central nervous system damage, liver damage, respiratory tract irritation, central nervous system depression, eye burns, kidney damage, blood damage, lung damage (from aspiration).

Delayed

Mutagenic effects, cancer, reproductive effects, and central nervous system, nervous system, kidney, liver, blood, respiratory system, and lung damage.

Indication of any immediate medical attention and special treatment needed

IF exposed: Call a POISON CENTER or doctor/physician. Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Suitable Extinguishing Media

Carbon dioxide, regular foam, dry chemical, water spray, or water fog.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Highly flammable liquid and vapor. Vapors may form explosive mixture with air. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive fumes. Runoff may create fire or explosion hazard. Empty product containers may retain product residue and can be dangerous. Containers may rupture or explode.

Hazardous Combustion Products

Burning may produce: Phosgene, chlorides, chloroacetylenes, formaldehyde, peracetic acid, carbon monoxide and unidentified organic compounds.

Fire Fighting Measures

Keep storage containers cool with water spray. Move container from fire area if it can be done without risk. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Stay away from the ends of tanks. Do not scatter spilled material with high-pressure water streams. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal. There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see SECTION 15: REGULATORY INFORMATION.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring large quantities of product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes Skin clothing shoes. Do not smoke while using this product. Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Store in a dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Empty product containers may retain product residue and can be dangerous. See SECTION 14: TRANSPORTATION INFORMATION for Packing Group information.

Incompatible Materials

Combustible materials, strong acids, strong oxidizing materials, alkalis, reducing agents, reactive halogens, reactive metals.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION
--

Component Exposure Limits

Toluene	108-88-3
ACGIH:	20 ppm TWA
NIOSH:	100 ppm TWA ; 375 mg/m3 TWA; 150 ppm STEL ; 560 mg/m3 STEL 500 ppm IDLH
OSHA (US):	200 ppm TWA; 300 ppm Ceiling
Alberta	50 ppm TWA ; 188 mg/m3 TWA Substance may be readily absorbed through intact skin
British Columbia, Nova Scotia, Ontario, Prince Edward Island	20 ppm TWA
Manitoba	20 ppm TWA; Skin - potential for cutaneous absorption
New Brunswick	50 ppm TWA ; 188 mg/m3 TWA; Skin - potential for cutaneous absorption
Northwest Territories, Nunavut	50 ppm TWA; 60 ppm STEL; Skin notation
Quebec	50 ppm TWAEV ; 188 mg/m3 TWAEV; Skin designation
Saskatchewan	50 ppm TWA; 60 ppm STEL; Potentially harmful after absorption through skin or mucous membranes
Yukon	100 ppm TWA ; 375 mg/m3 TWA; 150 ppm STEL ; 560 mg/m3 STEL Skin notation
Naphtha	8030-30-6
NIOSH:	100 ppm TWA ; 400 mg/m3 TWA; 1000 ppm IDLH (10% LEL)
OSHA (US):	100 ppm TWA ; 400 mg/m3 TWA
Alberta, New Brunswick	400 ppm TWA ; 1590 mg/m3 TWA
British Columbia	(reciprocal calculation method - see OHS Guideline G5.48-12)
Northwest Territories; Nunavut; Saskatchewan	400 ppm TWA; 500 ppm STEL
Quebec	400 ppm TWAEV ; 1590 mg/m3 TWAEV

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Yukon	400 ppm TWA (Rubber solvent and Coal tar); 1800 mg/m3 TWA (Rubber solvent and Coal tar) 500 ppm STEL (Rubber solvent and Coal tar); 2250 mg/m3 STEL (Rubber solvent and Coal tar)
2-Pentanone, 4-methyl-	108-10-1
ACGIH:	20 ppm TWA; 75 ppm STEL
NIOSH:	50 ppm TWA ; 205 mg/m3 TWA; 75 ppm STEL ; 300 mg/m3 STEL 500 ppm IDLH
OSHA (US):	100 ppm TWA ; 410 mg/m3 TWA
Alberta, New Brunswick	50 ppm TWA ; 205 mg/m3 TWA; 75 ppm STEL ; 307 mg/m3 STEL
British Columbia, Nova Scotia, Ontario, Prince Edward Island	20 ppm TWA; 75 ppm STEL
Manitoba	20 ppm TWA
Northwest Territories, Nunavut, Saskatchewan	50 ppm TWA; 75 ppm STEL
Quebec	50 ppm TWAEV ; 205 mg/m3 TWAEV; 75 ppm STEV ; 307 mg/m3 STEV
Yukon	100 ppm TWA ; 410 mg/m3 TWA; 125 ppm STEL ; 510 mg/m3 STEL Skin notation
Methyl n-amyl ketone	110-43-0
ACGIH:	50 ppm TWA
NIOSH:	100 ppm TWA ; 465 mg/m3 TWA; 800 ppm IDLH
OSHA (US):	100 ppm TWA ; 465 mg/m3 TWA
Alberta, New Brunswick	50 ppm TWA ; 233 mg/m3 TWA
British Colombia, Manitoba, Nova Scotia, Prince Edward Island	50 ppm TWA
Northwest Territories, Nunavut, Saskatchewan	50 ppm TWA; 60 ppm STEL
Ontario	25 ppm TWA ; 115 mg/m3 TWA
Quebec	50 ppm TWAEV ; 233 mg/m3 TWAEV
Yukon	100 ppm TWA ; 465 mg/m3 TWA; 150 ppm STEL ; 710 mg/m3 STEL
Methyl ethyl ketone	78-93-3
ACGIH:	200 ppm TWA; 300 ppm STEL

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

NIOSH:	200 ppm TWA ; 590 mg/m3 TWA; 300 ppm STEL ; 885 mg/m3 STEL; 3000 ppm IDLH
OSHA (US):	200 ppm TWA ; 590 mg/m3 TWA
Alberta, New Brunswick	200 ppm TWA ; 590 mg/m3 TWA; 300 ppm STEL ; 885 mg/m3 STEL
British Columbia	50 ppm TWA; 100 ppm STEL
Manitoba	200 ppm TWA
Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Saskatchewan	200 ppm TWA; 300 ppm STEL
Quebec	50 ppm TWAEV ; 150 mg/m3 TWAEV; 100 ppm STEV ; 300 mg/m3 STEV
Yukon	200 ppm TWA ; 590 mg/m3 TWA; 250 ppm STEL ; 740 mg/m3 STEL
Methyl propyl ketone	107-87-9
ACGIH:	150 ppm STEL
NIOSH:	150 ppm TWA ; 530 mg/m3 TWA; 1500 ppm IDLH
OSHA (US):	200 ppm TWA ; 700 mg/m3 TWA
Alberta, New Brunswick	200 ppm TWA ; 705 mg/m3 TWA; 250 ppm STEL ; 881 mg/m3 STEL
British Columbia	150 ppm TWA; 250 ppm STEL
Northwest Territories, Nunavut, Saskatchewan	200 ppm TWA; 250 ppm STEL
Nova Scotia, Ontario, Prince Edward Island	150 ppm STEL
Quebec	150 ppm TWAEV ; 530 mg/m3 TWAEV
Yukon	200 ppm TWA ; 700 mg/m3 TWA; 250 ppm STEL ; 875 mg/m3 STEL
Acetone	67-64-1
ACGIH:	250 ppm TWA; 500 ppm STEL
NIOSH:	250 ppm TWA ; 590 mg/m3 TWA; 2500 ppm IDLH (10% LEL)
OSHA (US):	1000 ppm TWA ; 2400 mg/m3 TWA
Alberta	500 ppm TWA ; 1200 mg/m3 TWA; 750 ppm STEL ; 1800 mg/m3 STEL
British Columbia, Nova Scotia, Prince Edward Island	250 ppm TWA; 500 ppm STEL
Manitoba	250 ppm TWA
New Brunswick	500 ppm TWA ; 1188 mg/m3 TWA; 750 ppm STEL ; 1782 mg/m3 STEL
Northwest Territories, Nunavut, Ontario, Saskatchewan	500 ppm TWA; 750 ppm STEL

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Quebec	500 ppm TWAEV ; 1190 mg/m3 TWAEV; 1000 ppm STEV ; 2380 mg/m3 STEV
Yukon	1000 ppm TWA ; 2400 mg/m3 TWA; 1250 ppm STEL ; 3000 mg/m3 STEL
Ethyl 3-ethoxypropanoate	763-69-9
Ontario	50 ppm TWA ; 300 mg/m3 TWA
Ethyl acetate	141-78-6
ACGIH:	400 ppm TWA
NIOSH:	400 ppm TWA ; 1400 mg/m3 TWA; 2000 ppm IDLH (10% LEL)
OSHA (US):	400 ppm TWA ; 1400 mg/m3 TWA
Alberta, New Brunswick	400 ppm TWA ; 1440 mg/m3 TWA
British Columbia	150 ppm TWA
Manitoba, Nova Scotia, Ontario, Prince Edward Island	400 ppm TWA
Northwest Territories, Nunavut, Saskatchewan	400 ppm TWA; 500 ppm STEL
Quebec	400 ppm TWAEV ; 1440 mg/m3 TWAEV
Yukon	400 ppm TWA ; 1400 mg/m3 TWA; 400 ppm STEL ; 1400 mg/m3 STEL
Propylene glycol monomethyl ether acetate	108-65-6
British Columbia	50 ppm TWA; 75 ppm STEL
Ontario	50 ppm TWA ; 270 mg/m3 TWA
Isopropyl acetate	108-21-4
ACGIH:	100 ppm TWA; 200 ppm STEL
NIOSH:	1800 ppm IDLH
OSHA (US):	250 ppm TWA ; 950 mg/m3 TWA
Alberta	100 ppm TWA ; 416 mg/m3 TWA; 200 ppm STEL ; 832 mg/m3 STEL
British Columbia, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Saskatchewan	100 ppm TWA; 200 ppm STEL
Manitoba	100 ppm TWA
New Brunswick	250 ppm TWA ; 1040 mg/m3 TWA; 310 ppm STEL ; 1290 mg/m3 STEL
Quebec	250 ppm TWAEV; 1040 mg/m3 TWAEV; 310 ppm STEV; 1290 mg/m3 STEV
Yukon	250 ppm TWA ; 950 mg/m3 TWA; 310 ppm STEL ; 1185 mg/m3 STEL

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

n-Butyl acetate	123-86-4
ACGIH:	50 ppm TWA; 150 ppm STEL
NIOSH:	150 ppm TWA ; 710 mg/m3 TWA; 200 ppm STEL ; 950 mg/m3 STEL; 1700 ppm IDLH (10% LEL)
OSHA (US):	150 ppm TWA ; 710 mg/m3 TWA
Alberta, New Brunswick	150 ppm TWA ; 713 mg/m3 TWA; 200 ppm STEL ; 950 mg/m3 STEL
British Columbia	20 ppm TWA
Manitoba	50 ppm TWA
Northwest Territories, Nunavut, Ontario, Saskatchewan	150 ppm TWA; 200 ppm STEL
Nova Scotia, Prince Edward Island	50 ppm TWA; 150 ppm STEL
Quebec	150 ppm TWAEV ; 713 mg/m3 TWAEV 200 ppm STEV ; 950 mg/m3 STEV
Yukon	150 ppm TWA ; 710 mg/m3 TWA 200 ppm STEL ; 950 mg/m3 STEL
Isobutyl acetate	110-19-0
ACGIH:	50 ppm TWA; 150 ppm STEL
NIOSH:	150 ppm TWA ; 700 mg/m3 TWA; 1300 ppm IDLH (10% LEL)
OSHA (US):	150 ppm TWA ; 700 mg/m3 TWA
Alberta, New Brunswick,	150 ppm TWA ; 713 mg/m3 TWA
British Columbia, Ontario	150 ppm TWA
Manitoba	50 ppm TWA
Northwest Territories, Nunavut, Saskatchewan	150 ppm TWA; 188 ppm STEL
Nova Scotia, Prince Edward Island	50 ppm TWA; 150 ppm STEL
Quebec	150 ppm TWAEV ; 713 mg/m3 TWAEV
Yukon	150 ppm TWA ; 700 mg/m3 TWA; 187 ppm STEL ; 875 mg/m3 STEL
tert-Butyl alcohol	75-65-0
ACGIH:	100 ppm TWA
NIOSH:	100 ppm TWA ; 300 mg/m3 TWA; 150 ppm STEL ; 450 mg/m3 STEL; 1600 ppm IDLH
OSHA (US):	100 ppm TWA ; 300 mg/m3 TWA

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Alberta, New Brunswick	100 ppm TWA ; 303 mg/m3 TWA
British Columbia, Manitoba, Nova Scotia, Ontario, Prince Edward Island	100 ppm TWA
Northwest Territories, Nunavut, Saskatchewan	100 ppm TWA; 125 ppm STEL
Quebec	100 ppm TWAEV ; 303 mg/m3 TWAEV
Yukon	100 ppm TWA ; 300 mg/m3 TWA; 150 ppm STEL ; 450 mg/m3 STEL
1-Butanol	71-36-3
ACGIH:	20 ppm TWA
NIOSH:	50 ppm Ceiling ; 150 mg/m3 Ceiling; potential for dermal absorption; 1400 ppm IDLH (10% LEL)
OSHA (US):	100 ppm TWA ; 300 mg/m3 TWA
Alberta	20 ppm TWA ; 60 mg/m3 TWA
British Columbia	15 ppm TWA; 30 ppm Ceiling
Manitoba	20 ppm TWA; Skin - potential for cutaneous absorption
New Brunswick	50 ppm Ceiling ; 152 mg/m3 Ceiling; Skin - potential for cutaneous absorption
Northwest Territories, Nunavut, Saskatchewan	20 ppm TWA; 30 ppm STEL
Nova Scotia, Ontario, Prince Edward Island	20 ppm TWA
Quebec	50 ppm Ceiling ; 152 mg/m3 Ceiling; Skin designation
Yukon	Skin notation
Tetrachloroethylene	127-18-4
ACGIH:	25 ppm TWA; 100 ppm STEL
NIOSH:	150 ppm IDLH
OSHA (US):	100 ppm TWA; 200 ppm Ceiling
Alberta	25 ppm TWA ; 170 mg/m3 TWA; 100 ppm STEL ; 678 mg/m3 STEL
British Columbia, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Saskatchewan	25 ppm TWA; 100 ppm STEL
Manitoba	25 ppm TWA
New Brunswick	25 ppm TWA ; 170 mg/m3 TWA;100 ppm STEL ; 685 mg/m3 STEL
Quebec	25 ppm TWAEV ; 170 mg/m3 TWAEV; 100 ppm STEV ; 685 mg/m3 STEV

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Yukon	100 ppm TWA ; 670 mg/m3 TWA; 150 ppm STEL ; 1000 mg/m3 STEL Skin notation
Methylene chloride	75-09-2
ACGIH:	50 ppm TWA
NIOSH:	2300 ppm IDLH
OSHA (US):	25 ppm TWA; 125 ppm STEL (See 29 CFR 1910.1052) 15 min ; 12.5 ppm Action Level (See 29 CFR 1910.1052); 25 ppm TWA (See 29 CFR 1910.1052); 125 ppm STEL (see 29 CFR 1910.1052)
Alberta, New Brunswick	50 ppm TWA ; 174 mg/m3 TWA
British Columbia	25 ppm TWA
Manitoba, Nova Scotia, Ontario, Prince Edward Island	50 ppm TWA
Northwest Territories, Nunavut, Saskatchewan	50 ppm TWA; 75 ppm STEL (regulated under Dichloromethane); 63 ppm STEL
Quebec	50 ppm TWAEV ; 174 mg/m3 TWAEV
Yukon	200 ppm TWA ; 700 mg/m3 TWA ; 720 mg/m3 TWA (regulated under Dichloromethane); 250 ppm STEL ; 870 mg/m3 STEL ; 200 ppm STEL (regulated under Dichloromethane); 720 mg/m3 STEL (regulated under Dichloromethane)
1,1,1-Trichloroethane	71-55-6
ACGIH:	350 ppm TWA; 450 ppm STEL
NIOSH:	350 ppm Ceiling 15 min ; 1900 mg/m3 Ceiling 15 min 700 ppm IDLH
OSHA (US):	350 ppm TWA ; 1900 mg/m3 TWA
Alberta, New Brunswick	350 ppm TWA ; 1910 mg/m3 TWA; 450 ppm STEL ; 2460 mg/m3 STEL
British Columbia, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Saskatchewan	350 ppm TWA; 450 ppm STEL
Manitoba	350 ppm TWA
Quebec	350 ppm TWAEV ; 1910 mg/m3 TWAEV; 450 ppm STEV ; 2460 mg/m3 STEV
Yukon	350 ppm TWA ; 1900 mg/m3 TWA; 440 ppm STEL ; 2400 mg/m3 STEL

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

Toluene (108-88-3)

0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene ; 0.03 mg/L Medium: urine Time:

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

end of shift Parameter: Toluene ; 0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

2-Pentanone, 4-methyl- (108-10-1)

1 mg/L Medium: urine Time: end of shift Parameter: MIBK

Methyl ethyl ketone (78-93-3)

2 mg/L Medium: urine Time: end of shift Parameter: MEK (nonspecific)

Acetone (67-64-1)

25 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

Tetrachloroethylene (127-18-4)

3 ppm Medium: end-exhaled air Time: prior to shift Parameter: Tetrachloroethylene ; 0.5 mg/L Medium: blood Time: prior to shift Parameter: Tetrachloroethylene

Methylene chloride (75-09-2)

0.3 mg/L Medium: urine Time: end of shift Parameter: Dichloromethane (semi-quantitative)

1,1,1-Trichloroethane (71-55-6)

40 ppm Medium: end-exhaled air Time: prior to last shift of workweek Parameter: Methyl chloroform ; 10 mg/L Medium: urine Time: end of workweek Parameter: Trichloroacetic acid (nonspecific, semi-quantitative) ; 30 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Total trichloroethanol (nonspecific, semi-quantitative) ; 1 mg/L Medium: blood Time: end of shift at end of workweek Parameter: Total trichloroethanol (nonspecific)

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Use explosion-proof equipment. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear splash resistant safety goggles with a faceshield. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

Skin Protection

To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

Respiratory Protection

A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

Glove Recommendations

Where skin contact is likely, wear chemical impervious protective gloves; use of natural rubber (latex), polyvinyl chloride (PVC), neoprene or equivalent gloves is not recommended.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, gloves, lab coat or apron.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Appearance	Clear liquid.	Physical State	Liquid
Odor	Solvent odor.	Color	Colorless.
Odor Threshold	Not available	pH	Not available
Melting Point	-129 - -22 °C (-200 - -8 °F)	Boiling Point	56 - 172 °C (133 - 342 °F)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	3.7 (Similar product Butyl acetate = 1)	Flammability (solid, gas)	Flammable.
Autoignition Temperature	427 °C (800 °F)	Flash Point	<21 °C [Closed Cup.] (70 °F)
Lower Explosive Limit	1 vol% (Approximate)	Decomposition temperature	Not available
Upper Explosive Limit	13 vol% (Approximate)	Vapor Pressure	86 mm Hg @ 68 °F (20 °C.)
Vapor Density (air=1)	2.2 - 3.9 (Approximate Air = 1)	Specific Gravity (water=1)	0.83 (Approximate Water = 1)
Water Solubility	(Slight)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	6.9 lb/gal (US Approximate)	Physical Form	Liquid.
Volatility	80 - 100 wt% (as per 40 CFR part 51.100(s))	Molecular Weight	Not available
OSHA Flammability Class	Flammable		
Volatile Organic Compounds (As regulated)	Up to 100 WT %; 6.9 LB/US gal; 830 g/l As per 40 CFR Part 51.100(s) Photochemically reactive (up to 100% by volume) VOC VP = 86 mm Hg @ 20°C (approx.) Consult your state or local air district regulations for location specific information.		

Other Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition Avoid contact with incompatible materials.

Incompatible Materials

Acids, alkalis, oxidizing agents, reducing agents, reactive halogens, or reactive metals.

Hazardous decomposition products

Not applicable under normal conditions of use and storage. See also SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

Fatal if inhaled. May cause irritation, nausea, central nervous system effects. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin Contact

Harmful in contact with skin. Causes skin irritation.

Eye Contact

Causes serious eye damage.

Ingestion

May be fatal if swallowed and enters airways. Aspiration Hazard. Harmful if swallowed. May cause, throat irritation, nausea, vomiting, diarrhea.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Toluene (108-88-3)

Oral LD50 Rat 2600 mg/kg; Dermal LD50 Rabbit 12000 mg/kg; Inhalation LC50 Rat 12.5 mg/L 4 h

Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)

Oral LD50 Rat >15 g/kg; Dermal LD50 Rabbit >5 g/kg; Inhalation LC50 Rat 2.18 mg/L 4 h

Naphtha (8030-30-6)

Oral LD50 Rat >5 g/kg

2-Pentanone, 4-methyl- (108-10-1)

Oral LD50 Rat 2080 mg/kg; Dermal LD50 Rabbit 3000 mg/kg; Inhalation LC50 Rat 8.2 mg/L 4 h

Methyl n-amyl ketone (110-43-0)

Oral LD50 Rat 1600 mg/kg; Dermal LD50 Rabbit 12.6 mL/kg; Inhalation LC50 Rat 2000 - 4000 ppm 6 h

Methyl ethyl ketone (78-93-3)

Oral LD50 Rat 2483 mg/kg; Dermal LD50 Rabbit 5000 mg/kg; Inhalation LC50 Rat 11700 ppm 4 h

Methyl propyl ketone (107-87-9)

Oral LD50 Rat 1600 mg/kg; Dermal LD50 Rat 6480 mg/kg; Inhalation LC50 Rat 2000 - 4000 ppm 4 h

Acetone (67-64-1)

Oral LD50 Rat 5800 mg/kg; Dermal LD50 Rabbit >15700 mg/kg; Inhalation LC50 Rat 50100 mg/m³ 8 h

Ethyl 3-ethoxypropanoate (763-69-9)

Oral LD50 Rat 5 g/kg; Dermal LD50 Rabbit >9500 mg/kg; Inhalation LC50 Rat >5.96 mg/L 6 h (no deaths occurred)

Ethyl acetate (141-78-6)

Oral LD50 Rat 5620 mg/kg; Dermal LD50 Rabbit >18000 mg/kg; Inhalation LC50 Mouse 1500 ppm 4 h

Propylene glycol monomethyl ether acetate (108-65-6)

Oral LD50 Rat 8532 mg/kg; Dermal LD50 Rabbit >5 g/kg

Isopropyl acetate (108-21-4)

Oral LD50 Rat 3000 mg/kg; Dermal LD50 Rabbit >17436 mg/kg; Inhalation LC50 Rat 50600 mg/m³ 8 h

n-Butyl acetate (123-86-4)

Oral LD50 Rat 10768 mg/kg; Dermal LD50 Rabbit >17600 mg/kg; Inhalation LC50 Rat 390 ppm 4 h

Isobutyl acetate (110-19-0)

Oral LD50 Rat 15400 mg/kg; Dermal LD50 Rabbit >17400 mg/kg

tert-Butyl alcohol (75-65-0)

Oral LD50 Rat 2200 mg/kg; Dermal LD50 Rabbit >2 g/kg (no deaths occurred); Inhalation LC50 Rat >10000 ppm 4 h

1-Butanol (71-36-3)

Oral LD50 Rat 700 mg/kg; Dermal LD50 Rabbit 3402 mg/kg; Inhalation LC50 Rat >8000 ppm 4 h

Tetrachloroethylene (127-18-4)

Oral LD50 Rat 2629 mg/kg; Dermal LD50 Mouse 2800 mg/kg; Inhalation LC50 Rat 27.8 mg/L 4 h

Methylene chloride (75-09-2)

Oral LD50 Rat 1600 mg/kg; Inhalation LC50 Rat 53 mg/L 6 h

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

1,1,1-Trichloroethane (71-55-6)

Oral LD50 Rat 9600 mg/kg; Dermal LD50 Rabbit >15800 mg/kg; Inhalation LC50 Rat 18000 ppm 4 h

Product Toxicity Data

Acute Toxicity Estimate

Dermal	1555.2924 mg/kg
Inhalation - Vapor	1.2614 mg/L
Oral	555.5845 mg/kg

Immediate Effects

Fatal if inhaled, Harmful in contact with skin. harmful if swallowed, eye burns, skin irritation, respiratory tract irritation, aspiration hazard, central nervous system damage, central nervous system depression, respiratory system damage, liver damage, kidney damage, lung damage (from aspiration).

Delayed Effects

Mutagenic effects, cancer, reproductive effects, central nervous system damage, nervous system damage, kidney damage, liver damage, respiratory system damage, blood damage, lung damage.

Irritation/Corrosivity Data

Eye burns, skin irritation, respiratory tract irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

Toluene	108-88-3
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 71 [1999] ; Monograph 47 [1989] (Group 3 (not classifiable))
2-Pentanone, 4-methyl-	108-10-1
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 101 [2013] (Group 2B (possibly carcinogenic to humans))
OSHA:	Present
Acetone	67-64-1
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
tert-Butyl alcohol	75-65-0
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
Tetrachloroethylene	127-18-4
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 106 [2014] ; Monograph 63 [1995] ; Supplement 7 [1987] (Group 2A (probably carcinogenic to humans))

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 3B (could be carcinogenic for man)
OSHA:	Present
NIOSH:	potential occupational carcinogen
Methylene chloride	75-09-2
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 110 [in preparation] ; Monograph 71 [1999] (Group 2A (probably carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 5 (low carcinogenic potency)
OSHA:	Present
OSHA:	see 29 CFR 1910.1052
NIOSH:	potential occupational carcinogen
1,1,1-Trichloroethane	71-55-6
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 71 [1999] ; Supplement 7 [1987] ; Monograph 20 [1979] (Group 3 (not classifiable))

May cause cancer.

Germ Cell Mutagenicity

May cause genetic defects.

Tumorigenic Data

No data available

Reproductive Toxicity

Available data characterizes this substance as a reproductive hazard.

Specific Target Organ Toxicity - Single Exposure

Central nervous system, respiratory system.

Specific Target Organ Toxicity - Repeated Exposure

Nervous system, kidneys, liver, blood,

Aspiration hazard

This material is an aspiration hazard.

Medical Conditions Aggravated by Exposure

Blood disorders, central nervous system disorders, eye disorders, hearing or inner ear disorders, kidney disorders, liver disorders, nervous system disorders, respiratory disorders, skin disorders, heart disorders, systemic disorders.

Section 12 - ECOLOGICAL INFORMATION
--

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

Toluene	108-88-3
Fish:	LC50 96 h Pimephales promelas 15.22 - 19.05 mg/L [flow-through] (1 day old); LC50 96 h Pimephales promelas 12.6 mg/L [static]; LC50 96 h Oncorhynchus mykiss 5.89 - 7.81 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 14.1 - 17.16 mg/L [static]; LC50 96 h Oncorhynchus mykiss 5.8 mg/L [semi-static]; LC50 96 h Lepomis macrochirus 11 - 15 mg/L [static]; LC50 96 h Oryzias latipes 54 mg/L [static]; LC50 96 h Poecilia reticulata 28.2 mg/L [semi-static]; LC50 96 h Poecilia reticulata 50.87 - 70.34 mg/L [static]
Algae:	EC50 96 h Pseudokirchneriella subcapitata >433 mg/L IUCLID ; EC50 72 h Pseudokirchneriella subcapitata 12.5 mg/L [static] EPA
Invertebrate:	EC50 48 h Daphnia magna 5.46 - 9.83 mg/L [Static] EPA ; EC50 48 h Daphnia magna 11.5 mg/L IUCLID
Distillates, petroleum, solvent-refined light paraffinic	64741-89-5
Fish:	LC50 96 h Oncorhynchus mykiss >5000 mg/L
Invertebrate:	EC50 48 h Daphnia magna >1000 mg/L IUCLID
Naphtha	8030-30-6
Fish:	LC50 96 h Lepomis macrochirus 9.2 mg/L [static]
Algae:	EC50 72 h Pseudokirchneriella subcapitata 4700 mg/L IUCLID
2-Pentanone, 4-methyl-	108-10-1
Fish:	LC50 96 h Pimephales promelas 496 - 514 mg/L [flow-through]
Algae:	EC50 96 h Pseudokirchneriella subcapitata 400 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 170 mg/L IUCLID
Methyl n-amyl ketone	110-43-0
Fish:	LC50 96 h Pimephales promelas 126 - 137 mg/L [flow-through]
Methyl ethyl ketone	78-93-3
Fish:	LC50 96 h Pimephales promelas 3130 - 3320 mg/L [flow-through]
Invertebrate:	EC50 48 h Daphnia magna >520 mg/L IUCLID ; EC50 48 h Daphnia magna 5091 mg/L IUCLID ; EC50 48 h Daphnia magna 4025 - 6440 mg/L [Static] EPA
Methyl propyl ketone	107-87-9
Fish:	LC50 96 h Pimephales promelas 1190 - 1290 mg/L [flow-through]

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Acetone	67-64-1
Fish:	LC50 96 h Oncorhynchus mykiss 4.74 - 6.33 mL/L; LC50 96 h Pimephales promelas 6210 - 8120 mg/L [static]; LC50 96 h Lepomis macrochirus 8300 mg/L
Invertebrate:	EC50 48 h Daphnia magna 10294 - 17704 mg/L [Static] EPA ; EC50 48 h Daphnia magna 12600 - 12700 mg/L IUCLID
Ethyl 3-ethoxypropanoate	763-69-9
Fish:	LC50 96 h Pimephales promelas 62 mg/L [static]
Invertebrate:	EC50 48 h Daphnia magna 970 mg/L IUCLID
Ethyl acetate	141-78-6
Fish:	LC50 96 h Pimephales promelas 220 - 250 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 484 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 352 - 500 mg/L [semi-static]
Invertebrate:	EC50 48 h Daphnia magna 560 mg/L [Static] EPA
Propylene glycol monomethyl ether acetate	108-65-6
Fish:	LC50 96 h Pimephales promelas 161 mg/L [static]
Invertebrate:	EC50 48 h Daphnia magna >500 mg/L IUCLID
n-Butyl acetate	123-86-4
Fish:	LC50 96 h Lepomis macrochirus 100 mg/L [static]; LC50 96 h Pimephales promelas 17 - 19 mg/L [flow-through]
Algae:	EC50 72 h Desmodesmus subspicatus 674.7 mg/L IUCLID
tert-Butyl alcohol	75-65-0
Fish:	LC50 96 h Pimephales promelas 6130 - 6700 mg/L [flow-through]
Algae:	EC50 72 h Desmodesmus subspicatus >1000 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 933 mg/L IUCLID ; EC50 48 h Daphnia magna 4607 - 6577 mg/L [Static] EPA
1-Butanol	71-36-3
Fish:	LC50 96 h Pimephales promelas 1730 - 1910 mg/L [static]; LC50 96 h Pimephales promelas 1740 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 100000 - 500000 µg/L [static]; LC50 96 h Pimephales promelas 1910000 µg/L [static]
Algae:	EC50 96 h Desmodesmus subspicatus >500 mg/L IUCLID ; EC50 72 h Desmodesmus subspicatus >500 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 1983 mg/L IUCLID ; EC50 48 h Daphnia magna 1897 - 2072

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

	mg/L [Static] EPA
Tetrachloroethylene	127-18-4
Fish:	LC50 96 h Pimephales promelas 12.4 - 14.4 mg/L [flow-through] ; LC50 96 h Pimephales promelas 8.6 - 13.5 mg/L [static] ; LC50 96 h Lepomis macrochirus 11 - 15 mg/L [static] ; LC50 96 h Oncorhynchus mykiss 4.73 - 5.27 mg/L [flow-through]
Algae:	EC50 96 h Pseudokirchneriella subcapitata >500 mg/L EPA
Invertebrate:	EC50 48 h Daphnia magna 6.1 - 9 mg/L [Static] EPA
Methylene chloride	75-09-2
Fish:	LC50 96 h Pimephales promelas 140.8 - 277.8 mg/L [flow-through] ; LC50 96 h Pimephales promelas 262 - 855 mg/L [static] ; LC50 96 h Lepomis macrochirus 193 mg/L [static] ; LC50 96 h Lepomis macrochirus 193 mg/L [flow-through]
Algae:	EC50 96 h Pseudokirchneriella subcapitata >500 mg/L EPA ; EC50 72 h Pseudokirchneriella subcapitata >500 mg/L EPA
Invertebrate:	EC50 48 h Daphnia magna 1532 - 1847 mg/L [Static] EPA ; EC50 48 h Daphnia magna 190 mg/L IUCLID
1,1,1-Trichloroethane	71-55-6
Fish:	LC50 96 h Pimephales promelas 35.2 - 50.7 mg/L [flow-through] ; LC50 96 h Lepomis macrochirus 57 - 90 mg/L [static] (juvenile) ; LC50 96 h Cyprinus carpio 56 mg/L [flow-through] ; LC50 96 h Poecilia reticulata 52.9 mg/L [flow-through] ; LC50 96 h Poecilia reticulata 69.7 mg/L [static] ; LC50 96 h Pimephales promelas 91 - 126 mg/L [static] ; LC50 96 h Oncorhynchus mykiss 46 - 59 mg/L [static]
Algae:	EC50 96 h Pseudokirchneriella subcapitata >500 mg/L EPA
Invertebrate:	LC50 48 h Daphnia magna >530 mg/L IUCLID ; EC50 48 h Daphnia magna 2384 mg/L IUCLID ; EC50 48 h Daphnia magna 9.7 - 12.8 mg/L [Static] EPA

Invertebrate Toxicity

No additional information is available.

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

No information available for the product.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of in accordance with all applicable federal, state and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal. D001, D018, D035, D039. Based on available data, this

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

information applies to the product as supplied to the user. Processing, use, or contamination by the user may change the waste code applicable to the disposal of this product.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: PAINT RELATED MATERIAL

Hazard Class: 3

UN/NA #: UN1263

Packing Group: II

Required Label(s): 3 FLAMMABLE LIQUID

IATA Information:

Shipping Name: PAINT RELATED MATERIAL

Hazard Class: 3

UN#: UN1263

Packing Group: II

Required Label(s): 3 FLAMMABLE LIQUID

TDG Information:

Shipping Name: PAINT RELATED MATERIAL

Hazard Class: 3

UN#: UN1263

Packing Group: II

Required Label(s): 3 FLAMMABLE LIQUID

Additional information

Emergency Response Guide Number 128 Reference .North American Emergency Response Guidebook

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Toluene (108-88-3), 1-Butanol (71-36-3), Methylene Chloride (75-09-2), 1,1,1-Trichlorethylene (71-55-6)	
SARA 313:	1 % de minimis concentration
CERCLA:	1000 lb final RQ ; 454 kg final RQ
2-Pentanone, 4-methyl- 108-10-1	
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ ; 2270 kg final RQ
Methyl ethyl ketone (78-93-3), Acetone (67-64-1), Ethyl Acetate (141-78-6), n-Butyl acetate (123-86-4), Isobutyl acetate (110-19-0)	

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

CERCLA:	5000 lb final RQ ; 2270 kg final RQ
tert-Butyl alcohol (75-65-0),	
SARA 313:	1 % de minimis concentration
Tetrachloroethylene (127-18-4)	
SARA 313:	0.1 % de minimis concentration
CERCLA:	100 lb final RQ ; 45.4 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C) 2016 reporting categories

Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactivity:** No

SARA Section 311/312 (40 CFR 370 Subparts B and C) 2017 reporting categories

Flammable; Carcinogenicity; Acute toxicity; Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity; Aspiration Hazard; Germ Cell Mutagenicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CA	MA	MN	NJ	PA
Naphtha (8030-30-6), 2-Pentanone, 4-methyl-(108-10-1) Methyl n-amyl ketone (110-43-0), Methyl ethyl ketone (78-93-3), Methyl propyl ketone (107-87-9), Acetone (67-64-1), Ethyl acetate (141-78-6), Isopropyl acetate (108-21-4), n-Butyl acetate (123-86-4) Isobutyl acetate(110-19-0), tert-Butyl alcohol (75-65-0), 1-Butanol (71-36-3),Tetrachloroethylene (127-18-4), Methylene chloride (75-09-2),1,1,1-Trichloroethane (71-55-6)	Yes	Yes	Yes	Yes	Yes
Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)	No	Yes	No	No	No

THIS PRODUCT IS NOT FOR SALE OR USE IN THE STATE OF CALIFORNIA.

Canada Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Toluene (108-88-3), 2-Pentanone, 4-methyl- (108-10-1), Methyl n-amyl ketone (110-43-0), Methyl ethyl ketone (78-93-3), Methyl propyl ketone (107-87-9), Acetone (67-64-1), Ethyl acetate (141-78-6), Isopropyl acetate (108-21-4), n-Butyl acetate (123-86-4), Isobutyl acetate (110-19-0), tert-Butyl alcohol (75-65-0), 1-Butanol (71-36-3), Tetrachloroethylene (127-18-4), Methylene chloride (75-09-2), 1,1,1-Trichloroethane (71-55-6)
1 %

Component Analysis - Inventory

Hydrocarbons, aromatic (63231-51-6) Toluene (108-88-3), Distillates, petroleum, solvent-refined light paraffinic (64741-89-5), Naphtha (8030-30-6), 2-Pentanone, 4-methyl- (108-10-1), Methyl n-amyl ketone (110-43-0), Methyl ethyl ketone (78-93-3), Methyl propyl ketone (107-87-9), Acetone (67-64-1), Alcohols, C1-3 (68475-56-9), Ethyl 3-ethoxypropanoate (763-69-9), Ethyl acetate (141-78-6), Propylene glycol monomethyl ether acetate (108-65-6), Isopropyl acetate (108-21-4), n-Butyl acetate (123-86-4),

Safety Data Sheet

Material Name: SAFETY-KLEEN HEAVY DUTY LACQUER THINNER 6782

SDS ID: 82343

Isobutyl acetate (110-19-0), tert-Butyl alcohol (75-65-0), 1-Butanol (71-36-3), Tetrachloroethylene (127-18-4), Methylene chloride (75-09-2), 1,1,1-Trichloroethane (71-55-6)

US	CA
No	No

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 4 Fire: 3 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision to comply with WHMIS 2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.



Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT

Product Code

50, 699, 6861, 9699

Synonyms

None

Product Use

For cleaning carburetors and metal parts. If this product is used in combination with other products, refer to the Safety Data Sheet for those products. SDS for use in Canada and the U.S.

Restrictions on Use

THIS PRODUCT IS NOT FOR SALE OR USE IN THE STATE OF CALIFORNIA.

MANUFACTURER/SUPPLIER

Safety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 200
Richardson, TX 75080
www.safety-kleen.com

IMPORTER/DISTRIBUTOR

Safety-Kleen Canada, Inc.
25 Regan Road
Brampton, Ontario, Canada L1A 1B2

Phone: 1-800-669-5740

Emergency Phone #: 1-800-468-1760

Issue Date

December 1, 2016

Supersedes Issue Date

September 2, 2014

Original Issue Date

December 1, 1989

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with Schedule 1 of Hazardous Products Regulations (HPR) (SOR/2015-17) and paragraph (d) of 29 CFR 1910.1200

Flammable Liquids - Category 4

Aspiration Hazard - Category 1

Respiratory Sensitization - Category 1A

Acute Toxicity - Inhalation - Vapor - Category 2

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Respiratory Sensitization - Category 1A

Skin Sensitization - Category 1A

Carcinogenicity - Category 2

Reproductive Toxicity - Category 1B

Specific Target Organ Toxicity - Single Exposure. - Category 1 (blood, eyes, liver, nervous and respiratory systems)

Specific Target Organ Toxicity - Single Exposure. - Category 3 (respiratory tract irritation)

Specific Target Organ Toxicity - Repeated Exposure. - Category 1 (adrenal gland, bone marrow, eyes, kidneys, liver, digestive, nervous, and respiratory systems, spleen, and testes)

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Combustible liquid.

May be fatal if swallowed and enters airways.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

May cause allergic skin reaction.

Suspected of causing cancer.

May damage fertility or the unborn child.

May cause respiratory irritation.

Causes damage to blood, eyes, liver, and nervous and respiratory systems.

Causes damage to adrenal gland, blood, bone marrow, digestive system, eyes, kidneys, liver, nervous and respiratory systems, spleen, and testes through prolonged and repeated exposure.

Precautionary Statement(s)

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wear respiratory protection. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product.

Response

In case of fire: Use carbon dioxide, alcohol resistant foam, dry chemical, water spray, or water fog for extinction. IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor physician. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. IF SWALLOWED: Aspiration hazard. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Rinse mouth. Immediately call a POISON CENTER or doctor. Specific treatment is urgent.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Statement of Unknown Toxicity

25.5% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other hazards

None known.

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
64742-94-5	Solvent naphtha (petroleum), heavy arom.	30-60
872-50-4	1-Methyl-2-pyrrolidone	10-30
34590-94-8	Dipropylene glycol monomethyl ether	7-13
112-80-1	Oleic acid	5-10
141-43-5	Ethanolamine	3-7
91-20-3	Naphthalene	3-6

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion

IF SWALLOWED: Aspiration hazard. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Call 1-800-468-1760 for additional information.

Most Important Symptoms/Effects

Acute

Fatal if inhaled, eye, skin, liver, nervous and respiratory system, spleen, and testes damage, blood system disorders, respiratory tract irritation, skin and respiratory sensitizer, aspiration hazard.

Delayed

Cancer, reproductive effects, skin and respiratory sensitizer.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, alcohol-resistant foam, dry chemical, water spray, water fog

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Special Hazards Arising from the Chemical

Combustible liquid. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Run-off to sewer may create a fire hazard. Heated containers may rupture or be thrown into the air. Empty containers may retain product residue including flammable/explosive vapors. Product may be sensitive to static discharge, which could result in fire or explosion.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce nitrogen oxides, acid halides, carbon monoxide, and unidentified organic compounds.

Fire Fighting Measures

Keep away from sources of ignition - No Smoking. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Special Protective Equipment and Precautions for Firefighters

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal. There may be specific regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see SECTION 15: REGULATORY INFORMATION.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes Skin clothing shoes. Do not smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities

Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. See SECTION 14: TRANSPORTATION INFORMATION for Packing Group information.

Incompatible Materials

Strong oxidizing materials

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

1-Methyl-2-pyrrolidone	872-50-4
Ontario	400 mg/m ³ TWA
Yukon	100 ppm TWA ; 400 mg/m ³ TWA; 125 ppm STEL ; 500 mg/m ³ STEL
Dipropylene glycol monomethyl ether	34590-94-8
Alberta	100 ppm TWA ; 606 mg/m ³ TWA; 150 ppm STEL ; 909 mg/m ³ STEL; Substance may be readily absorbed through intact skin
British Columbia; Northwest Territories; Nunavut; Ontario	100 ppm TWA; Skin notation ; 150 ppm STEL
Manitoba	100 ppm TWA; Skin - potential for cutaneous absorption; Skin - potential significant contribution to overall exposure by the cutaneous route
New Brunswick	100 ppm TWA ; 606 mg/m ³ TWA; 150 ppm STEL ; 909 mg/m ³ STEL Skin - potential for cutaneous absorption
Nova Scotia	100 ppm TWA; 150 ppm STEL Skin - potential significant contribution to overall exposure by the cutaneous route
Prince Edward Island	100 ppm TWA; 150 ppm STEL
Quebec	100 ppm TWAEV ; 606 mg/m ³ TWAEV; 150 ppm STEV ; 909 mg/m ³ STEV; Skin designation
Saskatchewan	100 ppm TWA; 150 ppm STEL; Potentially harmful after absorption through skin or mucous membranes
ACGIH	100 ppm TWA; 150 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA Final	100 ppm TWA; 600 mg/m ³ TWA; prevent or reduce skin absorption
OSHA Vacated	100 ppm TWA; 600 mg/m ³ TWA; 150 ppm STEL; 900 mg/m ³ STEL; Prevent or reduce skin absorption
NIOSH	100 ppm TWA; 600 mg/m ³ TWA; 150 ppm STEL; 900 mg/m ³ STEL; Potential for dermal absorption

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Ethanolamine	141-43-5
Alberta; New Brunswick	3 ppm TWA ; 7.5 mg/m3 TWA; 6 ppm STEL ; 15 mg/m3 STEL
British Columbia; Northwest Territories; Nova Scotia; Nunavut; Ontario; Prince Edward Island; Saskatchewan	3 ppm TWA; 6 ppm STEL
Manitoba	3 ppm TWA
Quebec	3 ppm TWAEV ; 7.5 mg/m3 TWAEV; 6 ppm STEV ; 15 mg/m3 STEV
Yukon	3 ppm TWA ; 6 mg/m3 TWA; 6 ppm STEL ; 12 mg/m3 STEL
ACGIH	3 ppm TWA; 6 ppm STEL
OSHA Final	3 ppm TWA; 6 mg/m3 TWA
OSHA Vacated; NIOSH	3 ppm TWA; 8 mg/m3 TWA; 6 ppm STEL; 15 mg/m3 STEL
Naphthalene	91-20-3
Alberta	10 ppm TWA ; 52 mg/m3 TWA; 15 ppm STEL ; 79 mg/m3 STEL; Substance may be readily absorbed through intact skin
British Columbia; Northwest Territories; Nunavut; Ontario; Saskatchewan	10 ppm TWA; Skin notation; 15 ppm STEL
Manitoba; Nova Scotia	10 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route
New Brunswick	10 ppm TWA ; 52 mg/m3 TWA; 15 ppm STEL ; 79 mg/m3 STEL
Prince Edward Island	10 ppm TWA
Quebec	10 ppm TWAEV ; 52 mg/m3 TWAEV; 15 ppm STEV ; 79 mg/m3 STEV
Yukon	10 ppm TWA ; 50 mg/m3 TWA; 15 ppm STEL ; 75 mg/m3 STEL
ACGIH:	10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA Final	3 ppm TWA; 50 mg/m3 TWA;

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

OSHA Vacated; NIOSH	10 ppm TWA; 50 mg/m ³ TWA; 15 ppm STEL; 75 mg/m ³ STEL
---------------------	--

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

1-Methyl-2-pyrrolidone (872-50-4)

100 mg/L Medium: urine Time: end of shift Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

Naphthalene (91-20-3)

Time: end of shift Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis (nonquantitative, nonspecific)

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Where explosive mixtures may be present, equipment safe for such locations should be used.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

Skin Protection

To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

Respiratory Protection

Use NIOSH-certified, full-faced, air-purifying respiratory protective equipment with organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, gloves, and lab coat or apron.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear and brown	Physical State	Liquid
Odor	Characteristic	Color	Brown.
Odor Threshold	Not available	pH	11
Melting Point	<-12 °C (10 °F)	Boiling Point	171 °C (340 °F Initial)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	1 (Butyl acetate = 1)	Flammability (solid, gas)	Not available
Autoignition Temperature	443 °C (829 °F Approximate)	Flash Point	>60 °C (140 °F)

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Lower Explosive Limit	0.8 vol% (Approximate)	Decomposition temperature	Not available
Upper Explosive Limit	7 vol% (Approximate)	Vapor Pressure	<0.4 mmHg @ 68°F °C (20° C)
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	0.95 (Water = 1)
Water Solubility	(Complete)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	7.9 lb/gal (US) (950 g/l)	Molecular Weight	Not applicable
Volatile Organic Compounds (As Regulated)	100 WT%; 7.9 LB/US gal; 950 g/l As per U.S EPA 40 CFR 51.100(s) VOC Vapor Pressure <1.0 mmHg @ 20°C CONTAINS: Photochemically Reactive solvent 60% by volume Consult your state or local air district regulations for location specific information.		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition Avoid contact with incompatible materials.

Incompatible Materials

Acids, alkalies, oxidizing agents, reactive halogens, or reactive metals.

Hazardous decomposition products

Not applicable under normal conditions of use and storage. See also SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

Fatal by inhalation if concentrations in air approach component LC50 values. May cause respiratory tract irritation, allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Contact

Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Eye Contact

Causes serious eye damage.

Ingestion

May be fatal if swallowed and enters airways

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Solvent naphtha (petroleum), heavy arom. (64742-94-5)

Oral LD50 Rat >5000 mg/kg; dermal LD50 Rabbit >2 mL/kg; Inhalation LC50 Rat >590 mg/m³ 4 h

1-Methyl-2-pyrrolidone (872-50-4)

Oral LD50 Rat 3914 mg/kg; Dermal LD50 Rabbit 8 g/kg; Inhalation LC50 Rat >5.1 mg/L 4 h

Dipropylene glycol monomethyl ether (34590-94-8)

Oral LD50 Rat 5400 µL/kg; Dermal LD50 Rabbit 9500 mg/kg

Oleic acid (112-80-1)

Oral LD50 Rat 25 g/kg

Ethanolamine (141-43-5)

Oral LD50 Rat 1720 mg/kg; Dermal LD50 Rabbit 1000 mg/kg

Naphthalene (91-20-3)

Oral LD50 Rat 1110 mg/kg; Dermal LD50 Rabbit 1120 mg/kg; Inhalation LC50 Rat >340 mg/m³ 1 h

Product Toxicity Data

Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Inhalation - Vapor	0.6954 mg/L
Oral	> 2000 mg/kg

Immediate Effects

Fatal if inhaled, eye, skin, liver, respiratory and nervous system damage, respiratory tract irritation, skin and respiratory sensitizer, aspiration hazard.

Delayed Effects

Adrenal gland effects, blood disorders, bone marrow effects, digestive system effects, eye damage, kidney damage, liver damage, nervous system damage, respiratory system damage, spleen damage, testes damage, reproductive effects, cancer, skin and respiratory sensitizer.

Irritation/Corrosivity Data

Causes eye and skin burns, respiratory tract irritation.

Respiratory Sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Dermal Sensitization

May cause an allergic skin reaction.

Component Carcinogenicity

Naphthalene	91-20-3
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
OSHA:	Present

Germ Cell Mutagenicity

No significant adverse effects expected.

Tumorigenic Data

No data available

Reproductive Toxicity

Available data characterizes this substance as a reproductive hazard.

Specific Target Organ Toxicity - Single Exposure

Blood, eye, liver, nervous and respiratory system

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

Specific Target Organ Toxicity - Repeated Exposure

Adrenal glands, blood, bone marrow, digestive system, eye, kidneys, liver, nervous system, respiratory system, spleen, testes.

Aspiration hazard

This material is an aspiration hazard.

Medical Conditions Aggravated by Exposure

Individuals with pre-existing liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

Section 12 - ECOLOGICAL INFORMATION
--

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

Solvent naphtha (petroleum), heavy arom.	64742-94-5
Fish:	LC50 96 h Pimephales promelas 19 mg/L [static]; LC50 96 h Oncorhynchus mykiss 2.34 mg/L; LC50 96 h Lepomis macrochirus 1740 mg/L [static]; LC50 96 h Pimephales promelas 45 mg/L [flow-through]; LC50 96 h Pimephales promelas 41 mg/L
Invertebrate:	EC50 48 h Daphnia magna 0.95 mg/L IUCLID
1-Methyl-2-pyrrolidone	872-50-4
Fish:	LC50 96 h Lepomis macrochirus 832 mg/L [static]; LC50 96 h Pimephales promelas 1072 mg/L [static]; LC50 96 h Poecilia reticulata 1400 mg/L [static]
Algae:	EC50 72 h Desmodesmus subspicatus >500 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 4897 mg/L IUCLID
Dipropylene glycol monomethyl ether	34590-94-8
Fish:	LC50 96 h Pimephales promelas >10000 mg/L [static]
Invertebrate:	LC50 48 h Daphnia magna 1919 mg/L IUCLID
Oleic acid	112-80-1
Fish:	LC50 96 h Pimephales promelas 205 mg/L [static]
Ethanolamine	141-43-5
Fish:	LC50 96 h Pimephales promelas 227 mg/L [flow-through]; LC50 96 h Brachydanio rerio 3684 mg/L [static]; LC50 96 h Lepomis macrochirus 300 - 1000 mg/L [static]; LC50 96 h Oncorhynchus mykiss 114 - 196 mg/L [static]; LC50 96

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

	h Oncorhynchus mykiss >200 mg/L [flow-through]
Algae:	EC50 72 h Desmodesmus subspicatus 15 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 65 mg/L IUCLID
Naphthalene	91-20-3
Fish:	LC50 96 h Pimephales promelas 5.74 - 6.44 mg/L [flow-through] ; LC50 96 h Oncorhynchus mykiss 1.6 mg/L [flow-through] ; LC50 96 h Oncorhynchus mykiss 0.91 - 2.82 mg/L [static] ; LC50 96 h Pimephales promelas 1.99 mg/L [static] ; LC50 96 h Lepomis macrochirus 31.0265 mg/L [static]
Invertebrate:	LC50 48 h Daphnia magna 2.16 mg/L IUCLID ; EC50 48 h Daphnia magna 1.96 mg/L [Flow through] EPA ; EC50 48 h Daphnia magna 1.09 - 3.4 mg/L [Static] EPA

Invertebrate Toxicity

No additional information is available.

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

No information available for the product.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components

Disposal Methods

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: Corrosive liquid, basic, organic, n.o.s. (Contains: monothenolamine)

Hazard Class: 8; **UN/NA #:** UN3267; **Packing Group:** III; **Required Label(s):** CORROSIVE

Additional information: Marine pollutant.

IATA Information:

Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

UN#: UN3267

Additional information: Marine pollutant.

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

TDG Information:

Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (monoethanolamine)

Hazard Class: 8; **UN#:** UN3267; **Packing Group:** III; **Required Label(s):** CORROSIVE

Additional information: Marine pollutant.

Additional information

Emergency Response Guide Number: 128; Reference: North American Emergency Response Guidebook

Section 15 - REGULATORY INFORMATION
--

Canada Regulations

CEPA - Priority Substances List

None of this product's components are on the list.

Ozone Depleting Substances

None of this product's components are on the list

Council of Ministers of the Environment - Soil Quality Guidelines

Naphthalene	91-20-3
Residential and Parkland	(consult factsheet)

Council of Ministers of the Environment - Water Quality Guidelines

Naphthalene	91-20-3
Marine Aquatic Life	1.4 µg/L

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

1-Methyl-2-pyrrolidone	872-50-4
SARA 313:	1 % de minimis concentration
Naphthalene	91-20-3
SARA 313:	0.1 % de minimis concentration
CERCLA:	100 lb final RQ ; 45.4 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactivity:** No

Component Analysis - Inventory

Solvent naphtha (petroleum), heavy arom. (64742-94-5), 1-Methyl-2-pyrrolidone (872-50-4);

Dipropylene glycol monomethyl ether (34590-94-8); Oleic acid (112-80-1); Ethanolamine (141-43-5);

Naphthalene (91-20-3)

US	CA
Yes	DSL

Safety Data Sheet

Material Name: SAFETY-KLEEN IMMERSION CLEANER AND COLD PARTS CLEANER SOLVENT SDS ID: 82411

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	MA	MN	NJ	PA	CA
1-Methyl-2-pyrrolidone	872-50-4	No	Yes	No	Yes	Yes
Dipropylene glycol monomethyl ether	34590-94-8	Yes	Yes	Yes	Yes	Yes
Oleic acid	112-80-1	No	No	No	No	Yes
Ethanolamine	141-43-5	Yes	Yes	Yes	Yes	Yes
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings:

Health: 3 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision to comply with WHMIS 2015.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada)

Disclaimer:

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.



Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

Synonyms

Safety-Kleen Premium Gold Solvent; Safety-Kleen Continued Use Product Solvent (CUP); High Flash Degreasing Solvent; Parts Washer Solvent; Petroleum Distillates; Petroleum Naphtha; Naphtha, Solvent; Mineral Spirits

Product Use

Cleaning and degreasing metal parts. If this product is used in combination with other products, refer to the Safety Data Sheets for those products.

Restrictions on Use

None known.

MANUFACTURER/SUPPLIER

Safety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 200
Richardson, TX 75080
www.safety-kleen.com
Phone: 1-800-669-5740
Emergency Phone #: 1-800-468-1760

IMPORTER/DISTRIBUTOR

Safety-Kleen Canada, Inc.
25 Regan Road
Brampton, Ontario, Canada L1A 1B2

Phone: 1-800-669-5740
Emergency # 1-800-468-1760

Issue Date

September 30, 2016

Supersedes Issue Date

June 28, 2016

Original Issue Date

January 26, 1995

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 4

Aspiration Hazard - Category 1

Specific Target Organ Toxicity - Single Exposure - Category 3 (central nervous system)

GHS Label Elements

Symbol(s)



Signal Word

Danger

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Hazard Statement(s)

Combustible liquid.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Precautionary Statement(s)

Prevention

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye protection/face protection. Avoid breathing vapor or mist.

Response

In case of fire: Use Class B/C or Class A/B/C fire extinguisher, carbon dioxide, regular foam, dry chemical, water spray, or water fog for extinction. IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
64742-47-8	Petroleum distillates, hydrotreated light	100

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and wash it before reuse. Get medical attention if irritation develops or persists.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

Ingestion

Aspiration hazard. IF SWALLOWED: Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms/Effects

Acute

May be fatal if swallowed and enters airways. May cause drowsiness or dizziness.

Delayed

May cause damage to central nervous system.

Indication of any immediate medical attention and special treatment needed

IF exposed: Immediately call a POISON CENTER or doctor/physician. Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Media to use includes Class B/C or Class A/B/C fire extinguisher, carbon dioxide, regular dry chemical, foam, water spray, and water fog.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Combustible liquid and vapor. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Do not allow run-off from fire-fighting to enter drains or water courses. Closed containers may rupture violently when heated. Empty containers may retain product residue including flammable/explosive vapors. Take precautionary measures against static discharge: May cause fire or explosion.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and other organic compounds.

Advice for firefighters

Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Keep away from ignition sources - No smoking. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Remove all sources of ignition. Do not touch or walk through spilled material. Stop leak if safe to do so. Wear personal protective clothing and equipment. Appropriate engineering controls: Keep unnecessary people away, isolate hazard area and deny entry. Ventilate the area. Avoid breathing vapor or mist. Use foam on spills to minimize vapors. Keep out of water supplies and sewers. Absorb with earth, sand or other non-combustible material and transfer to container. Use non-sparking tools. Large spills: Reduce vapors with water spray. Dike for later disposal.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks and flame. Use personal protective equipment as required. When transferring product, trucks and tank cars should be grounded and bonded. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Keep away from heat and ignition sources. Do not cut, puncture, or weld on or near this container. Empty containers may contain product residue.

Incompatible Materials

Avoid acids, alkalies, oxidizing agents, reducing agents, halogens.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Petroleum distillates, hydrotreated light	64742-47-8
ACGIH:	100 ppm TWA (related to Stoddard solvent)
NIOSH:	350 mg/m ³ TWA (related to Stoddard solvent)
	1800 mg/m ³ Ceiling (15 minutes)
OSHA (US):	500 ppm TWA ; 2900 mg/m ³ TWA (Related to Stoddard solvent)
	100 ppm TWA (Related to Stoddard solvent) ; 525 mg/m ³ TWA (OSHA (Vacated))

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Safety glasses with side shields should be worn at a minimum. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

Respiratory Protection

Use NIOSH-certified P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

Glove Recommendations

Wear appropriate chemical resistant gloves. In case of skin contact: neoprene, nitrile, as well as similar materials in protection gloves; do not use natural rubber.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and/or Lab coat or apron.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid	Physical State	Liquid
Odor	Mild ,hydrocarbon odor	Color	Colorless to pale yellow
Odor Threshold	30 ppm (based on Stoddard Solvent)	pH	Not applicable
Melting Point	-45 F (-43 C)	Boiling Point	350 F (177 C)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	<0.1 (butyl acetate = 1)	Flammability (solid, gas)	Not available
Autoignition Temperature	480 F (249 C)(minimum)	Flash Point	148 F (64 C)
Lower Explosive Limit	0.7 VOL%	Decomposition temperature	Not available
Upper Explosive Limit	5 VOL%	Vapor Pressure	0.2 mm Hg (at 68 F)
Vapor Density (air=1)	5 (air = 1) (approximately)	Specific Gravity (water=1)	0.77 - 0.82 (at 60 F)
Water Solubility	Insoluble	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	6.4 - 6.7 lb/US gal	VOC	100 WT%; 6.4 to 6.7 LB/US gal; 770 to 800 g/l; As per 40 CFR Part 51.100(s); VOC Vapor Pressure: <1.0 mmHg @ 20°C; Product may or may not be considered photochemically reactive (100% by weight); Consult your state or local air district regulations for location specific information.
Molecular Weight	Not available		
Other Information	No additional information is available.		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions to Avoid

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials

Avoid acids, alkalies, oxidizing agents, reducing agents, halogens.

Hazardous decomposition products

Not applicable under normal conditions of use and storage. Reference to other sections: Section 5.

Thermal decomposition products

Burning may produce carbon monoxide and other organic compounds.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause respiratory irritation, nausea, loss of appetite, headache, drowsiness, dizziness, disorientation, tremors, lung damage, convulsions, coma.

Skin Contact

May cause skin irritation.

Eye Contact

No information on significant adverse effects.

Ingestion

May cause drowsiness or dizziness, headache, loss of coordination, aspiration hazard.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Petroleum distillates, hydrotreated light (64742-47-8)

Oral LD50 Rat >5000 mg/kg

Dermal LD50 Rabbit >2000 mg/kg

Inhalation LC50 Rat >5.2 mg/L 4 h

Immediate Effects

May cause central nervous system depression. Aspiration may result in lung damage, respiratory tract irritation. May cause skin irritation.

Delayed Effects

May cause damage to central nervous system.

Irritation/Corrosivity Data

May cause respiratory tract irritation and skin irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No data available

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

May cause central nervous system depression.

Specific Target Organ Toxicity - Repeated Exposure

May cause damage to central nervous system.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Aspiration hazard

May be fatal if swallowed and enters airways. May cause lung damage.

Medical Conditions Aggravated by Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), central nervous system, kidneys, and eye and/or skin disorders may have increased susceptibility to the effects of exposure.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

According to the California Code of Regulations, a toxicity to aquatic life, specifically fish, is determined using an acute 96 hour bioassay. A material is non-hazardous if the LC50 is >500 mg/L. This product passed the bioassay and is considered non-hazardous.

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

This material is believed not to bioaccumulate.

Mobility

Expected to have high mobility in soil.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of in accordance with all applicable federal, state and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal. This product, if discarded, is not expected to be a characteristic or listed hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Non-Bulk Packages (less than or equal to 119 gallons): Not regulated. Shipping Name: Cleaning compounds (Petroleum naphtha) (Not US DOT regulated)

Bulk Packages

Shipping Name: COMBUSTIBLE LIQUID, N.O.S., (Petroleum naphtha)

Hazard Class: 3 **UN/NA #:** NA1993 **Packing Group:** III **Required Label(s):** 3

IATA Information:

UN#: Not regulated as a dangerous good

TDG Information:

UN#: Not regulated as a dangerous good

Additional information

Emergency Response Guide Number: 128: Reference: North American Emergency Response Guide Book.

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: yes **Chronic Health:** yes **Fire:** yes **Pressure:** no **Reactivity:** no

U.S. State Regulations

None of this product's components are listed on the state lists from MA, MN, NJ or PA

WARNING! This product can expose you to chemicals including benzene, dichlorobenzene, ethylbenzene, and naphthalene which are known to the State of California to cause cancer and benzene and toluene which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.gov.

Canada Regulations

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR.

Canadian WHMIS Ingredient Disclosure List (IDL)

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

WHMIS Classification

B3; D2B

Component Analysis - Inventory

Petroleum distillates, hydrotreated light (64742-47-8)

US	CA
Yes	DSL

U.S. Inventory (TSCA)

TSCA: All the components of this substance are listed on or are exempt from the inventory.

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 1 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision to meet Canadian WHMIS 2015.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL - Non-Domestic Substance List (Canada); NFPA -

Safety Data Sheet

Material Name: SAFETY-KLEEN PREMIUM SOLVENT (VIRGIN AND RECYCLED)

SDS ID: 82658

National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

APPENDIX C-6

**SAFETY-KLEEN SERVICE DOCUMENT
(EXAMPLES)**

Safety-Kleen

5400 Legacy Dr.
Cluster II, Building 3
Plano, Texas 75024
631 842-6311

CUSTOMER# 819223
SERVICE TAX: 0.08625
COMS TAX: 0.08625
PRODUCT TAX: 0.08625
PHONE
PURCHASE ORDER#

REFERENCE NBR
0032735538
SRVC WEEK: 06-40
SRVC DATE: 10/04/06 08:21
NV 11572-3338

TAX EXEMPTION NBR:

PRODUCT / SERVICES

SERVICE/ PRODUCT	QTY	UNIT PRICE	TAX	TOTAL CHARGE
100001 FEE, FUEL SURCHARGE	1		0.00	
55366 13 GAL LIQUID PERC SVC CLEAN 2 SPENT 2 SERVICE TERM 12	2			

TOTAL SERVICE/PRODUCTS

USEPA TRANSPORTER 1 TXR000050930 GENERATOR ID
USEPA TRANSPORTER 2 GENERATOR STATE
MANIFEST TRACKING # 000691682jjk FORM CODE US SK TRACKING # 107773344

US DOT DESCRIPTION (INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID
WASTE TOXIC LIQUID, ORGANIC N.O.S.
(TETRACHLOROETHYLENE) 6.1 UN2810 PG111
RQ(F002)(13#/G)(ERG#153)(0007,0039,0040)
TOTAL CONT 2 TYPE OF TTL QTY 390 UNIT WT/VOL P SKDOT 12627
CNT# 60928006650 QTY 195
CNT# 60928006651 QTY 195

DESIGNATED FACILITY NAME/ADDRESS:
SAFETY-KLEEN SYSTEMS, INC.
581 MILLIKEN DR SE

HEBRON, OH 43025

USEPA ID NO OH0980587364 TOTAL CHARGE
STATE ID NO WASTE MIN 0.00
TOTAL DUE

UNPAID BALANCE THIS RECEIPT

- Machine clean and good condition? Yes
- Decals in place and legible? Yes
- Fusible link installed? Yes
- Emergency closing of lid unobstructed? Yes
- Machine properly grounded? Yes
- Spent solvent meets acceptance criteria? Yes

GENERATOR STATUS 220 - 2200 lbs/month

Customer certifies that (i) the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and (ii) no material change has occurred either in the characteristics of the waste/material or in the process generating the waste/material. Customer agrees to pay the above charges and to be bound by the terms and conditions (1) set forth in (a) the General Terms and Conditions provided separately to Customer or (b) any SK agreement signed by Customer and SK, and (2) incorporated herein by reference. Unless otherwise indicated in the payment received section, SK is authorized to charge Customer's account for this transaction. Customer certifies that the individual signing this Service Acknowledgement is duly authorized to sign and bind Customer. The following provision is applicable to Safety-Kleen's parts cleaner and paint gun cleaner services: Customer agrees that it will not introduce any substance into the solvent or aqueous cleaning solution, including without limitation any hazardous waste or hazardous waste constituent, except to the extent such introduction is incidental to the normal use of the machine. Customer further agrees that it will not clean parts/paint guns that have been contaminated with or otherwise introduce polychlorinated biphenyls (PCB's), herbicides, pesticides, dioxins or listed hazardous waste into the solvent or aqueous cleaning solution.
IN THE EVENT OF AN EMERGENCY CALL 1-800-468-1760 (24 hours)

SIGNATURE NAME:

www.safety-kleen.com



CUSTOMER NO. [Table with 10 empty cells]

B I L L

FOR SERVICE CALL, BRANCH MANAGER, DOC. EXP., SCHEDULED SERVICE WEEK, SCHEDULED TERRITORY, REFERENCE NUMBER, CREDIT CODE, PREVIOUS BALANCE, BAL. OVER 60 DAYS, BUSINESS TYPE, CHAIN, OUTER COUNTY, SVC. P/C, PROD. P/C, LOCATION, TAX EXEMPTION NO.

SERVICE DATE, SALES REP NO., CUSTOMER P.O. NUMBER, CUSTOMER PHONE #, TAX CODE, HANDLING CODE, ASSOC. CODE, SERVICE TAX, C.O.M.S. TAX, PRODUCT TAX

Table with columns: DEPT, SERVICE/PRODUCT, REMARKS/UNIT PRICE, QUAN., CHARGE, SALES TAX, TOTAL CHARGE, WASTE MIN., SOLVENT/DRUMS (CLEAN, SPENT, # OF CONT., SK DOT), CC, SERVICE TERM, CHANGE SERVICE TERM (WEEKS)(INITIAL), CHANGE SCH. DATE (YY WW), INV. CODE, PROMO NO., MSDS GIVEN

TOTAL-SERVICE/PRODUCTS, CHECK APPROPRIATE BOXES, MACHINE CONDITION & CLEANLINESS, LAMP ASSEMBLY CONDITION, GOOD, POOR, DECALS IN PLACE AND LEGIBLE, FUSIBLE LINK INSTALLED, EMERGENCY CLOSING OF LID UNOBSTRUCTED, MACHINE PROPERLY GROUNDED, LOCAL PHONE NO. STICKER AFFIXED TO MACHINE, SPENT SOLVENT MEETS ACCEPTANCE CRITERIA

11. US DOT DESCRIPTION (INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID.), 12. CONTAINERS NO., 13. TOTAL QUANTITY, 14. UNIT WT/VOL, SK DOT NUMBER, I CERTIFY THAT MY TOTAL WASTE STREAMS ARE WITHIN ONE OF THE FOLLOWING CATEGORIES: 0 TO 220 LBS./MONTH, 220 LBS. TO 2,200 LBS./MONTH, GREATER THAN 2,200 LBS./MONTH

DESIGNATED FACILITY NAME AND ADDRESS, PAYMENT SECTION, CASH, CHECK NUMBER, INVOICE #, AMOUNT \$, APPLY PAYMENT TO: TODAY'S SERVICE/SALE, PREVIOUS BALANCE AS FOLLOWS, CREDIT CARD NO., AMEX, VISA, MC, EXP. DATE

MANIFEST NO., LDR MESSAGE, MANIFEST CODE, SEQ #

IN THE EVENT OF AN EMERGENCY CALL

I CERTIFY THAT NO MATERIAL CHANGE HAS OCCURRED EITHER IN THE CHARACTERISTICS OF THE WASTE MATERIALS OR IN THE PROCESS GENERATING THE WASTE MATERIALS., USA EPA ID NO., STATE ID NO., I AGREE TO PAY THE ABOVE CHARGES AND TO BE BOUND BY THE TERMS AND CONDITIONS SET FORTH ABOVE AND ON THE REVERSE SIDE OF THIS DOCUMENT. PLEASE CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT RECEIVED SECTION. THE INDIVIDUAL SIGNING THIS DOCUMENT IS DULY AUTHORIZED TO SIGN AND BIND CUSTOMER TO ITS TERMS. TOTAL CHARGE (FROM ABOVE), WASTE MIN. (FROM ABOVE), TOTAL DUE, DO NOT WRITE IN THE AREA BELOW, Print Customer Name, By: Customer's Authorized Representative

SERVICE AND SALES ACKNOWLEDGMENT PART 1366 (Rev. 05/04)

SECTION D
PROCESS INFORMATION
TABLE OF CONTENTS

SECTION		PAGE
D-1	Containers Storage Areas	1
D-1(a)	Containers With Free Liquids	4
D-1(a)(1)	Basic Design Parameters, Dimensions and Material of Construction	4
D-1(a)(2)	Containment System Drainage	5
D-1(a)(3)	Containment System Capacity	6
D-1(a)(4)	Control of Run-On	7
D-1(a)(5)	Removal of Liquid From Containment System	7
D-1(b)	Containers Without Free Liquids	8
D-1(c)	Container Management Practices	8
D-1(d)	Special Requirements for Incompatible Wastes	10
D-1(e)	Air Emission Standards	11
D-2	Tank Systems	11
D-2(a)	Tank System Description	11
D-2(a)(1)	Description of Feed System, Safety Cutoff, Bypass System and Pressure Controls	13
D-2(a)(2)	Ignitable, Reactive and Incompatible Wastes	14
D-2(b)	Existing Tank System	15
D-2(b)(1)	Assessment of Existing Tanks System's Integrity	15
D-2(c)	New Tank Systems	15
D-2(c)(1)	Assessment of New Tank System's Integrity	15
D-2(c)(2)	Description of Tank System Installation and Testing Plans and Procedures	15
D-2(c)(3)	External Corrosion Protection	15
D-2(c)(4)	Record Keeping	16
D-2(d)	Containment and Detection of Releases	16
D-2(d)(1)	Design, Construction and Operation of Secondary Containment Systems	16

SECTION D
PROCESS INFORMATION
TABLE OF CONTENTS
(Continued)

SECTION	PAGE
D-2(d)(1)(a) Tank Age Determination	16
D-2(d)(1)(b) Requirement for Secondary Containment and Leak Detection	16
D-2(d)(1)(c) Secondary Containment and Leak Detection for Ancillary Equipment	17
D-2(d)(2) Requirement for External Liner, Vault, Double-Walled Tank or Equivalent Device	18
D-2(d)(3) Secondary Containment and Leak Detection for Ancillary Equipment	18
D-2(d)(4) Requirements for Tank Systems Until Secondary Containment is Implemented	19
D-2(d)(5) Variance from Secondary Containment Requirements	19
D-2(e) Controls and Practices to Prevent Spills and Overfills	19
D-3 Waste Piles	20
D-4 Surface Impoundments	20
D-5 Incinerators	20
D-6 Landfills	20
D-7 Land Treatment	20
D-8 Miscellaneous Units	20
D-8(a) Description of Miscellaneous Units	20
D-8(b) Miscellaneous Unit Wastes	22
D-8(c) Environmental Performance Standards for Miscellaneous Units	22

LIST OF FIGURES

D-1	Site Plan
D-2	Example Container Label
D-3	Class 1B Flammable Container Storage Building

SECTION D
PROCESS INFORMATION
TABLE OF CONTENTS
(Continued)

LIST OF FIGURES

- D-4 Non-Ignitable Waste Container Storage Building
- D-5 Mineral Spirits Tank Farm
- D-6 Tank Details
- D-7 Piping Isometrics
- D-8 High Level Alarm System
- D-9 Tank Level Gauge Details
- D-10 Drum Washer / Dumpster Detailed Assembly

LIST OF APPENDICES

- D-1 Drum Washer/Dumpster Assessments
- D-2 Tank System Assessment
- D-3 Container Storage Unit Assessments
- D-4 Industrial Hygiene Assessment / Study of Drum Washer/Dumpster Units and Return and Fill Operation

SECTION D

PROCESS INFORMATION

The information provided in this section is submitted in accordance with the requirements of 40 CFR Sections 270.15 through 270.18. Other regulations addressed to complete this section include 40 CFR 264.17, 264.175, 264.176, 264.177, 264.191, 264.192, 264.198, 264.199, 264.221, 264.252, 264.253, 264.256, and 264.257.

This section discusses specific process information related to the generation and storage of hazardous waste at the Facility. Table D-1 identifies the existing units. Table D-2 summarizes the types of wastes to be stored in each unit. The locations of the existing units are shown in Figure D-1. Each of the following sections describes the waste management processes used at the Facility.

D-1 CONTAINER STORAGE AREAS

The Facility has two (2) RCRA permitted container storage areas; the Non-Ignitable Container Storage Area within the Return and Fill Station, and the Class 1B Flammable Container Storage Area located in the Class 1B Warehouse Building (see Figure D-1). These container storage areas are used to store a variety of waste streams as identified in Table D-2. The quantity of a single waste stream stored in any of the storage areas will vary depending upon market demand.

TABLE D-1
RCRA REGULATED UNITS

CONTAINER STORAGE (SO1)

Unit	Date In Service	Capacity
Class 1B Flammable Container Storage Area	1993	7,120 gallons
Non-Ignitable Container Storage Area	1991	6,540 gallons

TANK SYSTEM (SO2)

Unit	Date In Service	Capacity
Tank No. 1 – Parts Washer Solvent Tank System	1985	15,000 gallon aboveground tank for the storage of used parts washer solvent.

MISCELLANEOUS UNITS (X99)

MISCELLANEOUS UNITS (X99)	Date In Service	Capacity
Drum Washer/Dumpster Units (2)	1985	375 gallons (each)

TABLE D-2
TYPES OF WASTES WITHIN EACH RCRA STORAGE UNIT

Unit	Waste Types
Class 1B Flammable Container Storage Area	Typically, waste types to be stored in this area will include paint related waste, compatible 10-day transfer wastes, used parts washer solvent, drum washer sediment, and dry cleaning wastes. Other containerized wastes as listed under the Non-Ignitable Waste Container Storage Area may be stored on an as-needed basis.
Non-Ignitable Waste Container Storage Area	Immersion cleaner wastes, aqueous parts washer solvent, photographic waste (as 10-day transfer only), perchloroethylene wastes, new product, empty drums, and compatible 10-day transfer wastes.
Tank No. 1 – Parts Washer Solvent Tank Farm	Used parts washer solvent. Storm water/ wash water collected within the Tank Farm/ Truck Station may be stored on an as-needed basis.
Drum Washer/Dumpster Units (2)	Used parts washer solvent.

D-1(a) Containers with Free Liquids

All waste containers at the Facility contain, or are assumed to contain, free liquid. Thus, all storage areas are designed for containerized liquid waste storage.

All containers used to store hazardous waste at the Facility meet or exceed U.S. DOT specifications (i.e., UN1A1, UN1A2, UN1H2) contained in 49 CFR 178 under guidelines for package operations and exceptions under 49 CFR 173. In general, steel and plastic containers with capacities of 5, 16, 20, 30, and 55 gallons are used to store waste materials. Container design is subject to change; however, all containers will meet U.S. DOT packaging and closure specifications for the waste materials managed at this Facility. If required, containers as large as 55-gallon and 85-gallon salvage drums can also be used to store waste in either of the two container storage areas. New, used and reconditioned containers are utilized as long as they continue to meet DOT specifications.

Figure D-2 illustrates a typical container label utilized at the Facility. At a minimum, labels will contain information necessary to identify the waste (i.e., EPA waste codes), along with the generator's name, address, USEPA ID number and manifest tracking number (if applicable), and the date when the waste was received at the Facility. Prior to transport, all containers will be labeled in accordance with 40 CFR 262.32.

D-1(a)(1) Basic Design Parameters, Dimensions and Materials of Construction

A plan view of the container storage areas and their secondary containment systems is presented as Figure D-3 and D-4, respectively. The design of the container storage areas is discussed in the following subsections.

The base of the Container Storage Areas is constructed of reinforced concrete and sealed with a combination of epoxy and urethane based coatings and expansion joint

sealants to prevent the migration of spilled or leaked materials from the secondary containment system. The coatings and sealants are considered impervious to and compatible with the waste being stored. These coatings and sealants offer excellent chemical resistant properties for the types of chemicals and chemical wastes managed in each of the permitted waste storage areas. The coating is applied to the base, secondary containment curbs and containment sumps of the storage areas. The typical permeability of concrete alone is in the range of 1×10^{-9} cm/sec. The expected permeability is lower with the coating. All surfaces that could come in contact with product or waste liquid are sealed, free of cracks or gaps, and are impervious to the wastes being stored. Further, the coating is compatible with all wastes handled at the facility. The container storage areas are under roof and, therefore, no precipitation comes into contact with these areas. The lighting and electrical systems in the Class 1B Flammable Container Storage Area are designed to minimize their potential as ignition sources.

The Class 1B Flammable Container Storage Area is constructed similar to the Non-Ignitable Waste Container Storage Area with a reinforced concrete base, perimeter curbing and concrete containment sumps. An epoxy and/or urethane coating covers the surface of the base, curbing and sumps, which is impervious to and compatible with the wastes stored.

The base of the Non-Ignitable Waste Container Storage Area and the Class 1B Flammable Container Storage Area is constructed of a four-inch (minimum) reinforced concrete slab placed on an engineered sub grade. Therefore, the structural integrity of the base is sufficient to with stand design loadings. Refer to Appendix D-3 for a copy of the updated container storage unit structural integrity assessments.

D-1(a)(2) Containment System Drainage

Hazardous waste containers are palletized to raise the containers off the floor to prevent contact with liquids resulting from leaks or spills. Product and empty drums may be placed directly on the floor. In the event of a spill or leak that contacts product or empty containers these containers would be removed, as necessary, to aid in the spill clean up efforts. The base of each container storage area is gently sloped towards a containment sump that is capable to collect larger spills or leaks if required.

D-1(a)(3) Containment System Capacity

Calculations demonstrating the capacity of the container storage areas at the facility are presented within this section. As shown in Figures D-3 and D-4, containment sumps provide the secondary containment for the container storage areas; thus, no displacement volumes need to be addressed. Also, as the storage areas are enclosed, no provisions for 24-hour / 25 year storm events are required.

Class 1B Flammable Container Storage Area (CSA No. 1)

Permitted Storage Capacity is 7,120 gallons

Secondary containment system capacity consists of one (1) trench as follows:

$$V_{\text{trenches}} = 1 \text{ trench } [27'-9.5" \text{ L} \times 1'-9" \text{ W} \times 1'-11.5" \text{ D}] \times 7.48 \text{ gal/ft.}^3$$

$$V_{\text{trenches}} = 712 \text{ gallons (equals 10\% of permitted capacity)}$$

The Class 1B Flammable Container Storage Area has a six (6) inch wide by four (4) inch high steel reinforced concrete curb with a collection trench that provides 712 gallons of available secondary containment capacity (see Figure D-3).

Non-Ignitable Waste Container Storage Area (CSA No. 2)

Permitted Container Storage Capacity is 6,540 gallons

Secondary containment system capacity consists of one (1) trench as follows:

$$V_{\text{trenches}} = 1 \text{ trench } [20'-0" \text{ L} \times 1'-9" \text{ W} \times 2'-6" \text{ D}] \times 7.48 \text{ gal/ft.}^3$$

$$V_{\text{trenches}} = 654 \text{ gallons (equals 10\% of permitted capacity)}$$

The Non-Ignitable Waste Container Storage Area has a six (6) inch wide by four (4) inch high steel reinforced concrete curb with a collection trench that provides 654 gallons of available secondary containment capacity. (see Figure D-4).

D-1(a)(4) Control of Run-On

As noted previously, all the container storage areas are within the enclosed Warehouse Building. Therefore, run-on is prevented and is not included in volume calculations.

D-1(a)(5) Removal of Liquid From Containment System

Spills or leaks are removed from the secondary containment system in a timely manner to prevent overflow of the system. As noted previously, containers are not routinely opened while in storage. Any liquid present would be the result of container leakage. Therefore, the source of any liquid in the secondary containment system can be readily identified by site personnel during the daily inspections (as described in Section F of this application) or during the course of any given operating day as a function of warehouse operations. The liquid would be removed by a hand-held portable electric pump, wet-dry vacuum cleaner, or other means, re-containerized according to waste type, and managed in the appropriate permitted container storage area at the Facility. If spilled waste or any product cannot be determined from the containers and paperwork (including lab analyses) associated with the containers, then a sample of the waste will be taken and sent off-site for analysis. Until analysis confirms the identity of any previously undetermined contamination, the collected material will be containerized and physically segregated from other wastes in the permitted container storage areas by means of a permanent or temporary containment berm or device.

D-1(b) Containers without Free Liquids

All containers handled at the Facility are assumed to contain free liquids and are handled as such.

D-1(c) Container Management Practices

Safety-Kleen has several management practices to ensure that containers are kept closed during storage and are not opened, handled or stored in a manner that may cause them to rupture or leak. The container management practices conducted at this Facility relate to the leasing and servicing of Safety-Kleen parts-cleaning equipment, the collection and distribution of solvents, and the storage of these wastes. The solvents are distributed from and returned to the Facility, where separate aboveground storage tanks are utilized for the storage of clean and used parts washer solvent, and waste oil. Additional storage space is designated for drums containing spent immersion cleaner, dry cleaner wastes, paint wastes, and wastes generated by the Facility.

The parts washer solvent is transported between the Facility and customers in covered metal drums, which are approximately three-quarters or less full. This practice reduces the potential for spillage. Upon return to the Facility, drums of used parts washer solvent are transferred to the dock at the Return and Fill Station. The drums are temporarily staged inside the secondary containment area of the dock before the used parts washer solvent is transferred from the drums into one of two drum washer/dumpster units. These drums remain closed until the used parts washer solvent is transferred from the containers to one of the drum washer/dumpster units. The waste drums remain on the dock for less than 24 hours. While staged at the dock, these drums are not stacked more than two (2) drums high. The used solvent from each of the drum washer/dumpster units is pumped into an aboveground tank for storage prior to shipment to an off-site facility. These activities are conducted at the Return and Fill

Station, which has full secondary containment. Residuals in the drum washers are cleaned out at the end of the business day and drummed for shipment to an off-site RCRA permitted Facility.

Spent immersion cleaner remains in covered metal drums at all times during transportation and storage. The solvent is not transferred to another container while in storage at the Facility, unless in response to a leak or similar problem. The drums containing spent immersion cleaner are shipped periodically to an off-site RCRA permitted Facility.

As in the case with the spent immersion cleaner solvent, containers of dry cleaning wastes and paint wastes also remain in permitted storage until such time as they are shipped to an off-site RCRA permitted Facility. The wastes will not be transferred to another container while in storage at the Facility, except in response to leakage or other container failure.

In the container storage areas, aisle space of at least two (2) feet is maintained on a minimum of two (2) sides of each single row of pallets containing hazardous waste. The typical palletized configurations and stacking heights used in the container storage areas adhere to NFPA 30 storage standards. Product and empty drums are not subject to RCRA regulations.

Containers holding hazardous waste must not be handled or stored in a manner which may rupture the container or cause it to leak. Contact with objects that might puncture or otherwise damage the containers must be avoided and any actions which have the potential to damage the containers must be avoided and any actions which have the potential to damage containers (such as tipping or dropping) must be avoided. These precautions will minimize the potential for ruptures.

When drums are stacked two or higher, they remain stationary and secure on a pallet. The drums are either shrink-wrapped or banded when they are prepared for transport out of the container storage area. Containers of hazardous waste will be singled stacked on pallets up to two pallets high, with the exception of 5-gallon pails, which may be stacked up to four high on a single pallet. Dry cleaning wastes in plastic containers of 30-gallons or less may be stacked two high per pallet and up to two pallets high. All double-stacked pallets will be connected to the pallet by stretch wrapping or strapping to insure stability. Movement of waste containers within the permitted container storage units is accomplished by either mechanical (i.e., forklift, pallet jack) or manual (i.e., hand truck, break and roll using bottom chime) means and methods.

The permitted storage volume is 7,120 gallons for CSA No. 1 and 6,540 gallons for CSA No. 2. The maximum number of pallets for waste storage is dictated by permitted capacity, aisle space and stacking height requirements, and does not reflect the typical mix of containers likely to be in storage.

D-1(d) Special Requirements for Incompatible Wastes

Waste solvents stored at the Facility are compatible with each other with respect to reactivity. Any wastes managed as 10-day transfer waste at this Facility that would be incompatible with any of the permitted waste streams will be segregated as specified by Department of Transportation Rules and local fire codes. These types of wastes would be physically separated (i.e., portable berms, containment pallets, etc.) from any other wastes or materials in any of the existing permitted container storage areas. Ignitable wastes are only stored in the Class 1B Flammable Container Storage Area, which is located further than 50 feet from the existing property boundary. Each existing Container Storage Area predates the State of North Carolina hazardous waste regulations and has therefore been waived from the 200 feet setback requirement specified in NCAC 13A .0109(r)(2)(B).

Incompatible wastes or incompatible waste and materials will not be placed in the same container; and hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material.

The following standard Safety-Kleen practices are used as precautions to minimize the potential for waste ignition:

- Employee education and training.
- Using (but not limited to) Class 1, Division 2 motors, conduits, switches, and other electrical equipment in the ignitable container storage areas.
- Using spark-proof tools in the container storage areas where ignitable wastes are handled.
- Posting of “No Smoking” signs.

D-1(e) Air Emission Standards

Refer to Section CC for the requirements for the Air Emission Standards.

D-2 TANK SYSTEMS

This section has been prepared to meet the requirements for 40 CFR 270.16, and 264.191 through 264.194.

D-2(a) Tank System Description

The Tank Farm is located immediately north of the Non-Ignitable Container Storage Area Warehouse. Figure D-5 shows a plan view of the tank farm indicating the location of each tank. All tanks are constructed of carbon steel, in accordance with API and UL

142 standards. The Tank Farm consists of two (2) aboveground storage tanks within a concrete containment structure:

- Tank No. 1 is a 15,000-gallon capacity vertical tank used to store used parts washer solvent and is a RCRA regulated tank.
- Tank No. 3 is a 15,000-gallon capacity vertical tank used to store petroleum products that are compatible with the used parts washer solvent. Former petroleum solvent product Tank No. 2 has been removed.

The dimensions, capacities, and other features of the RCRA regulated tank and its ancillary equipment are illustrated within the drawings presented within Figure D-5 through Figure D-9.

The diked structure serves as secondary containment for the storage tanks and is constructed of reinforced concrete. The interior surface of this structure has been sealed with an epoxy and/or urethane coating to prevent migration of spilled or leaked materials.

The Truck Station located adjacent to the east side of the Tank Farm is used to load product or to unload waste or other bulk liquid material. The Truck Station is sloped to a collection sump that can be used for transferring liquids from the tank farm containment system to either Tank No. 1, or other appropriate tank or container if the collected material is not parts cleaning solvent product or waste.

The RCRA regulated tank, Tank No. 1, is used primarily for the storage of used parts washer solvent but may also be used, as necessary, to hold petroleum contaminated storm water collected in the secondary containment system resulting from a leak or spill

of the materials (i.e., petroleum solvent) managed in the Tank Farm. The effect of any collected petroleum contaminated storm water on this tank would be insignificant. Figure D-6 is a schematic of Tank No. 1 that shows dimensions of the tank and other features. This tank is vertical with a flat bottom and slight cone roof. Tank dimensions are 23'-3" high and 10'-6" diameter with a total design capacity of 15,000 gallons.

D-2(a)(1) Description of Feed System, Safety Cutoff, Bypass System and Pressure Controls

The transfer system for the hazardous waste storage tank involves manually opening drums of used parts washer solvent and pouring them into the drum washer/dumpster units. Additional information regarding the drum washer/dumpster units is provided in Figure D-10 and Appendix D-1. The solvents are then pumped to Tank No. 1 (see Figure D-7).

Because of the nature of the tank transfer system, safety cutoffs used are through the visual/audible high-level alarm (HLA) system (See Figure D-8), or by manual operation of pumps and valves to shut-off the flow of waste to the tank. Each drum washer/dumpster and waste storage tank is connected to a high-level emergency shut-off device that automatically shuts off the used mineral spirits pumps thus prohibiting additional waste solvents from entering and potentially overflowing the tank. The used solvent storage tank high-level alarm is designed to alert Facility personnel by way of an audible siren. All tanks used to store combustible liquids are also equipped with fusible link emergency valves on the effluent lines, which close automatically when exposed to high heat.

No bypass systems are used or required at the Facility. The roof of Tank No. 1 has a conservation vent that is activated at two (2) ounces of pressure and one (1) ounce of vacuum. A 24" diameter long-bolted man way is located on the fixed roof and serves as an emergency vent that is designed to relieve excessive internal pressure caused by fire

or adverse chemical reaction. The pressure required to lift the long-bolted man way is 2.76 ounces per square inch. Each of the solvent storage tanks operate at ambient temperature. This tank is also equipped with a 24" side man-way located near its base.

Piping and process flow for used parts washer solvent consists of a single aboveground steel pipeline that extends from the drum washer/dumpster units to a pump, then to the 15,000-gallon Tank No. 1 in the Tank Farm (See Figure D-7). This tank is also equipped with a visual level gauge.

D-2(a)(2) Ignitable, Reactive and Incompatible Wastes

No reactive or incompatible wastes are entered into the tank system. Ignitable waste (used solvent) is handled in the drum washer/dumpster units and Tank No. 1 in the Tank Farm. These units are located outside the 50-foot property setback zone for ignitable wastes; however, the installation age of Tank No. 1 predates the State of North Carolina hazardous waste regulations and has therefore been waived from the 200 feet setback requirement specified in NCAC 13A .0109(r)(2)(B).

All tanks at the facility are operated at ambient pressure and temperature. Precautions to protect from any material or condition causing the waste to ignite include the following standard Safety-Kleen practices:

- Employee education and training.
- Using NFPA code motors, conduits, switches, and other electrical equipment in the tank farm area.
- Using spark-proof tools in the tank farm area.
- Grounding all tanks
- Installing a pressure relief system on each tank containing combustible materials that is not open to the atmosphere.
- Posting of "No Smoking" signs.

- Emptying lines prior to welding or other hot work requiring a hot works permit.

D-2(b) Existing Tank System

D-2(b)(1) Assessment of Existing Tank System's Integrity

The following assessments have been performed on the tank system and are included as Appendix D-1 and Appendix D-2, respectively. Only the most recent assessments are included in this application. Previous assessments have been provided to the Department and are maintained in the Facility Operating Record. All recommended repairs specified in the most recent tank system assessments in Appendices D-1 and D-2 were completed in 2004.

- Drum Washer/Dumpster Assessment (January 2004)
- Used Parts Washer Solvent Tank (Tank No. 1) Assessment (January 2004)
- Secondary Containment Structural Integrity Assessment (January 2006)

D-2(c) New Tank Systems

D-2(c)(1) Assessment of New Tank System's Integrity

Currently, there are no new hazardous waste tanks proposed for this facility.

D-2(c)(2) Description of Tank System Installation and Testing Plans and Procedures

There are no new hazardous waste tank systems proposed for installation at this facility; therefore, this section is not applicable.

D-2(c)(3) External Corrosion Protection

There are no new hazardous waste tank systems proposed for installation at this facility; therefore, this section is not applicable.

D-2(c)(4) Record Keeping

There are no new hazardous waste tank systems proposed for installation at this facility; therefore, this section is not applicable.

D-2(d) Containment and Detection of Releases

D-2(d)(1) Design, Construction and Operation of Secondary Containment Systems

The following requirements for secondary containment systems for tanks, pursuant to 40 CFR 264.193, are addressed in the following subsections.

D-2(d)(1)(a) Tank Age Determination

Tank No. 1 (Used Parts Washer Solvent Storage Tank) was fabricated no earlier than July 1985 as documented within the original Independent Engineering Certification, which is maintained in the Facility operating record.

D-2(d)(1)(b) Requirement for Secondary Containment and Leak Detection

The requirements of this section, as specified by 40 CFR 264.193(b), (c), (d), and (e), and 40 CFR 270.16(g), are addressed within both the original Independent Engineering Certification maintained in the Facility operating record and the most recent certification contained in Appendix D-2.

Secondary containment for the tank system is provided. The containment system consists of a reinforced concrete base surrounded by concrete sidewalls. The interior surfaces of these areas have been sealed with a combination of epoxy and urethane based coatings and expansion joint sealants to prevent migration of spilled or leaked materials from the secondary containment areas. The secondary containment sealants offer excellent chemical resistant properties for the types of chemicals and chemical wastes managed in each of the permitted waste storage areas. There are no discharge valves or piping within the diked areas. The containment system has been designed to retain the required volume of material; additional allowance has been made for all additional tank displacement volumes and precipitation from a 24-hour/25-year storm event. Secondary containment calculations for the Tank Farm are shown on Figure D-5.

The storage tanks and its ancillary equipment are inspected each operating day, as described in Section F. The daily visual inspection includes inspecting for leaks along the bottom perimeter of the storage tanks as well as a review of the secondary containment system. Among the items evaluated are the secondary containment base, curbs and sidewalls, sumps, fill lines and overfill alarm equipment, piping, valves, and general tank condition.

D-2(d)(1)(c) Secondary Containment and Leak Detection Requirements for Ancillary Equipment

Secondary containment at the Tank Farm consists of a reinforced concrete base surrounded by concrete walls with the interior surface sealed with an epoxy and urethane coatings to prevent migration of spilled or leaked materials.

All hazardous waste piping at the facility is aboveground and inspected each operating day. All flanges, joints and connections are either welded or are within secondary containment. All pumps are seamless or use magnetic coupling and are inspected each

operating day. No pressurized piping for waste transfer is used at the Facility. Therefore, the demonstration is not necessary for these requirements.

The ancillary equipment at the Facility is all above ground and runs primarily overhead. All ancillary equipment is in contained areas with the exception of a four foot (4') distance between the Non-Ignitable Waste Container Storage Warehouse and the Parts Washer Solvent Tank Farm. Piping in this section consists of welded connections and is visually inspected each operating day. There are no couplings or screw connections in the piping in this area. For further details refer to Section BB.

The secondary containment system for the Tank Farm typically manages accumulated rainwater. The secondary containment is sloped sufficiently so that accumulated liquids are removed via pump from the northeast corner of the containment area. Accumulated rainwater is discharged from the containment system as storm water after. Any spilled petroleum related materials/wastes would also be removed by pump and containerized for management as facility-generated waste. Additionally, all liquids are to be pumped from the secondary containment system within 24 hours of accumulation.

Calculations to demonstrate that the system has sufficient strength to prevent failure, and that the secondary containment system is placed on a base sufficient to provide support can be found in Appendix D-2 and Figure D-5.

D-2(d)(2) Requirement for External Liner, Vault, Double-Walled Tank, or Equivalent Device

Refer to Section D-2(d)(1)(b).

D-2(d)(3) Secondary Containment and Leak Detection Requirements for Ancillary Equipment

Refer to Section D-2(d)(1)(c).

D-2(d)(4) Requirements for Tank Systems Until Secondary Containment is Implemented

No underground storage tanks are present at the site and all aboveground tanks have adequate secondary containment; therefore, this section is not applicable.

D-2(d)(5) Variance from Secondary Containment Requirements

No variance is requested.

D-2(e) Controls and Practices to Prevent Spills and Overfills

As noted in this permit application and Appendix D-2, procedures and systems are in place at the Facility in order to prevent and detect tank system ruptures, leaks, corrosion or other failures caused by the hazardous wastes placed in the system.

Controls and practices used to prevent spills and overflows include the following:

- Both check valves and dry disconnect couplings are provided for the tanks in the Tank Farm.
- A high-level alarm system is provided for tanks in the Tank Farm.
- A liquid level detection probe is provided above the interior base of the tank farm containment system and is monitored 24/7 by an off-site central monitoring service to detect a catastrophic release from one or more of storage tanks.

Detailed schedules and procedures for inspecting overfill controls, ancillary equipment, aboveground portions of the tank systems, construction materials and the area immediately surrounding the entire tank system are presented in Section F-2 of this permit application.

D-3 WASTE PILES

Safety-Kleen is not seeking a permit for waste piles.

D-4 SURFACE IMPOUNDMENTS

Safety-Kleen is not seeking a permit for surface impoundments.

D-5 INCINERATORS

Safety-Kleen is not seeking a permit for incinerators.

D-6 LANDFILLS

Safety-Kleen is not seeking a permit for landfills.

D-7 LAND TREATMENT

Safety-Kleen is not seeking a permit for land treatment.

D-8 MISCELLANEOUS UNITS

D-8(a) Description of Miscellaneous Units

The drum washer/dumpster units at the Facility are managed under the Subpart X – Miscellaneous Units Standards of 40 CFR Part 264.600 as incorporated by reference at NCAC 15A.0109. These units are located, designed, constructed, operated and maintained in a manner to protect human health and the environment. Each unit is located within an area provided with secondary containment, as described in Section D-1(c), to prevent any potential releases from migrating to the surrounding subsurface or groundwater. Safety-Kleen has performed emissions monitoring of these specific units as well as similar units at other Safety-Kleen facilities and this data has shown that VOC emission levels are below the 10,000 ppmw leak detection threshold.

The drum washer/wet dumpster units are designed to allow employees to manually empty drums, or other like containers, of used parts washer solvent (petroleum naphtha based mineral spirits and some aqueous based parts cleaners) into the drum washer/dumpster units, rinse the drums via an internal spray system with used solvent pumped from the drum washer/dumpster unit, so that the drums can be filled with clean recycled or virgin parts cleaning solvent product. As designed and utilized, these units are simply a device used to effectively convey the contents of a used solvent drum to the on-site storage tank. The drum washer/dumpster units are not designed or intended to treat or store an accumulation of hazardous waste. These units operate at ambient pressure and temperature. From these units, the used solvent is transferred to the RCRA permitted aboveground storage tank located in the Tank Farm. Refer to Figure D-2 for the dimensions and calculations of the secondary containment system for these units.

Once again, the drum washer/dumpster units are designed to rinse solvent containers in preparation for filling with clean solvent for further parts washer services. When not actively being used to receive solvent or wash drums, the units will be maintained in a closed position. The internal sumps will be emptied at the end of each day's operating shift. Refer to Figure D-10 for additional design information.

These units will be inspected for leaks or malfunctioning each operating day in accordance with the inspection procedures outlined in Section F of the permit application.

If a leak is detected from the actual drum washer/dumpster units, the defect will be repaired no later than 45 days from the date of the detection, unless the standards associated with delay of repair [40 CFR 264.1084(k)(2)] apply. First attempts to repair the equipment will occur within 5 days after leak confirmation. Additional information concerning procedures for the inspection and detection of leaks from the equipment associated with the drum washer/dumpster units can be found in Section F of this application.

D-8(b) Miscellaneous Unit Wastes

The physical properties and chemical characteristics of the used parts washer solvent transferred through these units can be found in the Waste Analysis Plan located in Section C of the permit application.

D-8(c) Environmental Performance Standards for Miscellaneous Units

The drum washer/dumpster units operated by the Safety-Kleen branches are not equipped with active emission controls systems. As part of the company's overall emission inventory and assessment program, emission sources at the branch facilities, including the drum washer/dumpster units have been evaluated to determine whether the facilities should be considered sources requiring air permits. Based on this evaluation they should be considered minor sources and not require emissions control permits. The reasons for the low emission levels are fourfold. First, the solvent managed at the Facility, especially in those area of maximum potential emission (i.e., the

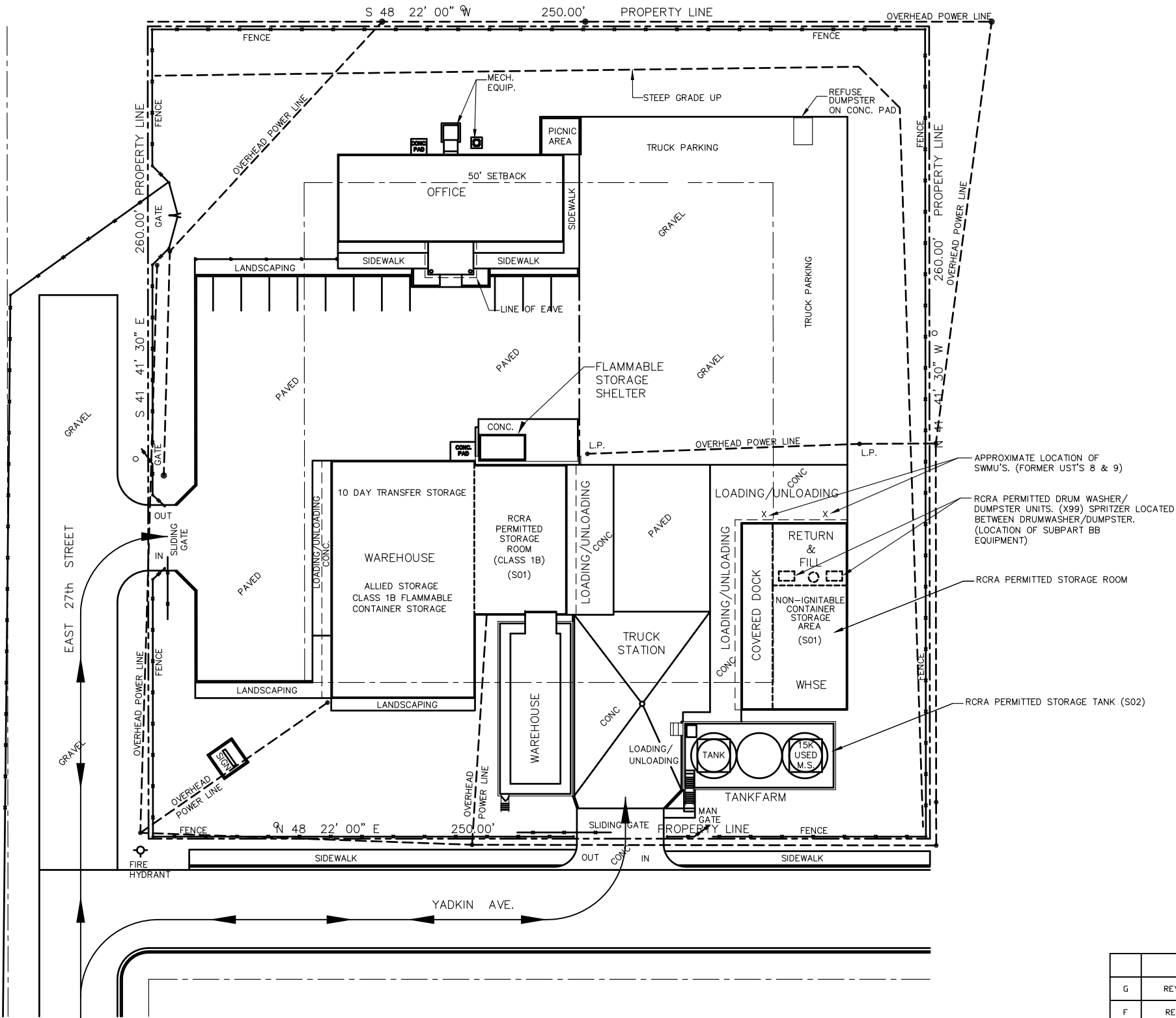
drum washer/dumpsters and the bulk storage tanks, has a relatively low vapor pressure of 0.2mm Hg at 68^o F or 0.6mm Hg at 100^o F. Secondly, the drum washer/dumpster units are operated in such a manner as to minimize the potential for emissions to the greatest extent practicable during unloading of the waste solvent into the unit. Third, the volume of waste solvent present in the drum washer/dumpster unit between unloading operations, approximately 2 gallons, is minimized and the lids of the units remain closed when used solvent is not being added or when empty drums are not being rinsed. Finally, containers are filled with clean solvent using a wand that extends to the bottom of the container. This minimizes any splashing that occurs during the filling operation.

Safety-Kleen has conducted Industrial Hygiene Hazard Assessments of the emissions produced by the operation of the drum washer/dumpsters and other sources located at the typical branch facility. These assessments were conducted for a number of reasons. The most important is to determine the presence of any unacceptable work place exposures regarding the protection of company employees who work directly over the process area as containers are being emptied into the drum washer/dumpster units, and subsequently washed and refilled with clean solvent product. Based on Industrial Hygiene studies performed at the various Safety-Kleen branch facilities, results do not indicate any unacceptable work place exposure. As would be expected, solvents and related compounds have been detected during sampling events but in concentrations well below American Conference of Governmental Industrial Hygienist (ACGIH) threshold limit values (TLV) and the Occupational Safety and Health Administration's (OSHA) Permissible Exposure Limits (PEL) for the various chemical compounds encountered. A sample of the data collected by the company's Certified Industrial Hygienist as well as a summary of personal protective equipment (PPE) hazard assessment for this operation is included in Appendix D-4. All employee names have been redacted from the data but the results are representative of normal working conditions at each of the North Carolina Safety-Kleen Facilities. Please note that there are both individual and area samples represented in the attached results.

Based on the above information there would not be any tangible environmental benefit to adding pollution controls to the drum washer/dumpster units. In addition, developing pollution controls would be very difficult since processing containers of used parts washing solvent requires that the lids to the drum washer/dumpster units remain open during active operation and are located over an open grated working surface provided with a concrete secondary containment system. It should be noted that the drum washer/dumpster units are drained and closed during those times of the operating day when no trucks are delivering used parts washer solvent to be processed. Also at the end of the operating day, which typically consists of 2.5 to 4 hours of processing, the drum washer/dumpster units are emptied, cleaned, closed and prepared for the next day's operation. These procedures provide an additional amount of risk reduction.

FIGURE D-1

SITE PLAN



LEGEND	
	TRAFFIC FLOW
	PROPERTY LINE

- GENERAL NOTES**
- NON-PERMITTED AREAS MAY CHANGE
 - CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions Companies

2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181

NO.	DESCRIPTION	BY	CHK	APPR	DATE
G	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
F	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		030912
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
D	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	110796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART "B" PERMIT	MBH	KJM	-	070292

SITE PLAN EXISTING

SAFETY-KLEEN SYSTEMS, INC.
 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
 PHONE 800-669-5740

SCALE 1"=20'-0"
 BY MBH CHKD KJM
 APPR - OP. APPR - DATE 06-03-92

SERVICE CENTER LOCATION CHARLOTTE, NC
 SC-DWG NUMBER 7055-SPOO-001
 REV. NO. G

FIGURE D-2

EXAMPLE CONTAINER LABEL

ENTER D.O.T. DESCRIPTION HERE
(MUST INCLUDE:
PROPER D.O.T. SHIPPING NAME,
HAZARD CLASSIFICATION,
UN, NA, OR ORM- IDENTIFICATION NUMBER)

PROPER D.O.T. SHIPPING NAME

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.
IN EVENT OF EMERGENCY CALL SAFETY-KLEEN CORP.

GENERATOR INFORMATION:

ACCOUNT NO.
NAME
ADDRESS
ADDRESS
CITY/STATE
USA EPA
ID. NO.

STATE EPA
ID. NO.

ACCUMULATION
START DATE _____

MANIFEST
DOCUMENT NO: _____

TRANSFER
START DATE _____

TSDf
STORAGE DATE _____

ENTER GENERATOR (CUSTOMER)
INFORMATION

ENTER GENERATOR (CUSTOMER)
EPA ID. NUMBER

ENTER GENERATOR (CUSTOMER)
DATE OF WASTE GENERATION

ENTER DATE OF PICKUP
IF WASTE IS NOT TERMINATED
AT BRANCH. (COMPLETE ONLY
IF 10 DAY TRANSFER WASTE)

ENTER EPA
WASTE NUMBER

ENTER MANIFEST
DOCUMENT NUMBER

ENTER DATE RECIEVED
INTO STORAGE AT
BRANCH (N/A TO
TRANSFER WASTE)

SK 1224 (12-92)

CONTAINER NO.	USE LABEL BY
---------------	--------------

INSTRUCTIONS FOR COMPLETING A BLANK HAZARDOUS WASTE DRUM LABEL OR TAG

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

TITLE
HAZARDOUS WASTE LABEL

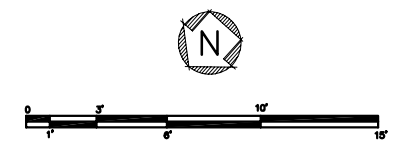
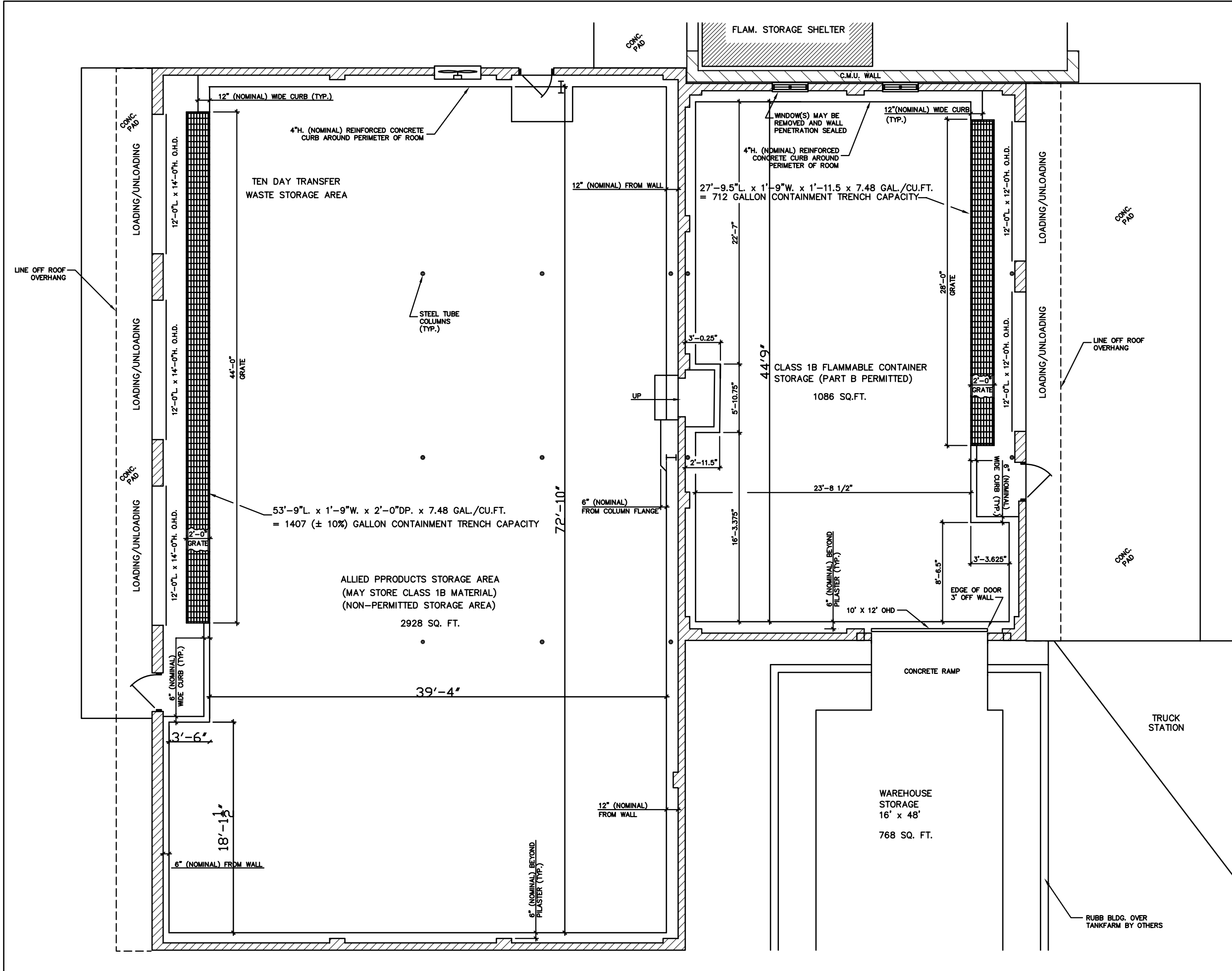
S SAFETY-KLEEN SYSTEMS, INC.
5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-669-5740

SCALE NONE	BY JEK	CHKD TB	APPR -	OP. APPR -	DATE 1/14/04
SERVICE CENTER LOCATION CHARLOTTE, NC	SC-DWG NUMBER 7055-9000-000	REV. NO.			

NO.	DESCRIPTION	BY	CHK	APPR	DATE

FIGURE D-3

**CLASS 1B FLAMMABLE CONTAINER
STORAGE BUILDING**



GENERAL NOTES

- NON-PERMITTED AREAS MAY CHANGE.
- ACTUAL CONSTRUCTION MAY VARY DUE TO ACTUAL SITE CONDITIONS.
- CHARLOTTE, NC BRANCH FACILITY US E.P.A. No. NCD079060059
- REMOVE EPOXY COATING ON CONCRETE IN TANKFARM BETWEEN CONTAINMENT WALL AND RAISED PAD. INSTALL 4,000 PSI CONCRETE W/FIBER MESH IN THIS AREA, FLUSH WITH RAISED PAD. INTALL 10" WIDE CONCRETE TRANSITION RAMP BETWEEN TANKFARM AND WAREHOUSE.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISED FOR PART B PERMIT RENEVAL	JEK	TB		012006
C	REVISE FOR D4 SUB-PART BB	JEK	TB		13104
B	REVISED FOR DOOR INSTALL.	JEK	KJM		111003
A	RELEASED FOR PART "B"	MBH	KJM		070292

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions
Companies

1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

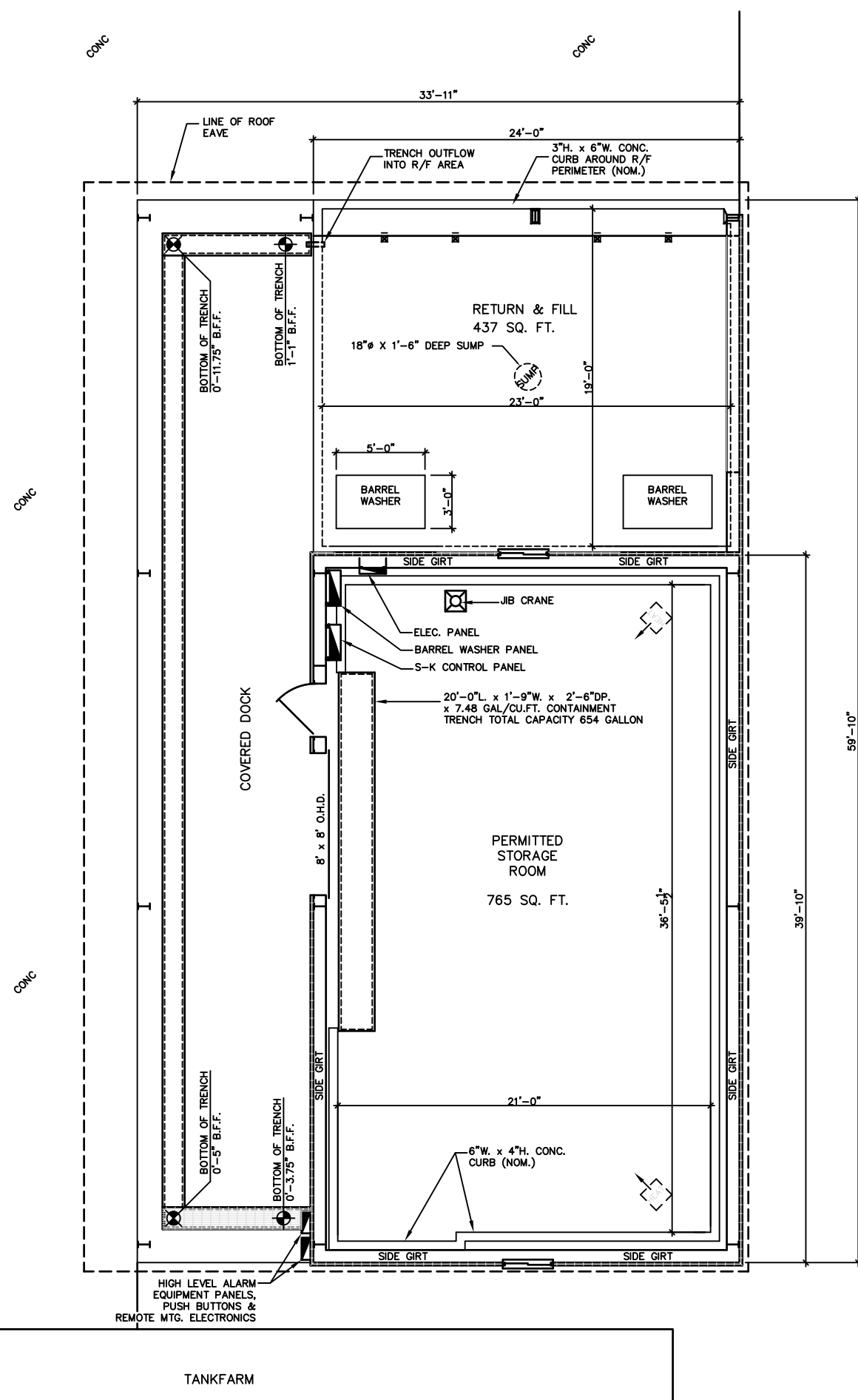
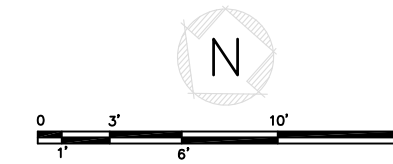
TITLE
CLASS 1B FLAMMABLE CONTAINER STORAGE WAREHOUSE

SAFETY-KLEEN SYSTEMS, INC.
5400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX. 75024 800-669-5740

SCALE	BY	CHKD	APPR	OP. APPR	DATE
1/4" = 1'-0"	MBH	KJM	-	-	06-22-92
SERVICE CENTER LOCATION	SC-DWG NUMBER		REV. NO.		
CHARLOTTE, NC	7055-WB00-600		C		

FIGURE D-4

NON-IGNITABLE WASTE CONTAINER STORAGE BUILDING



CONTAINMENT CALCULATIONS FOR RETURN/FILL AREA
 FORMULA USED (L) (W) (H) (7.48 GAL/CF)

23'-0" X 19'-0" X 3" X 7.48 GAL/CF = +817.19 GALLONS
 VOLUME OF SUMP
 FORMULA USED (R) (H) (7.48 GAL/CF)
 3.142 X 81 SQ. IN. X 1'-6" X 7.48 X .00058 = +19.87 GALLONS
 DISPLACEMENT OF DRUM WASHERS/DUMPSTERS
 FORMULA USED (L) (W) (H) (7.48 GAL/CF)
 5'-0" X 3'-0" X 3" X 7.48 GAL/CF X 2 = -56.10 GALLONS
 DISPLACEMENT OF COLUMNS -2.0 GALLONS
 TOTAL CONTAINMENT +779.96 GALLONS

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
 • Phone: (573) 443-7100 • Fax: (573) 443-7181 •

TITLE
**RETURN & FILL
 CONTAINMENT CALCULATIONS**



5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-889-5740
 SCALE 1/4" = 1'-0"
 APPROVED BY MBH
 OPERATIONS -
 DATE 02-03-93
 SERVICE CENTER LOCATION CHARLOTTE, NC
 SC-DWG NUMBER 7055-WB00-201
 REV. NO. B

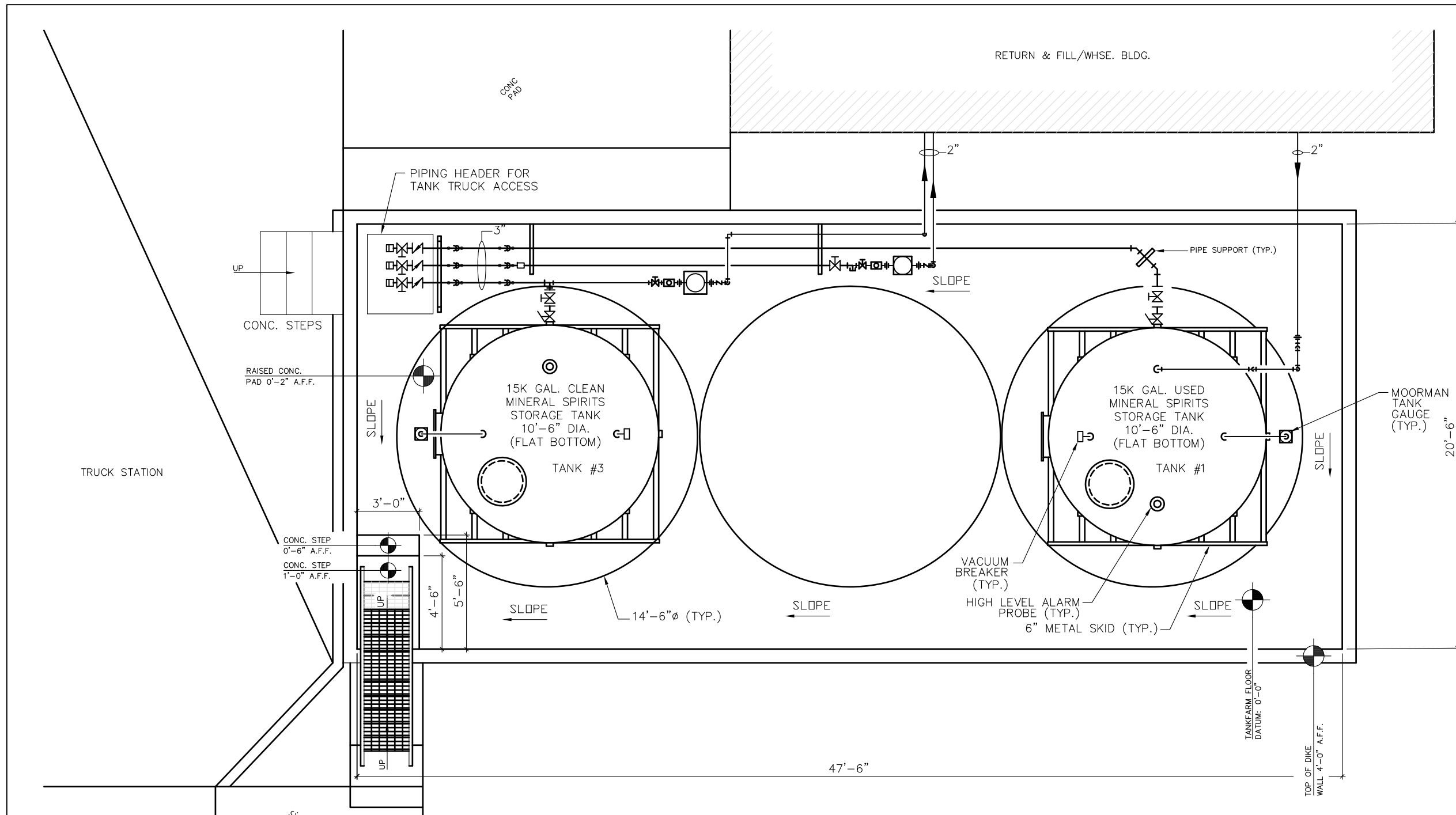
NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISE FOR PART B PERMIT RENEWAL	JEK	TB	TB	012006
A	NEW RELEASE	MBH	KJM	-	020393
REVISIONS					

HIGH LEVEL ALARM
 EQUIPMENT PANELS,
 PUSH BUTTONS &
 REMOTE MTG. ELECTRONICS

TANKFARM

FIGURE D-5

MINERAL SPIRITS TANK FARM



- ### GENERAL NOTES
- NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE
 - ACTUAL PIPING CONFIGURATION MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.
 - CHARLOTTE, NC BRANCH FACILITY US E.P.A. No. NCD079060059
 - ALL PIPE CONNECTIONS SHALL BE WELDED

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions Companies

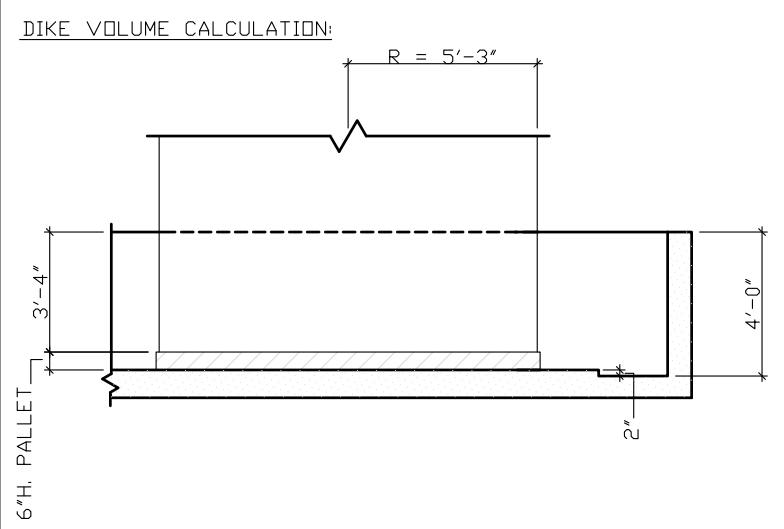
2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
G	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB		031114
F	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		030912
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		042711
D	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
C	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
B	RELEASED FOR PERMIT MOD.	MBH	KJM	SC/DP	022395
A	RELEASED FOR PART "B"	MBH	KJM		070192

TITLE
MINERAL SPIRITS TANKFARM PLAN – EXISTING

SAFETY-KLEEN SYSTEMS, INC.
 5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-669-5740

SCALE 3/8" = 1'-0"	BY MBH	CHKD KJM	APPR -	OP. APPR -	DATE 061792
SERVICE CENTER LOCATION CHARLOTTE, NC			SC-DWG NUMBER 7055-4100-300		REV. NO. G



VOLUMN OF DIKE:
 $[(47'-6" L.) (20'-6" W.) (4'-0" H.)] (7.48 \text{ GAL/CUFT.}) = 29134 \text{ GAL (+)}$

VOLUME OF RAISED PAD (3 PADS)
 $3 [\pi (7'-3" R^2) (0'-2" H.)] (7.48 \text{ GAL/CUFT.}) = 618 \text{ GAL. (-)}$

VOLUME OF CONC. STEPS PLATFORM
 $[(5'-6" L.) (3'-0" H.) (0'-6" H.) + (4'-6" L.) (3'-0" H.) (0'-6" H.)] (7.48 \text{ GAL/CUFT.}) = 163 \text{ GAL. (-)}$

TANK DISPLACEMENT VOLUME (2 TANKS):
 $2 [\pi (5'-3" R^2) (3'-4" H.)] (7.48 \text{ GAL/CUFT.}) = 4739 \text{ GAL. (-)}$

25HR/24HR RAINFALL @ 6.5"
 $[(47'-6" L.) (20'-6" W.) (0'-6.5" H.)] (7.48 \text{ GAL/CUFT.}) = 3945 \text{ GAL (-)}$

LARGEST TANK VOLUME
 = 15000 GAL (-)

TOTAL EXCESS
 = 4669 GAL (+)

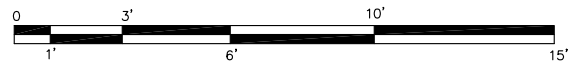
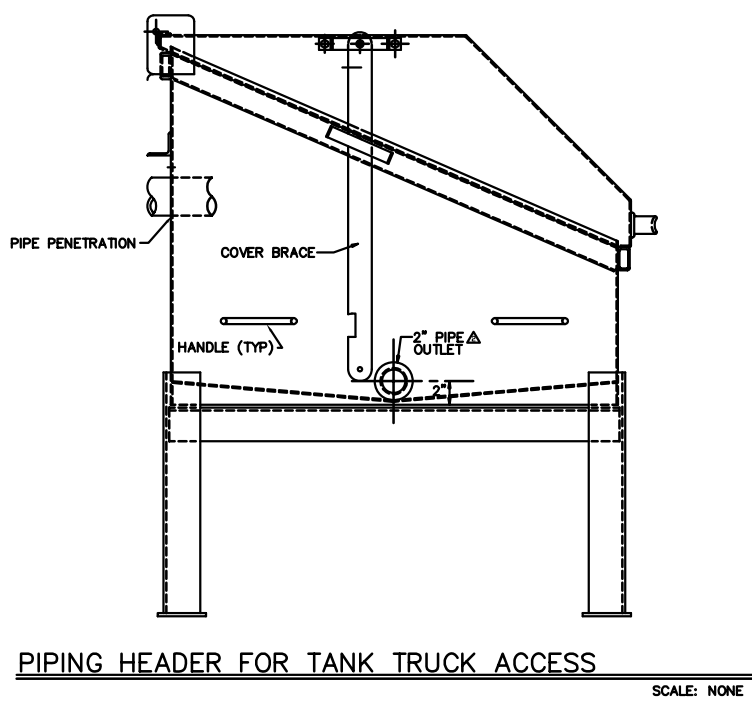
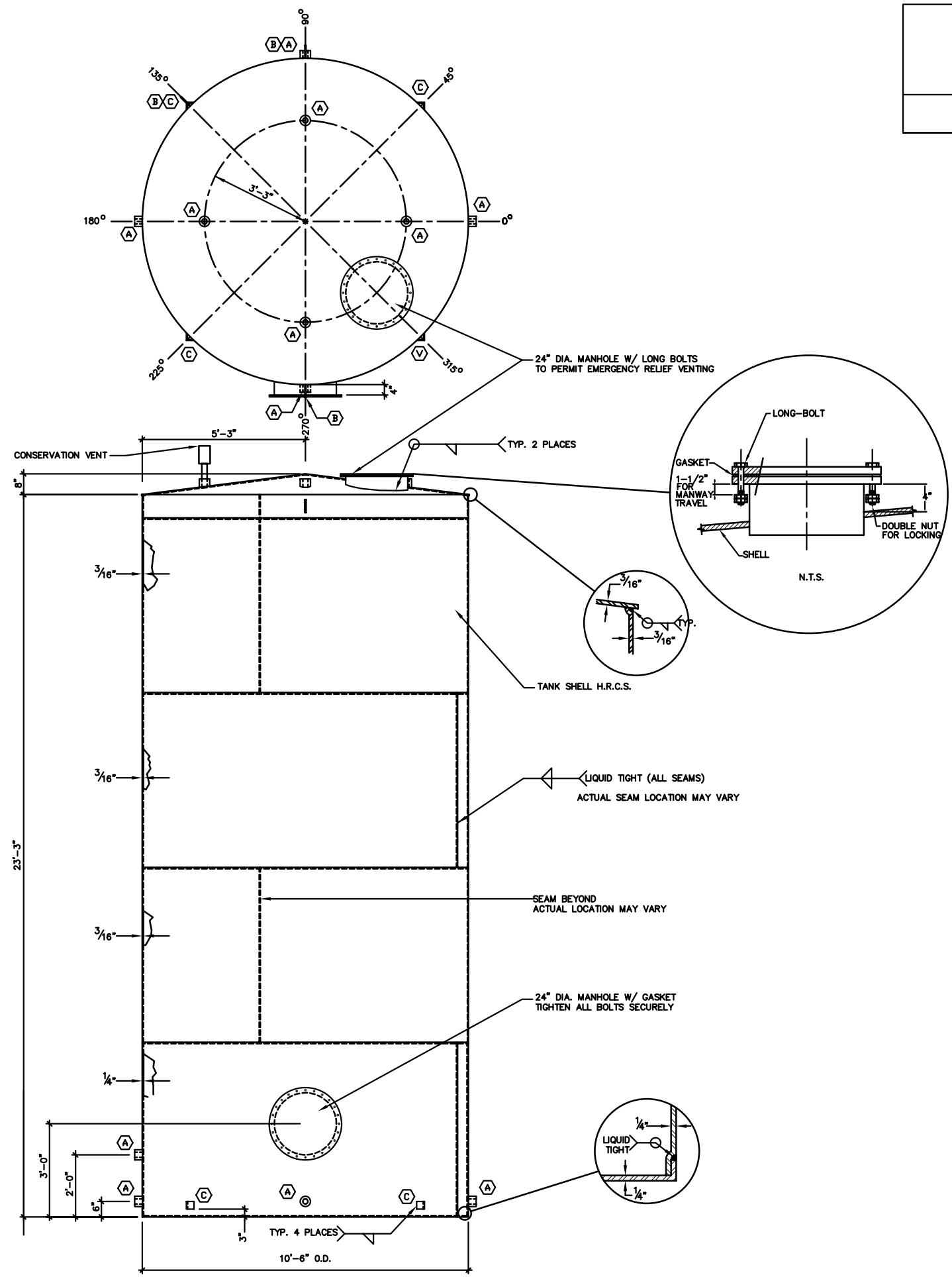


FIGURE D-6

TANK DETAILS

Size (inches)	I.D. Neck Opening	O.D. Manway	Manway Area	Bolt Hole Area (sf)	Total Manway Area Less Bolt Holes (sf)
24"	24"	28.5	4.43	7.4	4.38
Size (inches)	Pressure Surface Area (sf)	Steel Thickness (inches) **	Manway Weight (lbs)	(oz/sin) Lifting Pressure	Inches Water Column Lifting Pressure
24"	3.14	7/16	78.18	2.76	4.78



- ### GENERAL NOTES
- TANK TO BE RAISED ON 6" H. STEEL PALLET.
 - ACTUAL TANK FABRICATION DETAILS MAY VARY DUE TO CONSTRUCTION, MAINTENANCE AND OR UPKEEP OF FACILITY
 - RALEIGH, NC BRANCH FACILITY US E.P.A. No. NCD000776740
 - PRESSURE/VACUUM VENT SETTING IS 2 OZ. PER SQ. IN. PRESSURE, AND 1 OZ. PER SQ. IN. VACUUM AT AMBIENT TEMP.

TANK LEGEND

MARK	QTY.	SIZE	DESCRIPTION
A	9	4"	FULL COUPLING
B	2	-	LIFT LUG
C	4	-	3" x 3" x 3/8" x 3" LONG

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions
Companies

1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISED FOR PART B PERMIT RENEWAL	JEK	TB	-	012006
B	REVISED FOR PART B PERMIT RENEWAL	JEK	TB	-	13004
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM	-	110492

TITLE
15K GAL. 10'-6" DIA. VERT. FLAT BOTTOM TANK FAB. DETAILS - EXIST. (FOR WASTE M.S.)

SAFETY-KLEEN SYSTEMS, INC.
5400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX. 75024 800-989-5740

SCALE	BY	CHKD	APPR	OP.	DATE
1/2" = 1'-0"	MBH	KJM	-	-	10-29-92

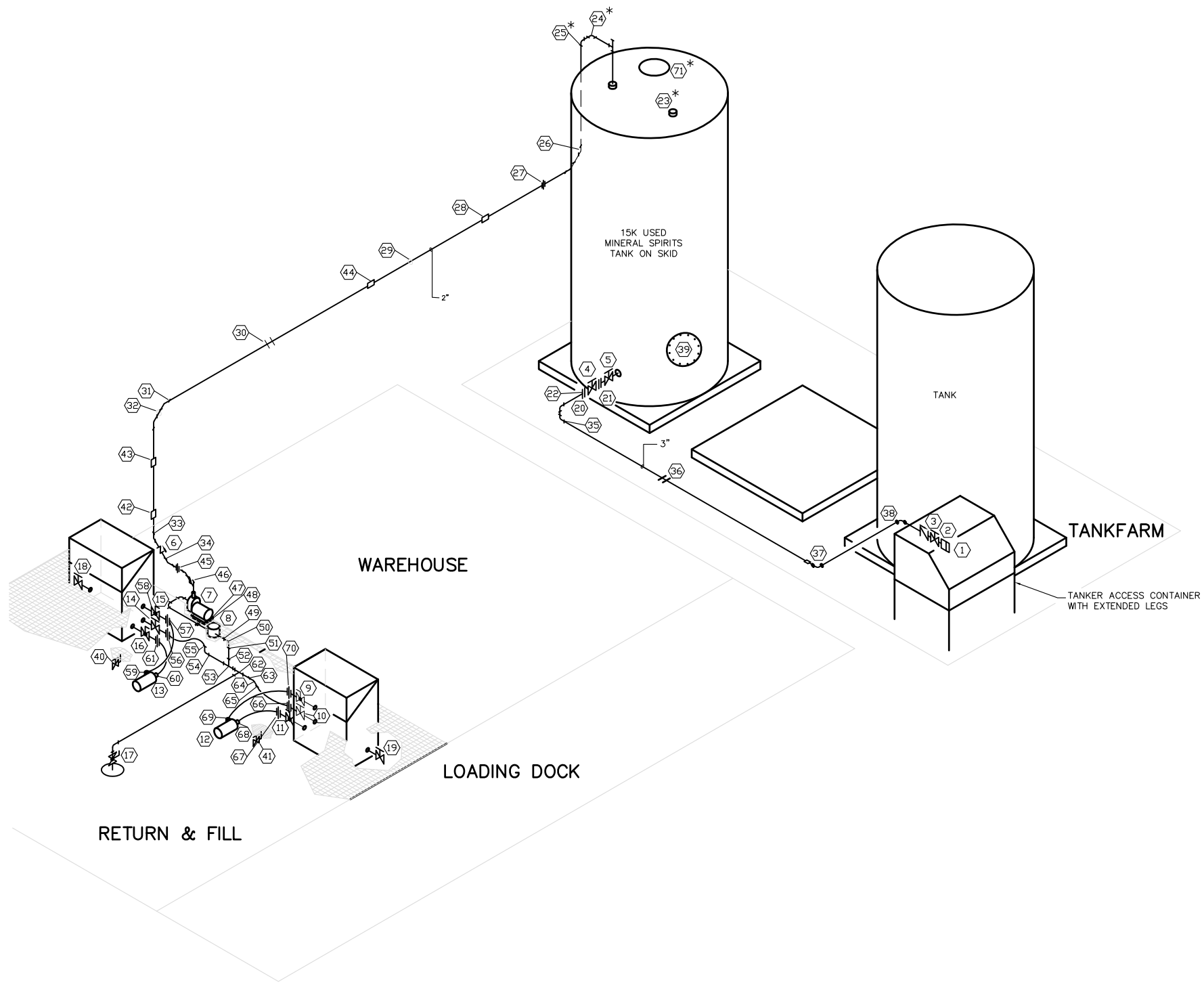
SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.
CHARLOTTE, NC	7055-4100-299	C

FIGURE D-7

PIPING ISOMETRIC

USED MINERAL SPIRITS EQUIPMENT SCHEDULE

MARK	DESCRIPTION
①	3" CAM LOCK
②	3" GATE VALVE
③	3" CHECK VALVE
④	3" FLANGED GATE VALVE
⑤	3" INTERNAL EMERGENCY GATE VALVE
⑥	2" CHECK VALVE
⑦	USED SOLVENT PUMP
⑧	STRAINER ASSY.
⑨	1 1/2" BALL VALVE
⑩	2" BALL VALVE
⑪	1 1/2" BALL VALVE
⑫	RECIRCULATING PUMP
⑬	RECIRCULATING PUMP
⑭	2" GATE VALVE
⑮	1 1/2" BALL VALVE
⑯	1 1/2" BALL VALVE
⑰	2" BALL VALVE
⑱	2" GATE VALVE
⑲	2" GATE VALVE
⑳	3" ELBOW SCREW CONNECTION
㉑	3" FLAT-FACED FLANGE
㉒	3" FLAT-FACED FLANGE
㉓	CONSERVATION VENT * DIFFICULT TO MONITOR
㉔	ELBOW SCREW CONNECTION * DIFFICULT TO MONITOR
㉕	ELBOW SCREW CONNECTION * DIFFICULT TO MONITOR
㉖	SCREW CONNECTION
㉗	ELBOW SCREW CONNECTION
㉘	ELBOW SCREW CONNECTION
㉙	SCREW CONNECTION
㉚	SCREW CONNECTION
㉛	ELBOW SCREW CONNECTION
㉜	ELBOW SCREW CONNECTION
㉝	ELBOW SCREW CONNECTION
㉞	ELBOW SCREW CONNECTION
㉟	ELBOW SCREW CONNECTION
㊱	ELBOW SCREW CONNECTION
㊲	ELBOW SCREW CONNECTION
㊳	ELBOW SCREW CONNECTION
㊴	SCREW CONNECTION
㊵	ELBOW SCREW CONNECTION
㊶	SCREW CONNECTION
㊷	ELBOW
㊸	ELBOW
㊹	MANWAY COVER & FLANGE
㊺	BALL VALVE
㊻	BALL VALVE
㊼	SCREW CONNECTION
㊽	SCREW CONNECTION
㊾	SCREW CONNECTION
㊿	SCREW CONNECTION
1	T-SCREW CONNECTION
2	SCREW CONNECTION
3	SCREW CONNECTION
4	SCREW CONNECTION
5	SCREW CONNECTION
6	SCREW CONNECTION
7	SCREW CONNECTION
8	SCREW CONNECTION
9	SCREW CONNECTION
10	SCREW CONNECTION
11	SCREW CONNECTION
12	SCREW CONNECTION
13	SCREW CONNECTION
14	SCREW CONNECTION
15	SCREW CONNECTION
16	SCREW CONNECTION
17	SCREW CONNECTION
18	SCREW CONNECTION
19	SCREW CONNECTION
20	SCREW CONNECTION
21	SCREW CONNECTION
22	SCREW CONNECTION
23	SCREW CONNECTION
24	SCREW CONNECTION
25	SCREW CONNECTION
26	SCREW CONNECTION
27	SCREW CONNECTION
28	SCREW CONNECTION
29	SCREW CONNECTION
30	SCREW CONNECTION
31	SCREW CONNECTION
32	SCREW CONNECTION
33	SCREW CONNECTION
34	SCREW CONNECTION
35	SCREW CONNECTION
36	SCREW CONNECTION
37	SCREW CONNECTION
38	SCREW CONNECTION
39	SCREW CONNECTION
40	SCREW CONNECTION
41	SCREW CONNECTION
42	SCREW CONNECTION
43	SCREW CONNECTION
44	SCREW CONNECTION
45	SCREW CONNECTION
46	SCREW CONNECTION
47	SCREW CONNECTION
48	SCREW CONNECTION
49	SCREW CONNECTION
50	SCREW CONNECTION
51	SCREW CONNECTION
52	SCREW CONNECTION
53	T-SCREW CONNECTION
54	ELBOW SCREW CONNECTION
55	CAMLOCK CONNECTION
56	CAMLOCK CONNECTION
57	ELBOW SCREW CONNECTION
58	SCREW CONNECTION
59	SCREW CONNECTION
60	SCREW CONNECTION
61	SCREW CONNECTION
62	T-SCREW CONNECTION
63	ELBOW SCREW CONNECTION
64	ELBOW SCREW CONNECTION
65	CAMLOCK CONNECTION
66	CAMLOCK CONNECTION
67	SCREW CONNECTION
68	SCREW CONNECTION
69	ELBOW SCREW CONNECTION
70	SCREW CONNECTION
71	MANWAY COVER & FLANGE * DIFFICULT TO MONITOR



* DIFFICULT TO MONITOR	
⑤④	ELBOW SCREW CONNECTION
⑤⑤	CAMLOCK CONNECTION
⑤⑥	CAMLOCK CONNECTION
⑤⑦	ELBOW SCREW CONNECTION
⑤⑧	SCREW CONNECTION
⑤⑨	SCREW CONNECTION
⑥⑩	SCREW CONNECTION
⑥⑪	SCREW CONNECTION
⑥⑫	T-SCREW CONNECTION
⑥⑬	ELBOW SCREW CONNECTION
⑥⑭	ELBOW SCREW CONNECTION
⑥⑮	CAMLOCK CONNECTION
⑥⑯	CAMLOCK CONNECTION
⑥⑰	SCREW CONNECTION
⑥⑱	SCREW CONNECTION
⑥⑲	ELBOW SCREW CONNECTION
⑥⑳	ELBOW SCREW CONNECTION
⑥㉑	SCREW CONNECTION
⑥㉒	SCREW CONNECTION
⑥㉓	SCREW CONNECTION
⑥㉔	SCREW CONNECTION
⑥㉕	SCREW CONNECTION
⑥㉖	SCREW CONNECTION
⑥㉗	SCREW CONNECTION
⑥㉘	SCREW CONNECTION
⑥㉙	SCREW CONNECTION
⑥㉚	SCREW CONNECTION
⑥㉛	SCREW CONNECTION
⑥㉜	SCREW CONNECTION
⑥㉝	SCREW CONNECTION
⑥㉞	SCREW CONNECTION
⑥㉟	SCREW CONNECTION
⑥㊱	SCREW CONNECTION
⑥㊲	SCREW CONNECTION
⑥㊳	SCREW CONNECTION
⑥㊴	SCREW CONNECTION
⑥㊵	SCREW CONNECTION
⑥㊶	SCREW CONNECTION
⑥㊷	SCREW CONNECTION
⑥㊸	SCREW CONNECTION
⑥㊹	SCREW CONNECTION
⑥㊺	SCREW CONNECTION
⑥㊻	SCREW CONNECTION
⑥㊼	SCREW CONNECTION
⑥㊽	SCREW CONNECTION
⑥㊾	SCREW CONNECTION
⑥㊿	SCREW CONNECTION
①	MANWAY COVER & FLANGE * DIFFICULT TO MONITOR

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB		031114
C	UPDATE DWG. TO SHOW MANWAY	JEK	TB		080906
B	REVISED FOR PART B PERMIT RENEWAL	JEK	TB		012006
A	REVISED FOR PART B PERMIT RENEWAL	JEK	TB		13004
REVISIONS					

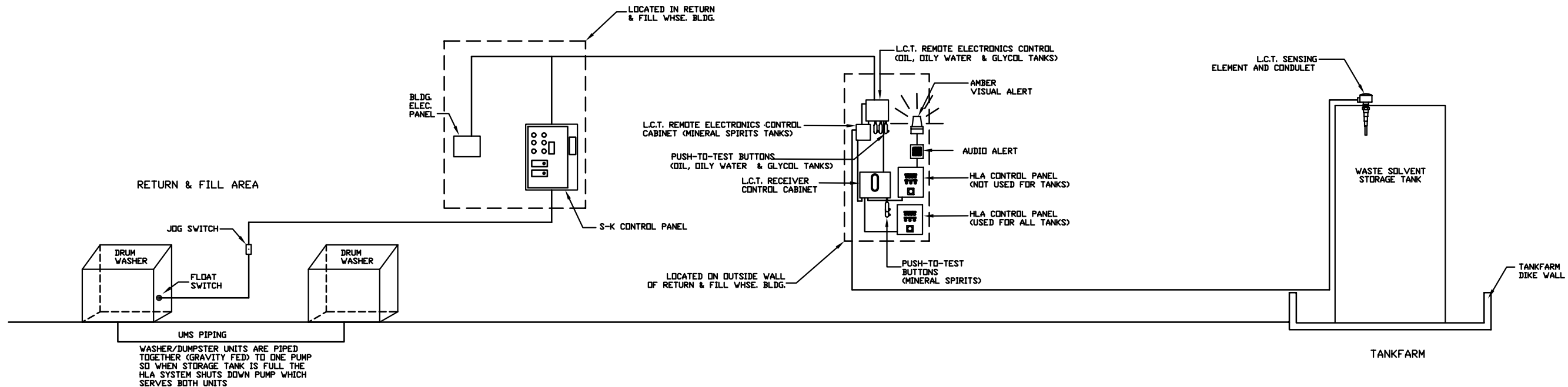
TITLE					
ENVIRONMENTAL PIPING ISOMETRIC					
SAFETY-KLEEN SYSTEMS, INC.					
5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-669-5740					
SCALE	BY	CHKD	APPR	OP. APPR	DATE
NONE	JEK	-	-	-	4-28-03
SERVICE CENTER LOCATION			SC-DWG NUMBER	REV. NO.	
CHARLOTTE, N.C.			7055-4100-303	D	

Project Solutions Companies

1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
 • Phone: (573) 443-7100 • Fax: (573) 443-7181 •

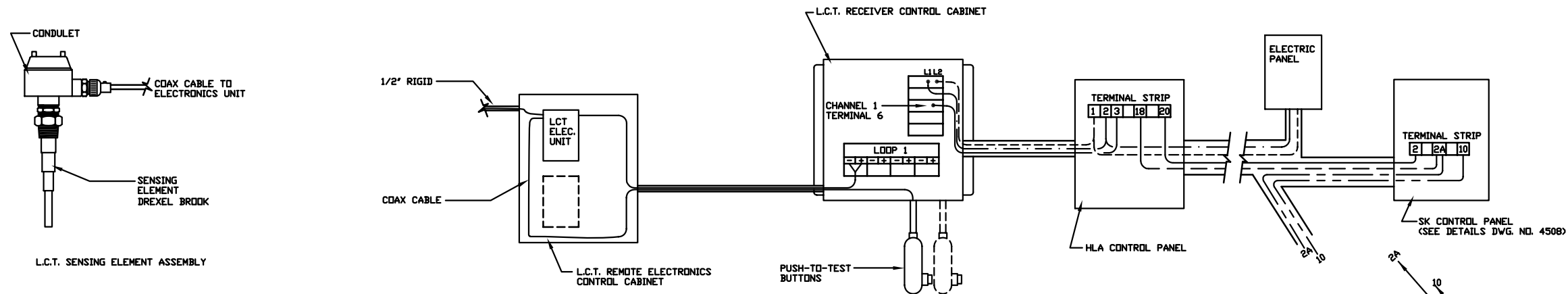
FIGURE D-8

HIGH LEVEL ALARM SYSTEM



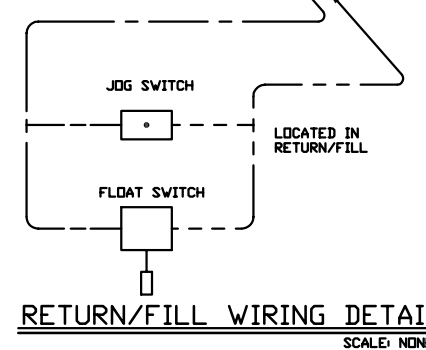
HIGH LEVEL ALARM SYSTEM DIAGRAM

SCALE: NONE



SCHEMATIC TANK HLA SYSTEM CONTROL WIRING LAYOUT

SCALE: NONE



RETURN/FILL WIRING DETAIL

SCALE: NONE

GENERAL NOTES

1. ACTUAL WIRING CONFIGURATION MAY CHANGE DUE TO MAINTENANCE/ UPKEEP OF FACILITY
2. CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
 • Phone: (573) 443-7100 • Fax: (573) 443-7181 •

TITLE
WASTE SOLVENT HLA SYSTEM DIAGRAM - EXISTING

SAFETY-KLEEN SYSTEMS, INC.

5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-669-5740

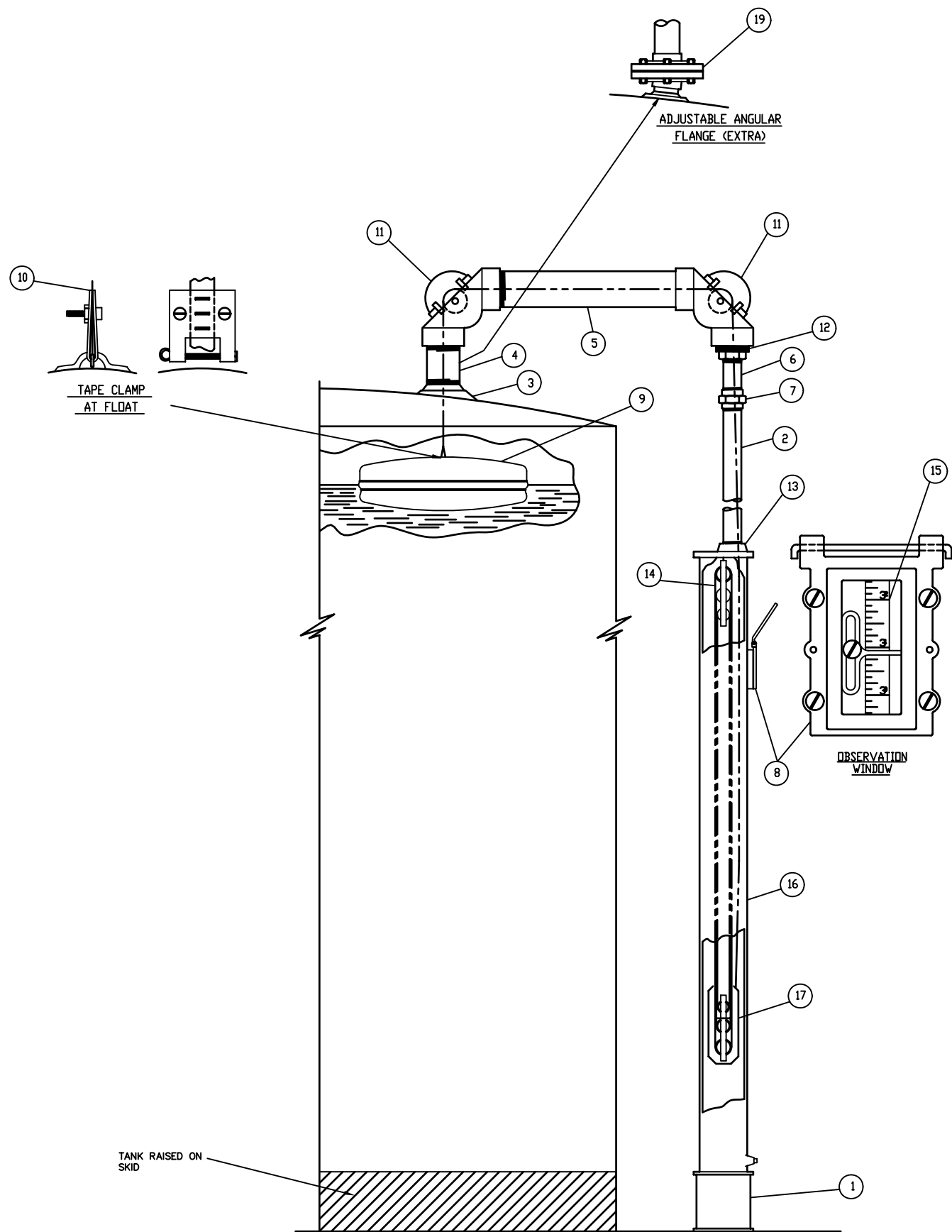
SCALE AS SHOWN	BY MBH	CHKD KJM	APPR -	OP. APPR -	DATE 070192
----------------	--------	----------	--------	------------	-------------

NO.	DESCRIPTION	BY	CHK	APPR	DATE
	CHARLOTTE, NC				7055-9100-499

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISE FOR PART B PERMIT RENEWAL	JEK	TB	-	012006
B	REVISE FOR 2004 SUB-PART BB	JEK	TB	-	13104
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM	-	070292
REVISIONS					

FIGURE D-9

TANK LEVEL GAUGE DETAILS



MODEL 7-S VERTICAL BULK STORAGE TANK GAUGE

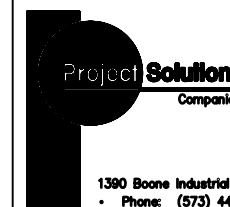
**MATERIAL LIST
MODEL 7-S**

PART NAME	PART NO.	QUANTITY PER UNIT
1. GAUGE HOUSING BASE SUPPORT.		
2. 1" GALVANIZED PIPE (CUT TO LENGTH).		
3. TANK ROOF FLANGE.		
4. 2" TANK OPENING PIPE.		
5. 2" GALVANIZED PIPE (CUT TO LENGTH).		
6. 1" GALVANIZED NIPPLE (ANY LENGTH).		
7. 1" GALVANIZED UNION.		
8. OBSERVATION WINDOW ASSEMBLY	A-34-A-38	1
9. FLOAT	V-75	1
10. STAINLESS STEEL TAPE CLAMP & SCREWS	V-93	1
11. ELBOW ASSEMBLY COMPLETE	A-30, A-33	2
12. 2" TO 1" REDUCING BUSHING		1
13. ECCENTRIC CAP COMPLETE WITH NUTS & BOLTS	V-71	1
14. PULLEY RACK ASSEMBLY	V-73	2
15. LUFKIN STAINLESS STEEL HIGH VISIBILITY TAPE	V-49	1
16. RUST-PROOFED STEEL GAUGE HOUSING	V-77	1
17. COUNTERWEIGHT	V-72	2
18. CONDENSATION DRAIN PLUG		1
FRAME & LID ASSEMBLY FOR OBSERVATION WINDOW	A-34, A-38	1
GASKETS - SET FOR OBSERVATION WINDOW	V-81, V-82	1
GASKET - ELBOW CAP	V-83	2
GASKET - V-71 ECCENTRIC CAP	V-84	1
GLASS - WINDOW	V-86	1
STAINLESS STEEL INDICATOR FINGER FOR OBSERVATION WINDOW	V-94	1
WIRE PIN - STAINLESS STEEL	V-96	5

7

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



GENERAL NOTES

1. ACTUAL EQUIPMENT CONFIGURATION MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.
2. CHARLOTTE, NC BRANCH FACILITY US E.P.A. No. NCD079060059.

TITLE
MOORMAN BROS. TANK GAUGE DET.
FOR FLAT BOTTOM TANK - EXISTING

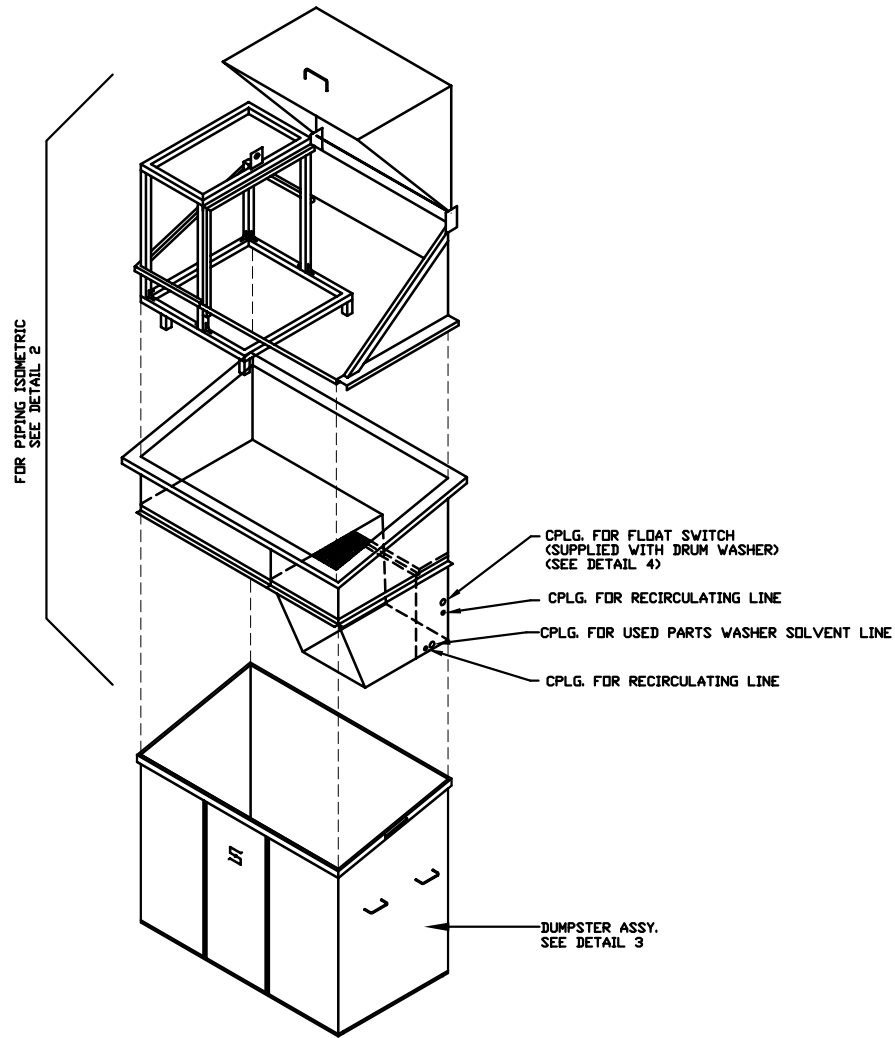
NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISE FOR PERT B PERMIT RENEWAL	JEK	TB	-	012006
B	REVISE FOR SUB-PART BB	JEK	TB	-	13104
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM	-	070292
REVISIONS					

SAFETY-KLEEN SYSTEMS, INC.					
5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-669-5740					
SCALE	BY	CHKD	APPR	OP. APPR	DATE
N.T.S.	MBH	KJM	-	-	06-30-92
SERVICE CENTER LOCATION			SC-DWG NUMBER		REV. NO.
CHARLOTTE, NC			7055-4100-298		C

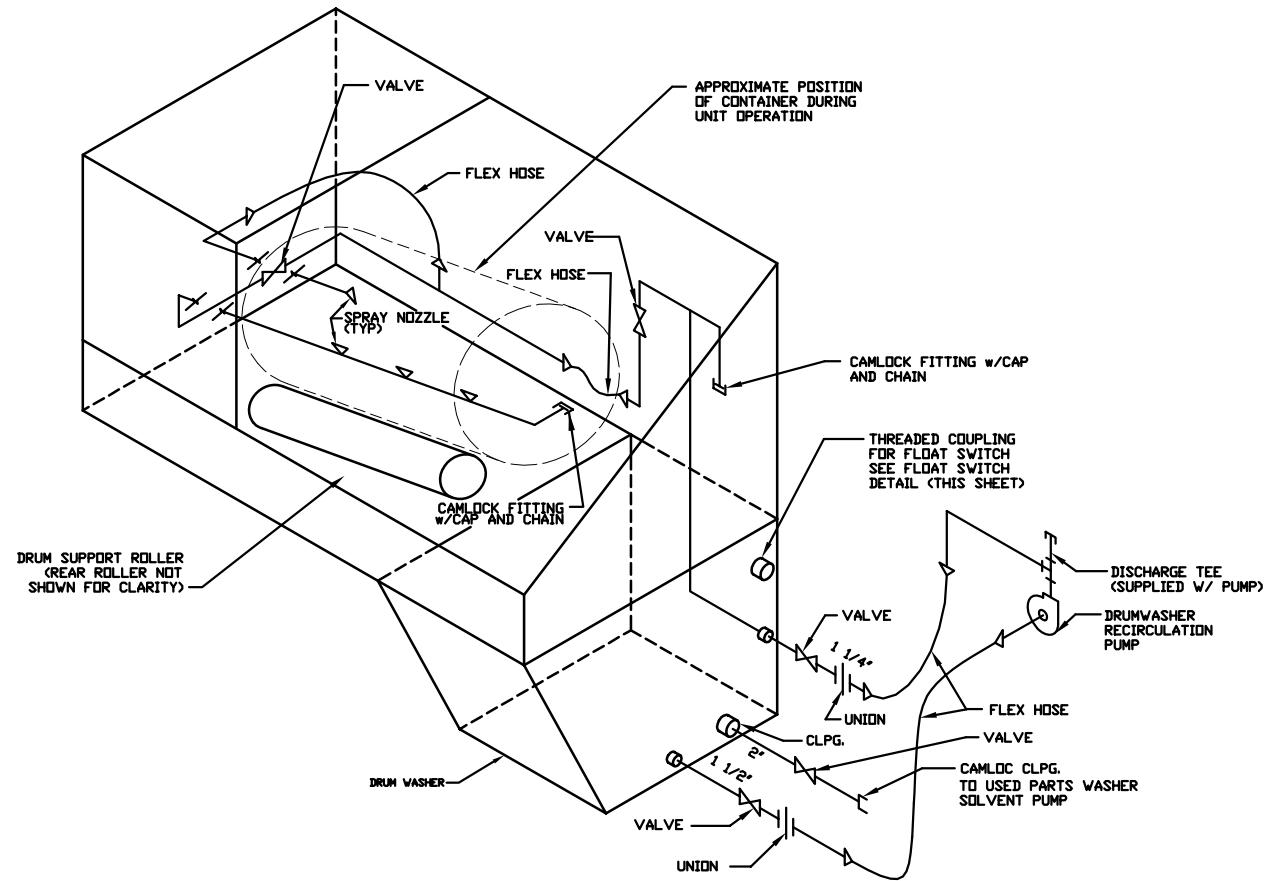
FIGURE D-10

**DRUM WASHER/DUMPSTER DETAILED ASSEMBLY
(BARREL ASSEMBLY)**

DUMPSTER/BARREL WASHER ASSY – DETAIL 1



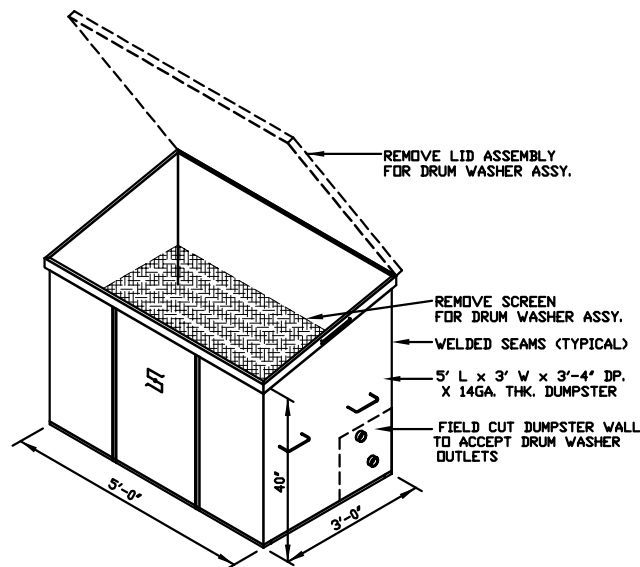
BARREL WASHER PIPING ISOMETRIC – DETAIL 2



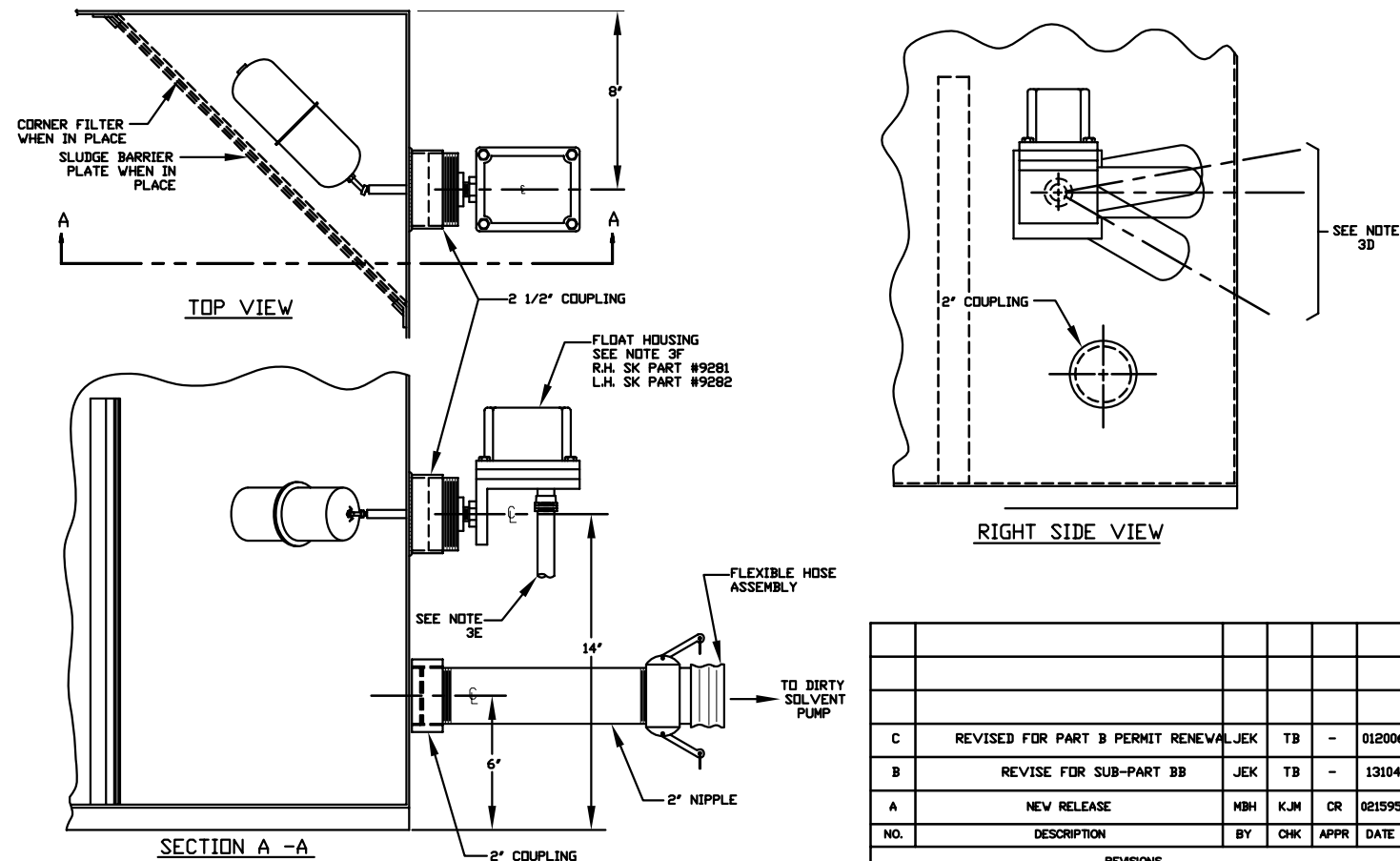
GENERAL NOTES

- 1.) THE BARREL WASHER UNIT AND DUMPSTER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND COMBINED BY CONTRACTOR. RECIRCULATING PUMP, AND VALVES FOR DRUM WASHER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND INSTALLED WITH CONTRACTOR SUPPLIED PIPE UNIONS AND HOSES.
9. ALL ITEMS WITH SAFETY-KLEEN PART NO. REFERENCES WILL BE SUPPLIED TO CONTRACTOR.
3. FLOAT SWITCH INSTALLATION INSTRUCTIONS
 - A. TAKE FLOAT SWITCH AND WRAP CLOCKWISE WITH 2 TEFLON WINDS OF TAPE AND INSTALL INTO 2 1/2" COUPLING ON OUTSIDE OF DUMPSTER
 - B. TAKE FLOAT AND THREAD IT INTO THE FLOAT SWITCH FROM THE INSIDE SHAFT OF THE DUMPSTER AND TIGHTEN SECURELY.
 - C. RELEASE SHIPPING BRACKET BY REMOVING SCREW AND DISCARDING BRACKET.
 - D. FLOAT TRAVEL SETTING ADJUSTMENTS CAN BE ACCOMPLISHED BY LOOSENING ADJUSTMENT SCREWS. THE FLOAT TRAVEL ARC SHOULD BE SET AT 10" TRAVEL UP AND 30" TRAVEL DOWN. (SEE CALIBRATION ON DIAL). SEE RIGHT SIDE VIEW.
 - E. FLOAT SWITCH SHOULD BE WIRED UP ACCORDING TO MFGRS. SPECS AND IN COMPLIANCE WITH ANY LOCAL CODES. (USE RIGID CONDUIT THROUGHOUT).
 - F. FLOAT SWITCH TO BE INSTALLED ON SAME SIDE OF DUMPSTER AS DRAIN LINE. INSTALLATION SHOWN IS FOR RIGHT HAND SIDE OF DUMPSTER. FLOAT SWITCH IS SQUARE D CLASS 9037 HR - 3 (RIGHT HAND) OR HR - 4 (LEFT HAND).
 - G. RE-ADJUST FLOAT STOPS TO THOSE SHOWN ON RIGHT SIDE VIEW.
 - H. WHEN DUMPSTER DOES NOT HAVE A 2 1/2" COUPLING, ONE SHOULD BE ON (LIQUID TIGHT) TO DIMENSIONS SHOWN.

DUMPSTER ASSY. – DETAIL 3



FLOAT SWITCH INSTALLATION – DETAIL 4



PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions
Companies

1390 Boone Industrial Drive - Suite 200 - Columbia - MO 65202
Phone: (573) 443-7100 • Fax: (573) 443-7181 •

TITLE
DRUM WASHER/DUMPSTER ISOMETRIC

SAFETY-KLEEN SYSTEMS, INC.		5400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX 75024 800-869-8740	
SCALE	BY	CHKD	APPROVED
NONE	MBH	KJM	CR
SERVICE CENTER LOCATION	SC-DWG NUMBER	DATE	REV. NO.
CHARLOTTE, NC.	7055-5600-299	02-08-95	C

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISED FOR PART B PERMIT RENEWAL	JEK	TB	-	012006
B	REVISE FOR SUB-PART BB	JEK	TB	-	13104
A	NEW RELEASE	MBH	KJM	CR	021595

REVISIONS

APPENDIX D-1

DRUM WASHER/DUMPSTER ASSESSMENTS











**Safety Kleen
Charlotte, North Carolina**

Inspection Report: CSO4-PW022
Inspector: Eric B. Ricks
Company: Mott Tank Inspection Inc.

Drum Washer #1

An Inspection that included Visual and Ultrasonic Thickness examinations was conducted on the Drum Washer 1 located at the Safety Kleen Facility in Charlotte, North Carolina on January 20, 2004. The following is a detailed report of the inspection including findings and recommendations.

Eric B Ricks
API 653 Certification Number 1667
Mott Tank Inspection, Inc.

EXECUTIVE SUMMARY

Mott Tank Inspection has completed an integrity assessment, in accordance with North Carolina Hazardous Waste Management Regulations, of the Drum Washer tank. The structure is adequately designed and has sufficient structural strength and compatibility with the stored contents to prevent its collapse, rupture, or failure based upon service to date and recommendation contained within our formal report.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system design 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 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 a fine and imprisonment for knowing violations.

Vincent D. Elko P.E.

INDEX

- 1.0 PURPOSE
 - 2.0 TANK DATA
 - 3.0 OUT OF SERVICE INSPECTION RESULTS
 - 3.1 Foundation/Containment Area
 - 3.2 Shell
 - 3.3 Shell Appurtenances/Piping
 - 4.0 RECOMMENDATIONS
 - 4.1 Foundation/Containment Area
 - 4.2 Shell
 - 4.3 Shell Appurtenances/Piping
 - 4.4 Next Inspection
 - 5.0 ENGINEERING CALCULATIONS
 - 5.1 Shell Remaining Life Calculations
 - 6.0 INSPECTION DATA
 - 6.1 Shell Thickness Measurements
- APPENDICES
- A. Photographs

1.0 PURPOSE

The inspection of the Drum Washer 1 located in Charlotte, North Carolina was conducted on January 20, 2004. This inspection was conducted to collect data in order to evaluate mechanical integrity and fitness for continued service.

2.0 TANK DATA

Facility Tank #	Drum Washer 1
Configuration	Horizontal
Product	Hazardous Waste Mineral Spirits Cleaning Solvents
Installed	unknown
Capacity	375 gallon
Dimensions	24 inches x 36 inches x 40 inches
Material	Carbon Steel-Fillet Welded
Foundation	Concrete pad
Containment	Concrete
Seismic Zone	1
Construction	National Fire Protection Association

3.0 IN-SERVICE INSPECTION RESULTS

The following results are the summarization of a field checklist that modeled after the checklist in appendix C of the API Standard 653.

3.1 FOUNDATION /CONTAINMENT AREA

- 3.1.1 The drum washer (dumpster) is resting on a concrete floor foundation. There are no cracks or deterioration of the concrete.
- 3.1.2 The containment area is concrete and is coated. There are several areas of coating breaks but the concrete is not deteriorated.
- 3.1.3 The floor is sloped toward the center where there is a sump installed. A steel grate is installed above the floor to prevent the barrels from being in contact with the concrete floor and to facilitate maintenance.

3.2 SHELL

- 3.2.1 The entire drum washer (dumpster) is covered (except for bottom) with a steel cover. The top of the cover has a hinged door that opens and locks in position.
- 3.2.2 A visual examination was made to evaluate the general condition of the drum washer, identifying any cracks, corrosion or physical damage. There is an exterior coating on the steel cover that is chipping and some areas where the coating has deteriorated. The general condition of the drum washer is satisfactory with no evidence of cracks, major corrosion or physical damage.

3.2.3 The drum washer is located under a roof extension.

3.2.4 Ultrasonic Thickness Measurements were obtained from the shell and can be found in Section 6.0 Inspection Data

3.3 SHELL APPURTENANCES / PIPING

3.3.1 All nozzles attached to the shell that are not inside of the steel cover are threaded couplings welded to the shell. No leakage of waste was visible.

3.3.2 All piping is located within the containment area. No leakage of waste was visible.

4.0 RECOMMENDATIONS

4.1 FOUNDATION / CONTAINMENT AREA

4.1.1 Although the containment area is in satisfactory condition at this time it is recommended that the areas that have minor coating deteriorated be repaired.

4.2. SHELL

4.2.1 Clean and recoat minor areas of coating breaks to arrest future deterioration and corrosion.

4.3 SHELL APPURTENANCES/ PIPING

4.3.1 Clean and recoat the bottom of the product piping where needed to arrest future deterioration and corrosion.

5.0 SHELL REMAINING LIFE CALCULATIONS

MINIMUM THICKNESS RESULTS:

Minimum thickness calculations are based on the Steel Tank Institute Standard for Shop Fabricated Aboveground Tanks and API Standard 653, Third Edition dated December 2001

The tank age is based on prior information dated July 24, 1989.

$$t_{act} - t_{min} = C_a = \text{Remaining Corrosion Allowance (inches)}$$

$$t_{prev} - t_{act} / Y = C_r = \text{Corrosion Rate (inches per year)}$$

$$C_a / C_r = R_L = \text{Remaining Life (years)}$$

Tank Age 15 years

Part	t_{prev}	t_{act}	t_{min}	% remaining	C_a	C_r	R_L
Shell	0.134	0.132	0.067	98.51%	0.065	0.00013	488

6.0 ENGINEERING CALCULATIONS AND INSPECTION DATA

A Panametric Ultrasonic Meter, Serial number 002165204, was used to during the inspection. Panametric calibrated the meter on October 8, 2003. During inspection a carbon steel step wedge was used to determine calibration standard accuracy. The calibration standard was checked several times throughout the thickness examination.

6.1 SHELL THICKNESS MEASUREMENTS IN INCHES

	Shell chime area TML points						
Top						MINIMUM	MEAN
0.133	0.135	0.133	0.132	0.135		0.132	0.134
Right Side							
0.135	0.132	0.133	0.134	0.134			

APPENDIX A

Photographs

SHELL LAYOUT

DRUM WASHER 1

Location	Thickness (inches)
Top	0.135
0.133	0.136
0.133	0.133
0.132	0.132
0.135	0.135
Right Side	0.134
0.135	0.132
0.133	0.133
0.134	0.134
0.134	0.134

0.134 Ultrasonic Thickness Measurements in inches	
MOTT TANK INSPECTION INC.	
570-586-3944	Name: Safety Kleen
	Location: Charlotte, NC
Date: 01/20/2004	Service: Drum Washer
Drum 1	CSO4-PW
	Sheet: 1 of 1

**Safety Kleen
Charlotte, North Carolina**

Inspection Report: CSO4-PW023
Inspector: Eric B. Ricks
Company: Mott Tank Inspection Inc.

Drum Washer #2

An Inspection that included Visual and Ultrasonic Thickness examinations was conducted on the Drum Washer 2 located at the Safety Kleen Facility in Charlotte, North Carolina on January 20, 2004. The following is a detailed report of the inspection including findings and recommendations.

Eric B Ricks
API 653 Certification Number 1667
Mott Tank Inspection, Inc.

EXECUTIVE SUMMARY

Mott Tank Inspection has completed an integrity assessment, in accordance with North Carolina Hazardous Waste Management Regulations, of the Drum Washer . The structure is adequately designed and has sufficient structural strength and compatibility with the stored contents to prevent is collapse, rupture, pr failure based upon service to date and recommendation contained within our formal report.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system design 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 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 a fine and imprisonment for knowing violations.

Vincent D. Elko P.E.

INDEX

- 1.0 PURPOSE
 - 2.0 TANK DATA
 - 3.0 OUT OF SERVICE INSPECTION RESULTS
 - 3.1 Foundation/Containment Area
 - 3.2 Shell
 - 3.3 Shell Appurtenances/Piping
 - 4.0 RECOMMENDATIONS
 - 4.1 Foundation/Containment Area
 - 4.2 Shell
 - 4.3 Shell Appurtenances/Piping
 - 4.4 Next Inspection
 - 5.0 ENGINEERING CALCULATIONS
 - 5.1 Shell Remaining Life Calculations
 - 6.0 INSPECTION DATA
 - 6.1 Shell Thickness Measurements
- APPENDICES
- A. Photographs

1.0 PURPOSE

The inspection of the Drum Washer 2 located in Charlotte, North Carolina was conducted on January 20, 2004. This inspection was conducted to collect data in order to evaluate the mechanical integrity and fitness for continued service.

2.0 TANK DATA

Facility Tank #	Drum Washer 2
Configuration	Horizontal
Product	Hazardous Waste Mineral Spirits Cleaning Solvents
Installed	unknown
Capacity	375 gallon
Dimensions	24 inches x 36 inches x 40 inches
Material	Carbon Steel-Fillet Welded
Foundation	Concrete pad
Containment	Concrete
Seismic Zone	1
Construction	National Fire Protection Association

3.0 IN-SERVICE INSPECTION RESULTS

The following results are the summarization of a field checklist that modeled after the checklist in appendix C of the API Standard 653.

3.1 FOUNDATION /CONTAINMENT AREA

- 3.1.1 The drum washer (dumpster) is resting on a concrete floor foundation. There are no cracks or deterioration of the concrete.
- 3.1.2 The containment area is concrete and is coated. There are several areas of coating breaks but the concrete is in satisfactory condition.
- 3.1.3 The floor is sloped toward the center where there is a sump installed. There is a steel grate is installed above the floor to prevent the barrels from being in contact with the concrete floor and to facilitate maintenance.

3.2 SHELL

- 3.2.1 The entire drum washer (dumpster) is covered (except for bottom) with a steel cover. The top of the cover has a hinged door that opens and locks in position.
- 3.2.2 A visual examination was made to evaluate the general condition of the drum washer, identifying any cracks, corrosion or physical damage. There is an exterior coating on the steel cover that is chipping and some areas where the coating has deteriorated. The general condition of the drum washer is satisfactory with no evidence of cracks, major corrosion or physical damage.

- 3.2.3 The drum washer is located under a roof extension.
- 3.2.4 Ultrasonic Thickness Measurements were obtained from the shell and can be found in Section 6.0 Inspection Data

3.3 SHELL APPURTENANCES / PIPING

- 3.3.1 All nozzles attached to the shell that are not inside of the steel cover are threaded couplings welded to the shell. No leakage of waste was visible.
- 3.3.2 All piping is located within the containment area. No leakage of waste was visible.

4.0 RECOMMENDATIONS

4.1 FOUNDATION / CONTAINMENT AREA

4.1.1 Although the containment area is in satisfactory condition at this time it is recommended that the areas that have minor coating deteriorated be repaired.

4.2. SHELL

4.2.1 Clean and recoat minor areas of coating breaks to arrest future deterioration and corrosion.

4.3 SHELL APPURTENANCES/ PIPING

4.3.1 Clean and recoat the bottom of the product piping where needed to arrest future deterioration and corrosion.

5.0 SHELL REMAINING LIFE CALCULATIONS

MINIMUM THICKNESS RESULTS:

Minimum thickness calculations are based on the Steel Tank Institute Standard for Shop Fabricated Aboveground Tanks and API Standard 653, Third Edition dated December 2001

The tank age is from prior information dated July 24, 1989.

$$t_{act} - t_{min} = C_a = \text{Remaining Corrosion Allowance (inches)}$$

$$t_{prev} - t_{act} / Y = C_r = \text{Corrosion Rate (inches per year)}$$

$$C_a / C_r = R_L = \text{Remaining Life (years)}$$

Tank Age 15 years

Part	t_{prev}	t_{act}	t_{min}	% remaining	C_a	C_r	R_L
Shell	0.134	0.132	0.067	98.51%	0.065	0.00013	488

6.0 ENGINEERING CALCULATIONS AND INSPECTION DATA

A Panametric Ultrasonic Meter, Serial number 002165204, was used to during the inspection. Panametric calibrated the meter on October 8, 2003. During inspection a carbon steel step wedge was used to determine calibration standard accuracy. The calibration standard was checked several times throughout the thickness examination.

6.1 SHELL THICKNESS MEASUREMENTS IN INCHES

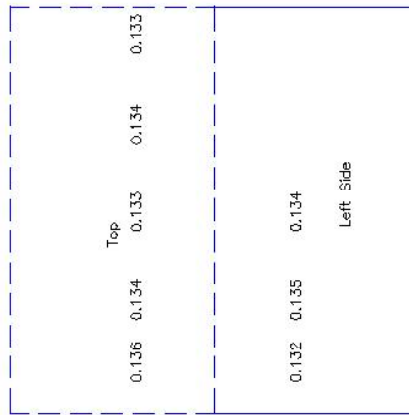
	Shell chime area TML points					
Top					MINIMUM	MEAN
0.136	0.134	0.133	0.134	0.133	0.132	0.134
Right Side						
0.132	0.135	0.134				

APPENDIX A

Photographs

SHELL LAYOUT

DRUM WASHER 2



0.134 Ultrasonic Thickness Measurements in Inches	
570-586-3944	MOTT TANK INSPECTION INC.
	Name: Safety Klean
	Location: Charlotte, NC
Date: 01/20/2004	Service: Drum Washer
Drum 2	CS04-PW
	Sheet: 1 of 1

January 18, 2006

Mr. Todd Blake, CHMM
Safety-Kleen Systems, Inc.
2320 Yadkin Avenue
Charlotte, North Carolina 28205

Reference: **Structural Integrity Assessment of
Two Drum Washer/Dumpster Units**
Safety-Kleen Facility # 3-031-01
2320 Yadkin Avenue
Charlotte, North Carolina 28205
ATC Project No. 45.16031.0007

Dear Mr. Blake:

ATC Associates of North Carolina, P.C. (ATC) is pleased to present this letter report documenting the results of a Structural Integrity Assessment of the drum washer/dumpster units at the Safety-Kleen facility in Charlotte, North Carolina. The purpose of the assessment was to fulfill the requirements specified in 40 CFR 270.16(a)(1), 40 CFR 264.193(c)(1), 40 CFR 264.193(c)(2), and 40 CFR 264.193(c)(3) for the RCRA Part B Permit Renewal for the facility. This report contains the results of our field visit, document review, calculations, and conclusions.

Site Observations

On January 4, 2006, Mr. Joseph G. Schold, P.E. visited the facility and on January 10, 2006, Ms. Diana Lanier visited the facility. The facility is located at the intersection of Yadkin Road and 27th Street in Charlotte, Mecklenburg County, North Carolina. Mr. Schold and Ms. Lanier observed the various waste containment units and took measurements and photographs of the various areas of evaluation.

Review of Documents

ATC was supplied the following documents for this project:

- List of Deficiencies, Safety Kleen Systems, Inc. Charlotte, Raleigh, High Point, St. Pauls, North Carolina, from North Carolina Department of Environment and Natural Resources (NCDENR).
- Container Storage Area Containment Certification, Safety-Kleen Corporation Branch, Charlotte, North Carolina by QuesTec Corporation, August 14, 1992.



- Tank System Structural Integrity, Charlotte, North Carolina by QuesTec dated July 1, 1997.
- Hazardous Waste Mineral Spirits Tank Assessment by S&ME dated February 23, 2000.

ATC also reviewed the following at the site:

- Part B Permit Application, Safety-Kleen Systems, Inc., Service Center 3-031-01, Raleigh, NC, EPA ID No. NCD 079 060 059.
- RCRA Hazardous Waste Facility, Operating Permit Application, EPA ID No. NC NCD 079 060 059, January 30, 2004.

Observations and Evaluation

Foundation Evaluation

In the area of the drum washer and dumpster units, the weight from the drums and grating and the ancillary equipment exerts a minimal load on the supporting concrete slab. ATC's on site observations indicate no settlement or cracking and our experiences with similar installations verify that the concrete slab and foundation have sufficient strength. The system is above the 100 year flood plain and is not subject to hydrostatic uplift.

Secondary Containment Assessment

The containment system consists of a reinforced concrete containment area with reinforced concrete slab and retaining walls both above grade and below grade. The drums and other equipment rest on grates directly overlying the containment area. The system was evaluated with respect to compatibility of the construction materials with the stored contents and strength as detailed below.

Compatibility of the construction materials with stored materials:

The drum washer/dumpster units are used to store and transfer used parts washer solvent. The used parts washer solvent consists of a mixture of mineral spirits, water, solids, oil and grease. The primary hazardous characteristic of the mineral spirits is ignitability. Safety-Kleen's extensive experience storing these materials has proven that the materials of construction which consist primarily of carbon steel, stainless steel, concrete, polyurethane caulk, and epoxy coating are compatible with the stored contents.

Strength:

The reviewed calculations in Appendix A show that the dike walls appear to be capable of withstanding the hydrostatic pressure from the dike being full of water. In addition

part of the wall is below grade and is sufficient for handling the lateral soil pressure. The secondary containment system is on the interior of the building and should not be affected by vehicular traffic.

Leak Detection System

The area is observed and inspected on a daily basis for evidence of spills by Safety-Kleen personnel. The secondary containment area is easily accessible for visual inspection.

CONCLUSIONS

ATC has completed a structural integrity assessment of the drum washer/dumpster units at the Safety-Kleen facility in Charlotte, North Carolina. Based on the results of this assessment, ATC concludes the following:

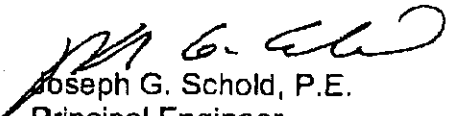
- The materials and thickness for the base of the drum washer/dumpster units are adequate to support the weight of containers vehicles etc., as required under 40 CFR 270.16(a)(1).
- The secondary containment system for the drum washer/dumpster units has sufficient strength and thickness to prevent failure caused by pressure gradients (including static head and external hydrological forces), physical contact with the wastes, and stress of daily operation including stresses from nearby vehicular traffic, as required under 40 CFR 264.193(c)(1).
- The drum washer/dumpster units are placed on a foundation or base that is capable of providing support, resisting pressure gradients above and below the system, and preventing failure due to settlement, compression, or uplift, as required under 40 CFR 264.193(c)(2).
- This report provides a description of the leak detection system for the drum washer/dumpster units, as required under 40 CFR 264.193(c)(3).

Structural Integrity Assessment of Drum Washer/Dumpster Units
Safety-Kleen Facility, Charlotte, North Carolina
Page 4

We have enjoyed being of service to you on this project. If you have any questions or if we can be of further assistance, please do not hesitate to contact us.

Respectfully,
ATC ASSOCIATES OF NORTH CAROLINA, P.C.


Genna K. Olson, P.G.
Senior Project Manager


Joseph G. Schold, P.E.
Principal Engineer

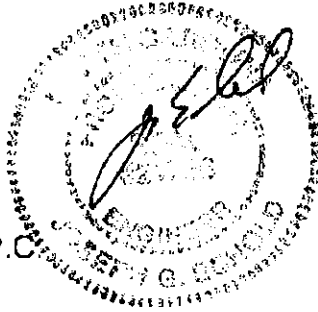
Attachments: Engineer's Certification
 Appendix A - Calculations
 Appendix B - Figures

ENGINEER'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all related attachments and that, based on my observations and my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

J.G. Schold

Joseph G. Schold, P.E.
Principal Engineer
ATC Associates of North Carolina, P.C.
North Carolina Registration # 21736



Date 1/18/06

APPENDIX A
CALCULATIONS

ATC Associates

1/18/06

Two Drum Washer / Dumpster Units

Containment Calculations for Return / Fill Area

$$23'0" \times 19'0" \times 3" \times 7.48 \text{ gal/ft}^3 = 817.19 \text{ Gallons}$$

$$3.142 \times 81 \text{ in}^2 \times 1'6" \times 7.48 \text{ gal/ft}^3 \times 0.0058 = 19.87 \text{ Gallons}$$

Displacement of Drum Washers / Dumpsters

$$5'0" \times 3'0" \times 3" \times 7.48 \text{ gal/ft}^3 \times 2 = -56.10 \text{ gallons}$$

Displacement for columns

$$= -2 \text{ gallons}$$

$$\text{Total Containment} = 779.96 \text{ gallons}$$

Based on the anticipated maximum volume to be stored in the given space is less than 780 gallons, the secondary is adequate for the area.

$$\text{Drum washer volume} = 162 \text{ gallon}$$

$$\text{Gross containment volume} = 162 \times 2 = 324 \text{ gallons}$$

$$\text{Excess volume capacity} = 779.96 - 324 = 455.96 \text{ gallons}$$

Drawn

Checked

Revisions



3417-A Trade Park Ct.
Charlotte, NC 28217
(704) 529-3200

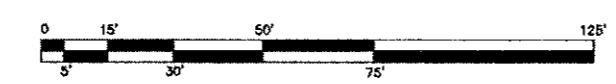
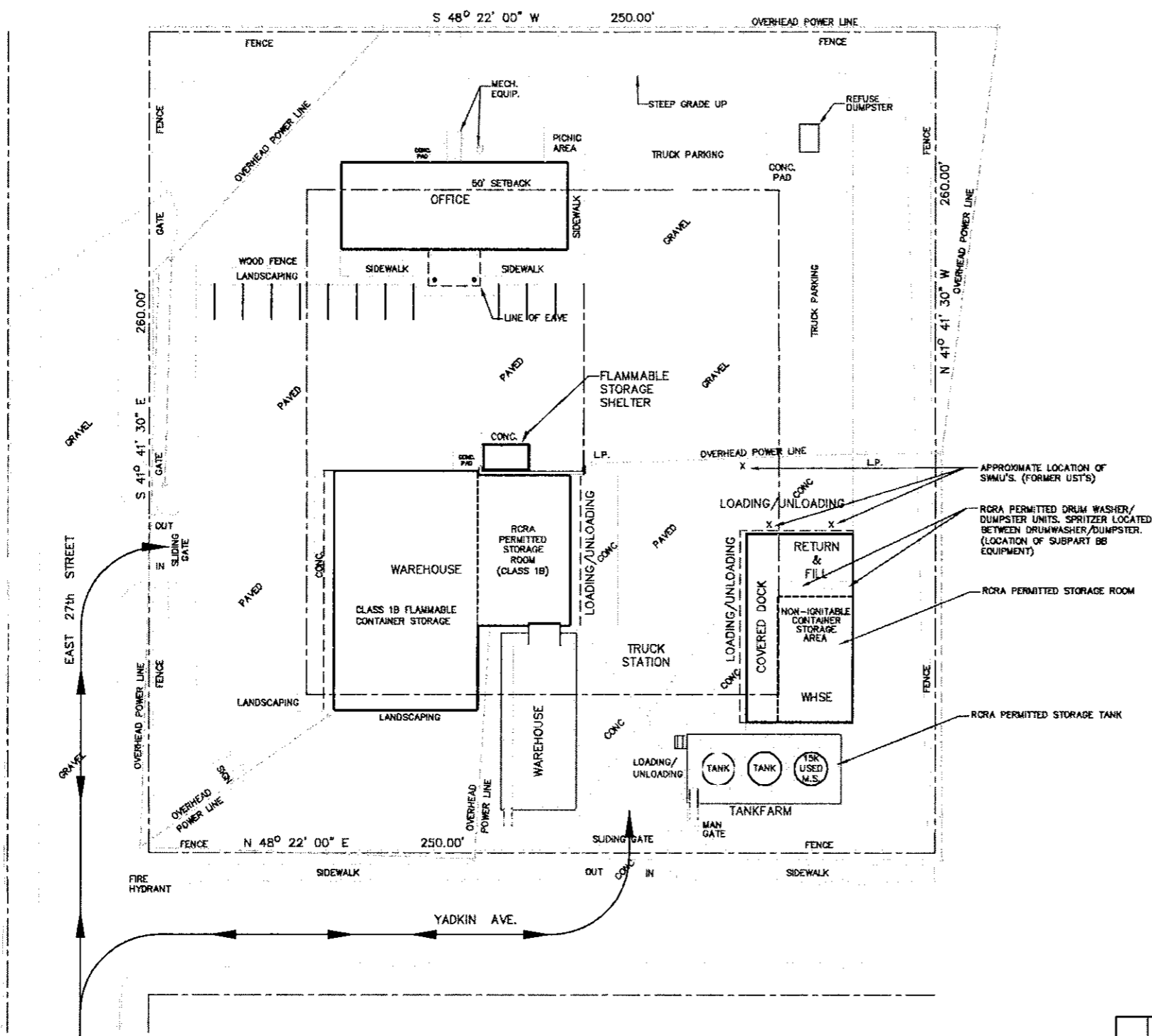
Project No.

Date 1/18/06

OAI No. 1/1

APPENDIX B

FIGURES



LEGEND

← TRAFFIC FLDW

GENERAL NOTES

- NON-PERMITTED AREAS MAY CHANGE
- CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

SAFETY-KLEEN SYSTEMS, INC.
 6400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX 75024 800-640-5740

TITLE

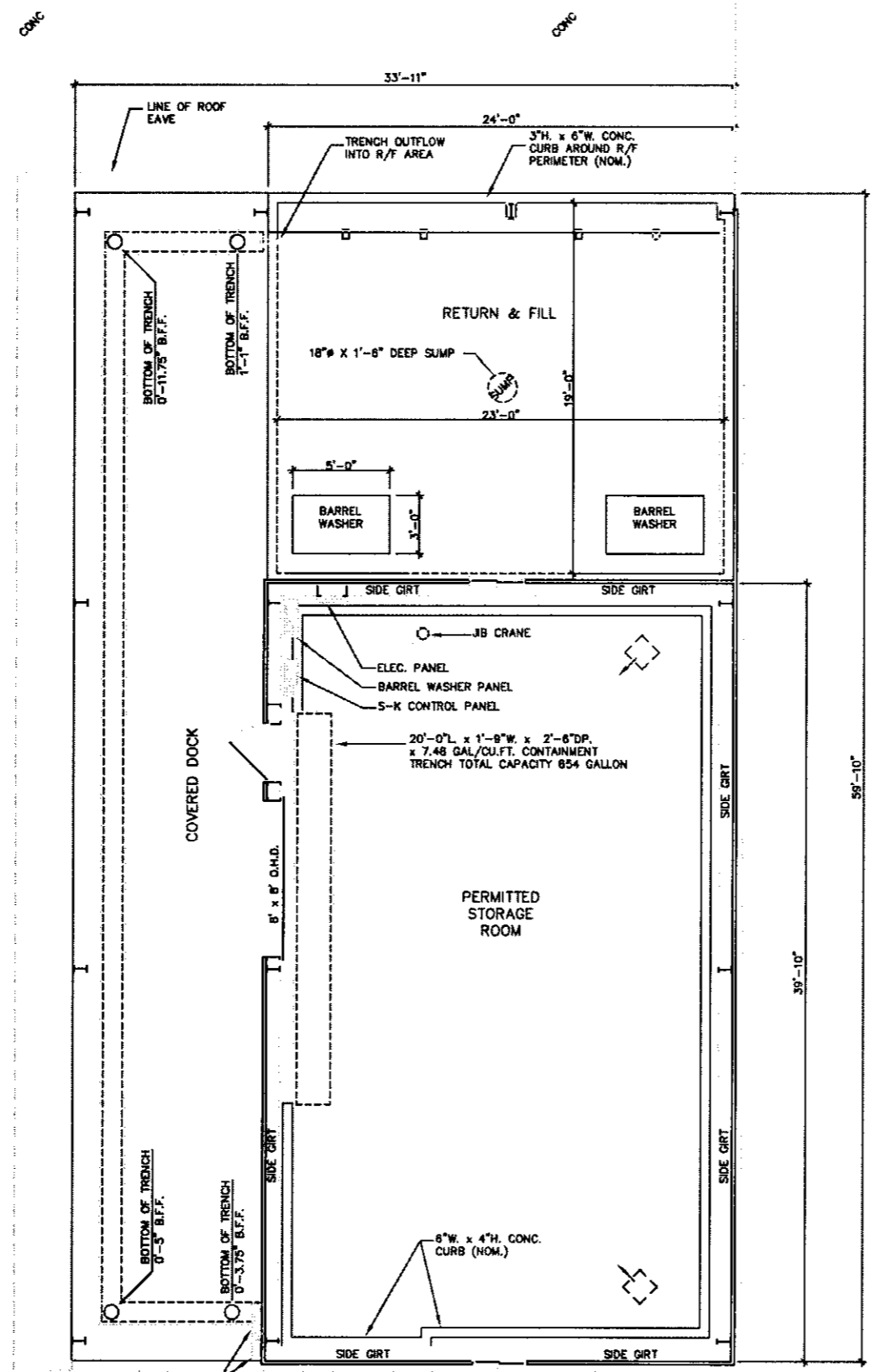
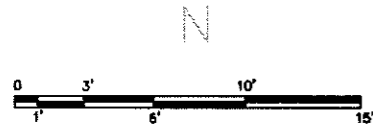
SITE PLAN EXISTING

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
D	REVISE FOR EOD4 SUB-PART BB	JEK	TB		13104
C	REMOVED EG TANK REF.	MBH	KJM	DP/JM	110796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM		070892

SCALE: 1"=20'-0"

BY	DWG	APPR	OP. APPR	DATE
MBH	KJM			06-03-92

SERVICE CENTER LOCATION: CHARLOTTE, NC
 SC-DWG NUMBER: 7055-SP00-001
 REV. NO.: D



CONTAINMENT CALCULATIONS FOR RETURN/FILL AREA
FORMULA USED (L) (W) (H) (7.48 GAL/CF)

$23'-0" \times 19'-0" \times 3" \times 7.48 \text{ GAL/CF} = +817.19 \text{ GALLONS}$
VOLUME OF SUMP

FORMULA USED (R) (H) (7.48 GAL/CF)

$3.142 \times 81 \text{ SQ. IN.} \times 1'-6" \times 7.48 \times .00058 = +19.87 \text{ GALLONS}$

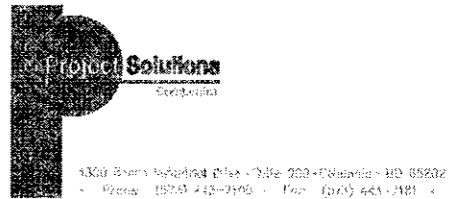
DISPLACEMENT OF DRUM WASHERS/DUMPSTERS
FORMULA USED (L) (W) (H) (7.48 GAL/CF)

$5'-0" \times 3'-0" \times 3" \times 7.48 \text{ GAL/CF} \times 2 = -56.10 \text{ GALLONS}$

DISPLACEMENT OF COLUMNS -2.0 GALLONS

TOTAL CONTAINMENT +779.96 GALLONS

PROPRIETARY STATEMENT
 THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

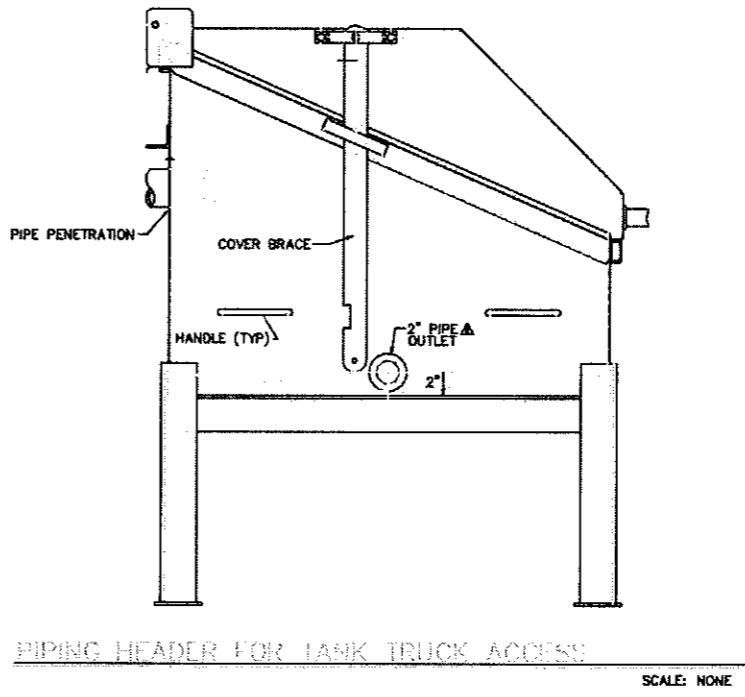
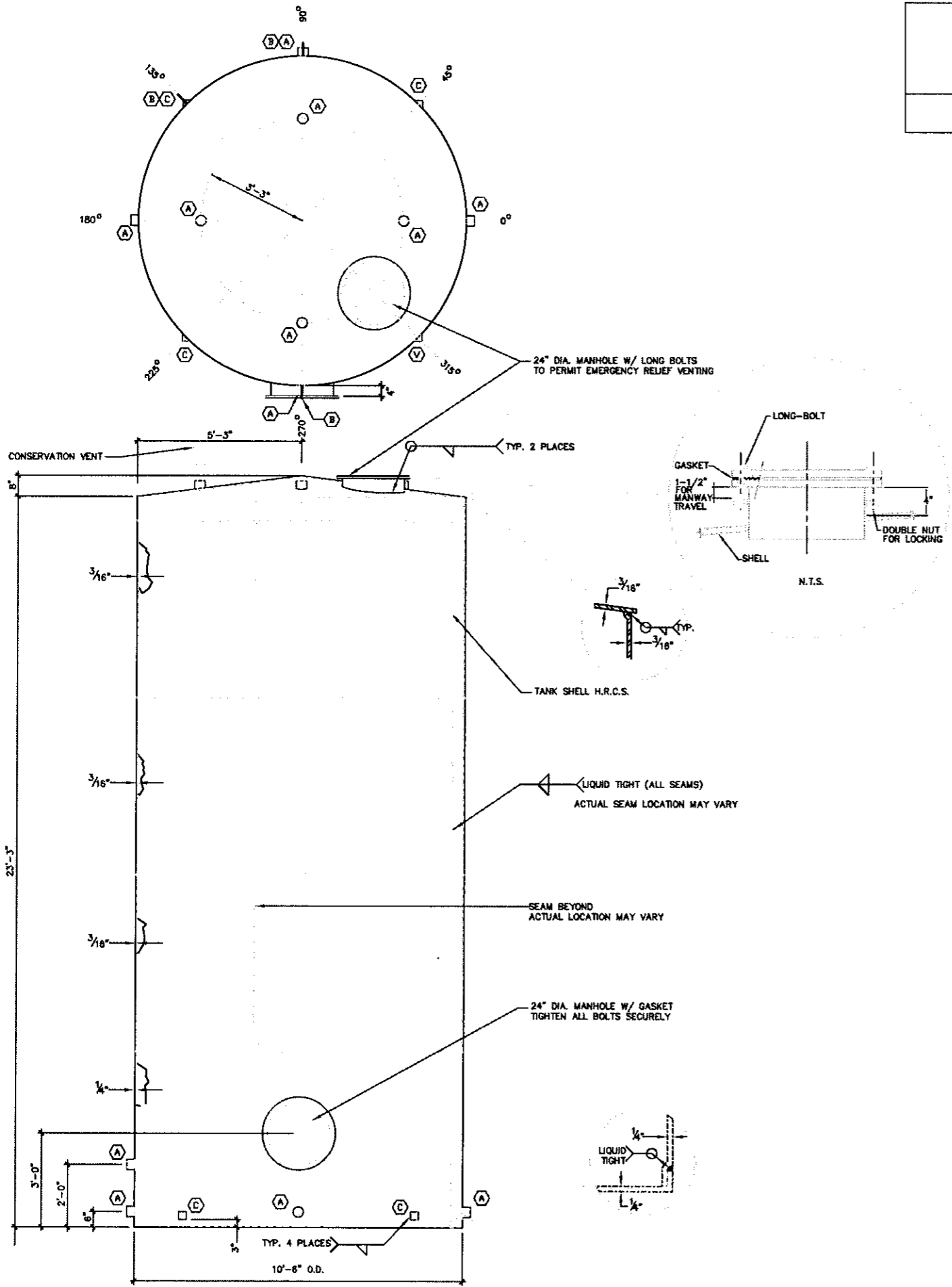


TITLE
**RETURN & FILL
 CONTAINMENT CALCULATIONS**

SAFETY-KLEEN SYSTEMS, INC.
 5400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX 75024 800-880-5740
 SERVICE CENTER LOCATION: CHARLOTTE, NC
 SC-DWG NUMBER: 7055-WB00-201
 REV. NO.: B

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISE FOR PART B PERMIT RENEVAL	JEX	TB	TB	012006
A	NEW RELEASE	MBH	KJM	-	020393

TANKFARM



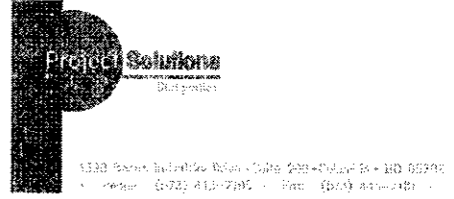
- GENERAL NOTES
- TANK TO BE RAISED ON 6"H. STEEL PALLET.
 - ACTUAL TANK FABRICATION DETAILS MAY VARY DUE TO CONSTRUCTION, MAINTENANCE AND OR UPKEEP OF FACILITY.
 - RALEIGH, NC BRANCH FACILITY US E.P.A. No. NC0000778740
 - PRESSURE/VACUUM VENT SETTING IS 2 OZ. PER SQ. IN. PRESSURE, AND 1 OZ. PER SQ. IN. VACUUM AT AMBIENT TEMP.

TANK LEGEND

MARK	QTY.	SIZE	DESCRIPTION
A	8	4"	FULL COUPLING
B	2	-	LIFT LUG
C	4	-	3" x 3" x 3/8" x 3" LONG

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	REVISED FOR PART B PERMIT RENEWAL	JEX	TB	-	012006
B	REVISED FOR PART B PERMIT RENEWAL	JEX	TB	-	13004
A	RELEASED FOR PART 'B' PERMIT	MBH	K.J.H.	-	110498

TITLE

15K GAL. 10'-6" DIA. VERT. FLAT BOTTOM TANK FAB. DETAILS - EXIST. (FOR WASTE M.S.)

S SAFETY-KLEEN SYSTEMS, INC.
5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX 75024 800-868-3740

SCALE 1/2" = 1'-0" BY MBH CHD K.J.H. APPR - OP. APPR - DATE 10-29-92

SERVICE CENTER LOCATION CHARLOTTE, NC SC-DWG NUMBER 7055-4100-299 REV. NO. C

APPENDIX D-2

TANK SYSTEM ASSESSMENT

**SAFETY KLEEN
CHARLOTTE, NORTH CAROLINA**

IN-SERVICE INSPECTION

TANK 1

An In-Service Inspection was performed on Tank 1 located at the Safety Kleen facility in Charlotte, North Carolina, on January 28, 2014. This tank was originally built to the UL Standard 142. This inspection met or exceeded the minimum requirements set by the Steel Tank Institute Standard for Shop Fabricated Aboveground Storage Tanks SP001-5. Following is a detailed report of the inspection, including findings and recommendations.

Configuration: Vertical

Product: Mineral Spirits

Installed: 1985

Capacity: 14,200 Gallons

Foundation: Carbon Steel Skids

Height: 22 Feet

Containment: Concrete

Diameter: 10 Feet 6 Inches

Shell/Roof: Carbon Steel-Butt Welded



Inspected By: Al Blasko
API 653 Certification Number: 30342

Mott Tank Inspection, Inc.
PO Box 394
Clarks Summit, PA 18411

The information contained within this report is based on a thorough general inspection of the entire structure, including all appurtenances, as well as piping to and from the tank up to, yet exclusive of, the nearest valve. The methods used to acquire the information, as well as compile and analyze the data in this report, are the most current and widely accepted methods in the industry. This report and all of its contents are in no way a guarantee of the integrity of the structure, nor does it ensure that the tank will not leak or completely fail. Mott Tank Inspection, Inc. accepts no responsibility or liability, under any circumstances, for the failure of this tank or any ensuing environmental clean up. The recommendations included in this report are merely guidelines for attaining the highest level of spill prevention and facility safety. Repairs above and beyond those suggested here may be necessary upon commencement of recommended repairs and further inspection. Any professional opinion indicating time for the suitable storage of the product in this tank is an estimate of the maximum allowable time span before re-inspection is required. This estimate is the best judgment of a certified tank inspector; however, it does not guarantee that the tank will not leak during the allotted time.

IN-SERVICE INSPECTION RESULTS

The field checklist utilized during the inspection was modeled after the Steel Tank Institute Standard for Shop Fabricated Aboveground Storage Tanks. Results of the inspection are summarized below.

CONTAINMENT AREA

The concrete containment area was coated with a fiberglass liner. The containment area and liner were in satisfactory condition.

FOUNDATION

The tank was elevated on a carbon steel platform and anchored to a concrete pad. No deficiencies were observed.

TANK

The tank did not have any indications of distortion or weakness.

The coating on the shell and roof was in satisfactory condition.

Ultrasonic thickness measurements taken on the shell, roof, and tank bottom were uniform and satisfactory.

APPURTENANCES

The nozzles were clean and dry with no indications of seepage.

The coating on the nozzles was in satisfactory condition.

The high level alarm was in satisfactory operational condition.

The tank was equipped with normal and emergency ventilation.

The automatic tank gauge was in satisfactory operational condition.

COMPLIANCE DEFICIENCIES

None

COMPLIANCE RECOMMENDATIONS

None

RESULTS

It is the professional opinion of this inspector that the integrity of this tank is satisfactory for continued use until the next inspection.

NEXT INSPECTION

The next In-Service inspection should be performed within 5 years from the date of this inspection.

REMAINING THICKNESS CALCULATIONS

$$t_{act} - t_{min} = C_a = \text{Remaining Corrosion Allowance (inches)}$$

$$t_{prev} - t_{act} / Y = C_r = \text{Corrosion Rate (inches per year)}$$

$$C_a / C_r = R_L = \text{Remaining Life (years)}$$

Where:

$$C_a =$$

C_r = Corrosion rate of the shell course under consideration, in inches per year.

t_{act} = Minimum thickness measurement of the shell course under consideration, as recorded at the time of inspection, in inches.

t_{min} = Minimum required thickness of shell course, at the maximum allowable fill height.

t_{prev} = Previous thickness measurement of shell course under consideration as recorded at last inspection, or nominal thickness if no previous thickness measurements, in inches.

R_L = Estimated remaining life of the shell course under consideration, in years.

Y = Time span between thickness readings or age of the tank if nominal thickness is used for t_{prev} , in years.

Tank Age 29 years

Course	t_{prev}	t_{act}	t_{min}	% remaining	C_a	C_r	R_L
1	0.250	0.246	0.125	98.40%	0.121	0.00014	877
2	0.250	0.249	0.125	99.60%	0.124	0.00003	3596
3	0.250	0.248	0.125	99.20%	0.123	0.00007	1784
4	0.188	0.176	0.094	93.62%	0.082	0.00041	198
Floor	0.250	0.242	0.125	96.80%	0.117	0.00028	424
Roof	0.250	0.224	0.125	89.60%	0.099	0.00090	110

NOZZLE MINIMUM THICKNESS DETERMINATION

The following pipe/nozzle minimum thicknesses are based on the current in-house engineering standards, which take into consideration pressures, structural integrity, and localized corrosion allowance.

Tank Age 29 years

Nozzle	t_{prev}	t_{act}	t_{min}	C_a	C_r	R_L
A	0.250	0.212	0.130	0.082	0.00131	63

INSPECTION DATA

An Olympus™ Ultrasonic Meter (serial number: 41159404) was used to determine inspection data. Ultrasonic thickness measurements are provided in inches.

SHELL THICKNESS MEASUREMENTS

Shell Chime Area

0.254 0.251 0.248 0.246 0.253

MEAN MINIMUM
0.250 0.246

Course 1 0.258 0.259 0.258 0.260 0.260
Course 2 0.249 0.253 0.254 0.251 0.253
Course 3 0.254 0.252 0.251 0.248 0.256
Course 4 0.179 0.181 0.183 0.176 0.177

MEAN MINIMUM
0.236 0.176

ROOF THICKNESS MEASUREMENTS

Roof 0.234 0.240 0.231 0.238 0.229
 0.234 0.226 0.230 0.224 0.231

MEAN MINIMUM
0.232 0.224

BOTTOM THICKNESS MEASUREMENTS

Tank Bottom 0.244 0.246 0.249 0.243 0.242
 0.248 0.246 0.244

MEAN MINIMUM
0.245 0.242

NOZZLE THICKNESS MEASUREMENTS

Nozzle ID	Nozzle Size	Service	Nozzle Thickness Measurements			
			T	B	R	L
A	20	Manway	0.212	0.213	0.218	0.220
B	3	Plug	---	---	---	---
C	3	Plug	---	---	---	---
D	3	Plug	---	---	---	---
E	3	Plug	---	---	---	---
F	3	Outlet	---	---	---	---

APPENDIX A

Engineering Drawings

The tank layout includes:

Shell Layout

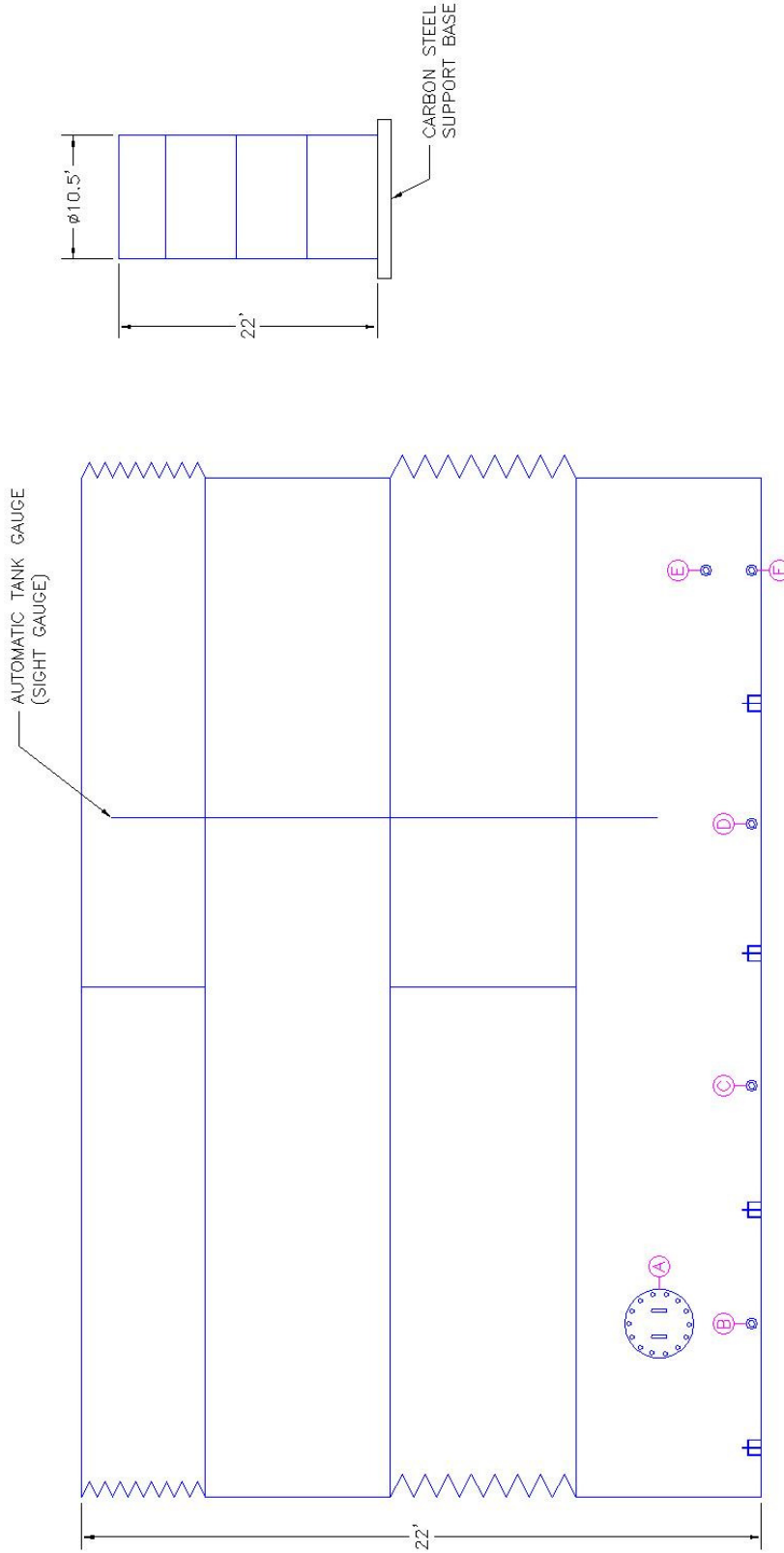
Shell Appurtenances

Roof Layout

Roof Appurtenances

TANK LAYOUT

TANK# 1

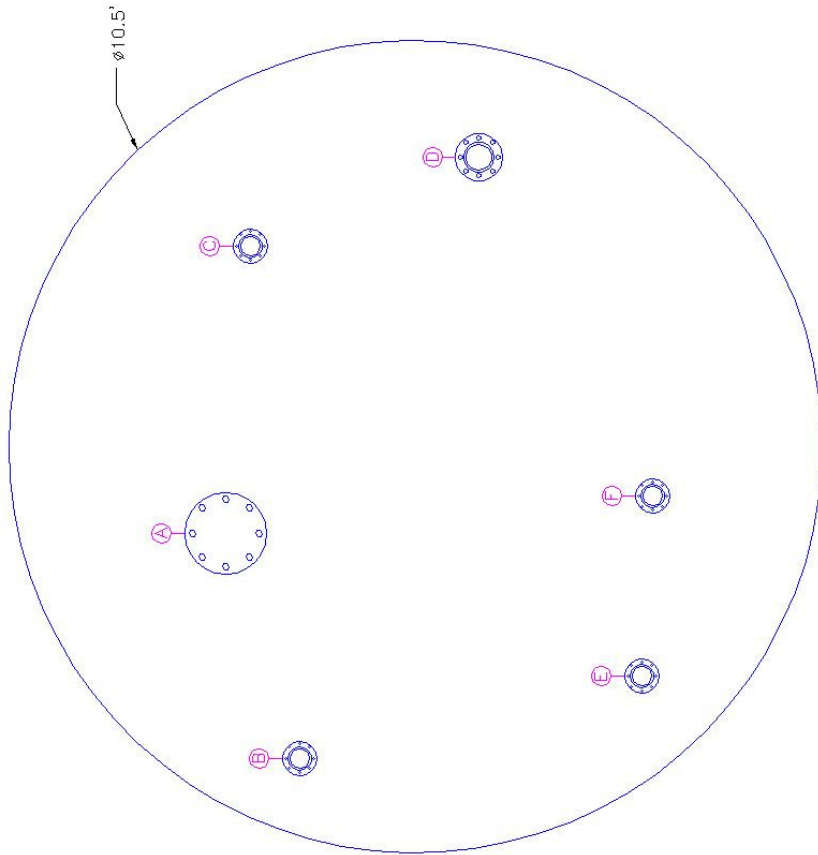


MOTT TANK INSPECTION INC.

570-586-3944	Name: SAFETY KLEEN
Date: 01/28/2014	Location: Charlotte, North Carolina
Scale: NTS	Service: Mineral Spirits
CS14-MD150	Material: Carbon Steel Construction
TANK# 1	Tank Layout-2014
Sheet: 1 of 1	

SIZE	ITEM	SIZE	ITEM
A	20" MANWAY	D	3" PLUG
B	3" PLUG	E	3" PLUG
C	3" PLUG	F	3" OUTLET

TANK TOP LAYOUT TANK# 1



570-586-3944	Name: SAFETY KLEEN
Date: 01/28/2014	Location: Charlotte, North Carolina
Scale: NTS	Service: Mineral Spirits
CS14-MD150	Material: Carbon Steel Construction
Tank# 1	Tank Top Layout-2014

MOTT TANK INSPECTION, INC.

SIZE	ITEM	SIZE	ITEM
A	20" MANWAY	D	3" VENT
B	2" AUTOMATIC TANK GAUGE	E	2" PRODUCT
C	2" ALARM	F	2" VENT

Sheet: 1 of 1

APPENDIX B

Photographs



Tank 1



Foundation

January 18, 2006

Mr. Todd Blake, CHMM
Safety-Kleen Systems, Inc.
2320 Yadkin Avenue
Charlotte, North Carolina 28205

Reference: **Structural Integrity Assessment of Tank Farm Area**
Safety-Kleen Facility # 3-031-01
2320 Yadkin Avenue
Charlotte, North Carolina 28205
ATC Project No. 45.16031.0007

Dear Mr. Blake:

ATC Associates of North Carolina, P.C. (ATC) is pleased to present this letter report documenting the results of a Structural Integrity Assessment of the tank farm area at the Safety-Kleen facility in Charlotte, North Carolina. The purpose of the assessment was to fulfill the requirements specified in 40 CFR 270.16(a)(1), 40 CFR 264.193(c)(1), 40 CFR 264.193(c)(2), and 40 CFR 264.193(c)(3) for the RCRA Part B Permit Renewal for the facility. This report contains the results of our field visit, document review, calculations, and conclusions.

Site Observations

On January 4, 2006, Mr. Joseph G. Schold, P.E. visited the facility and on January 10, 2006, Ms. Diana Lanier visited the facility. The facility is located at the intersection of Yadkin Road and 27th Street in Charlotte, Mecklenburg County, North Carolina. Mr. Schold and Ms. Lanier observed the various waste containment units and took measurements and photographs of the various areas of evaluation.

Review of Documents

ATC was supplied the following documents for this project:

- List of Deficiencies, Safety Kleen Systems, Inc. Charlotte, Raleigh, High Point, St. Pauls, North Carolina, from North Carolina Department of Environment and Natural Resources (NCDENR).
- Container Storage Area Containment Certification, Safety-Kleen Corporation Branch, Charlotte, North Carolina by QuesTec Corporation, August 14, 1992.
- Tank System Structural Integrity, Charlotte, North Carolina by QuesTec dated July 1, 1997.



- Hazardous Waste Mineral Spirits Tank Assessment by S&ME dated February 23, 2000.

ATC also reviewed the following at the site:

- Part B Permit Application, Safety-Kleen Systems, Inc., Service Center 3-031-01, EPA Id No. NCD 079 060 059.
- RCRA Hazardous Waste Facility, Operating Permit Application, EPA ID No. NC NCD 079 060 059, January 30, 2004.

Observations and Evaluation

Tank Foundations Evaluation

The bases of the containers in the tank farm area consist of the following:

1. Tank #1 is a 15,000 gallon vertical steel tank containing used parts washer solvent. The tank bears on a 3" rail platform and is bolted to the concrete slab using approximately four 7" to 9" long 1" diameter bolts and associated brackets.
2. Tank #2 is a 15,000 gallon vertical steel tank containing solvent products that are compatible with parts washer solvent. The tank bears on 3" rail platform and is bolted to the concrete slab using approximately four 8" to 13" long 1" diameter bolts and associated brackets.
3. Tank #3 is 15,000 gallon vertical steel tank containing solvent products that are compatible with parts washer solvent. The tank bears on 3" rail platform and is bolted to the concrete slab using approximately four 8" to 13" long 1" diameter bolts and associated brackets.

The tank foundations are designed to support the gravity load of the full tanks plus wind or earthquake loads. ATC reviewed the design and installation calculations by TERA Inc and QuesTec Corporation and these are included in Appendix A. Based on our field observations, the tank foundations appear to be in satisfactory and serviceable condition and show no visible signs of major distress or loss of structural integrity. The system is well drained and is not subject to hydrostatic uplift.

The tanks are aboveground and are not located in the 100 year flood plain. Refer to the partial flood insurance rate map in Appendix B. Consequently, the tanks do not require anchorage to prevent flotation or dislodgement. Additionally, the wind and earthquake analyses do not indicate that the tanks require anchorage. See calculations by others in Appendix A.

According to the NC Building Code, the generally accepted depth for frost penetration is 4 inches or less in this area. Based on the tank farm concrete details drawing (see Appendix A), the concrete slab underlying the tanks is at least 5 1/2" thick. Based on field observations and a hand auger exploration of the soil subgrade in the field the slab

overlies a compacted sandy silt subgrade. Field hand auger boring tests results indicate that the subgrade soils have an allowable soil bearing pressure of 3000 psf. Although the foundation slab is not thickened at the edge to the minimum frost penetration depth, (typically a total depth of about 5" to 6" is provided), visual observations indicate that the slab has not been distressed by frost heaving during its nearly 20 years of service and therefore appears to be structurally adequate.

Based on our inspection and the available information, it appears that the tank foundations are adequately designed and constructed to avoid major distress or loss of structural integrity.

Secondary Containment Assessment

The secondary containment system consists of a concrete basin with a 5.5 to 8.0 inch thick reinforced concrete slab and a 6.0 inch reinforced concrete wall 38 inches in height. The system was evaluated with respect to compatibility of the construction materials with the stored contents and strength as detailed below.

Compatibility of the construction materials with the stored contents:

The tanks are used to store clean and used parts washer solvent and compatible solvent products. The clean parts washer solvent consists primarily of mineral spirits. The used parts washer solvent consists of a mixture of mineral spirits, water, solids, oil and grease. The primary hazardous characteristic of the mineral spirits is ignitability. Safety-Kleen's extensive experience storing these materials has proven that the materials of construction which consist primarily of carbon steel, stainless steel, concrete, polyurethane caulk, and epoxy coating are compatible with the stored contents.

Strength:

The reviewed calculations in Appendix A show that the floor slab appears to have sufficient strength to support the weight of the full tanks. The slab, wall and foundation show no visible signs of failure after nearly 20 years of use.

The reviewed calculations in Appendix A show that the dike walls appear to be capable of withstanding the hydrostatic pressure from the dike being full of water. The secondary containment system is above ground and should not be affected by vehicular traffic.

Leak Detection System

The area is observed and inspected on a daily basis by Safety-Kleen personnel. The secondary containment area is above ground and easily accessible to visual inspection. Inventory tracking is also completed to evaluate for potential losses.

CONCLUSIONS

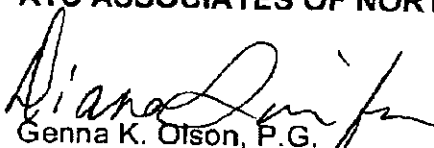
ATC has completed a structural integrity assessment of the tank farm area at the Safety-Kleen facility in Charlotte, North Carolina. Based on the results of this assessment, ATC concludes the following:

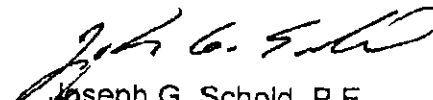
- The base materials and thickness for the tanks in the tank farm area are adequate to support the weight of containers vehicles etc., as required under 40 CFR 270.16(a)(1).
- The secondary containment system for the tank farm has sufficient strength and thickness to prevent failure caused by pressure gradients (including static head and external hydrological forces), physical contact with the wastes, and stress of daily operation including stresses from nearby vehicular traffic, as required under 40 CFR 264.193(c)(1).
- The tanks in the tank farm area are placed on a foundation or base that is capable of providing support, resisting pressure gradients above and below the system, and preventing failure due to settlement, compression, or uplift, as required under 40 CFR 264.193(c)(2).
- This report provides a description of the leak detection system for the tank farm area, as required under 40 CFR 264.193(c)(3).

We have enjoyed being of service to you on this project. If you have any questions or if we can be of further assistance, please do not hesitate to contact us.

Respectfully,

ATC ASSOCIATES OF NORTH CAROLINA, P.C.


Genna K. Olson, P.G.
Senior Project Manager


Joseph G. Schold, P.E.
Principal Engineer

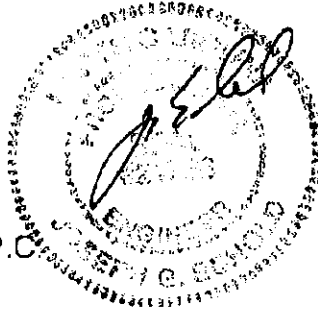
Attachments: Engineer's Certification
 Appendix A – Calculations
 Appendix B - Figures

ENGINEER'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all related attachments and that, based on my observations and my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Joseph G. Schold

Joseph G. Schold, P.E.
Principal Engineer
ATC Associates of North Carolina, P.C.
North Carolina Registration # 21736



Date 1/18/06

APPENDIX A
CALCULATIONS

Date 1-17-06
 Charlotte Safety Kleen
 Site # 3-031-01

Volume = 15,000 gal
 Tank Diameter 10.5 ft
 Wall Height 3.2 ft
 Concrete slab Thickness = 5.5" = t_1
 Aggregate Base Course Thickness = NA = t_2
 Specific Gravity of Stored Liquid = 0.90
 Tank Shell Thickness = 0.25" = t_3

$w_1 = \text{weight of Empty Tank} = \left[(\pi)(D)(H_1 + t_1) + (2)(\pi)(D^2/4) \right]$
 $(t_3/12)(490 \text{ lb/cf})(1.1) = 11,050 \text{ lb}$

$w_2 = \text{wt of stored liquid}$
 $(G)(62.4 \text{ lb/cf})(\text{Vol} / 7.48 \text{ gal/cf})$

$w_3 = \text{wt of full tank} = w_1 + w_2 = 112,820 \text{ lbs}$
 $= 123,669 \text{ lbs}$

Overturning Analysis

M_o (Overturning Moment)

$F (\text{moment arm}) = F \left[h_4/2 + (H - h_1) \right]$

$h_4 = 21.5 \text{ ft}$

$M_o = (1.844) \left[(21.5/2) + (3.19 - 0.13) \right] = 25,484 \text{ ft-lb}$

Drawn	 3417-A Trade Park Ct. Charlotte, NC 28217 (704) 529-3200	Project No.
Checked		Date 1/17/08
Revisions		OAI No. 1/2

$$M_p = W_1 (\text{moment arm}) = W_1 (D/2) = (11,049)(10.5/2) = 58,007 \text{ ft-lb}$$

$$M_o / M_p = 0.44 \leq 0.67 \quad \text{Section 6.1.2, Part 1}$$

No wind anchorage required

Sliding

$$\text{Use coefficient of friction} = 0.30$$

$$\text{Resisting force} = W_1 (f) = 11,049 (0.30)$$

$$F / R_1 = 0.56 \leq 1.0 \quad = 3,315 \text{ lb}$$

No wind anchorage required

Foundation slab analysis

Given conditions at Raleigh site one most with conditions encountered at Charlotte site, foundation analysis performed was reviewed as per attached and found to be consistently correct, and acceptable.

Drawn

Checked

Revisions



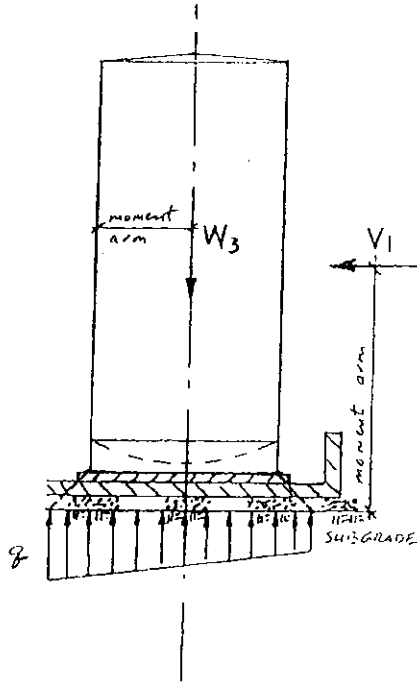
3417-A Trade Park Ct.
Charlotte, NC 28217
(704) 529-3200

Project No.

Date

OAI No. 2/2

FOUNDATION SLAB ANALYSIS



REFERENCES

1. ACI 318-89, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
2. PCA REPORT ISD195.01D, "SLAB THICKNESS DESIGN FOR INDUSTRIAL FLOORS ON GRADE," 1976
3. TANK FARM DATA/GRAVITY LOADS AND EARTHQUAKE ANALYSIS, APPENDIX B.
4. SAFETY-KLEEN DWG. NO. D10433-3-171-01-9009

DESIGN CRITERIA / LOADING

Check loading cases for slab and subgrade induced by gravity only and by gravity + earthquake combination. Neglect weight of conc. slab and aggregate base. Increase allowable stresses by 1/3 for gravity and earthquake load combinations.

CONC. STRENGTH @ 28 DAYS $f'_c = 3,000$ PS.
 REBAR GRADE $f_y = 40,000$ PS
 SLAB REINFORCEMENT 10" x 10" WWF #4 REBAR @ 12" SPACINGS

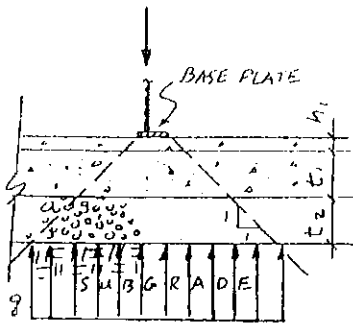
W_3 (WT. OF FULL TANK) = 123,669 LB
 V_1 (EARTHQUAKE FORCE) = 6,493 LB
 M_0 (MOMENT @ CONC. SLAB LEVEL) = 79,799 FT-LB
 M_1 (MOMENT @ SUBGRADE LEVEL) = 83,650 FT-LB
 M_2 (MOMENT @ AGGR. BASE LEVEL) = N/A FT-LB

MOMENT ARM = 12.29
 MOMENT ARM = 12.88
 MOMENT ARM = $\frac{W}{\Delta} * \frac{1}{10}$ AGGR. BASE

* Gallow. (net allowable soil bearing capacity) = 3,000 PSF

* PER CONVERSATION WITH CITY OF GARNER, BUILDING INSPECTOR - SEE APP A

SOIL BEARING



Assume load uniformly distributed at subgrade level.

Assume load transferred to subgrade at 1:1 slope (45°).

Neglect concrete slab bending strength and rigidity (CONSERVATIVE).

b_p (WIDTH OF BASE PLATE) = 0.33 F

b_s (BEARING WIDTH @ SUBGRADE LEVEL) =

$2(L_1 + L_2) + b_p = 2(1.13 + 4.6 + 0) + 0.33 = 11.51 F$

D_o (O.S. DIAMETER) = $10.50 + 2(1.13 + 4.6 + 0) = 11.68 F$

D_I (I.S. DIAMETER) = $10.50 - 2(1.13 + 4.6 + 0 + 0.33) = 8.66 F$

A (BEARING AREA) =

$(\pi(D_o + D_I)/2)(b_s) = [\pi(11.68 + 8.66)/2](11.51) = 48.24 FT$

S (BEARING SECTION MODULUS) =

$\pi(D_o^4 - D_I^4)/(32D_o) = \pi(11.68^4 - 8.66^4)/(32)(11.68) = 109.16 FT$

q_1 (SOIL BRG. PRESS. GRAVITY ONLY) = $P/A = W_3/A = 125,669/48.24 = 2,564 PSI$

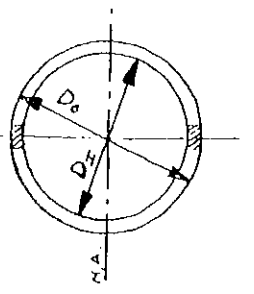
$q_1 = 2,564 \leq q_{allow.} = 3,000 ?$ YES

q_2 (SOIL BRG. PRESS. GRAVITY + EQ.) = $P/A \pm M/S = W_3/A \pm M_1/S = \frac{125,669}{48.24} \pm \frac{83,650}{109.16} = 5,331 PSI$

$q_2 = 5,331 \leq (1.33)q_{allow.} = 3,990 ?$ YES

SOIL BEARING IS OK ? YES

FOUNDATION SLAB BEARING



Assume load uniformly distributed at concrete slab level.

Neglect additional bearing capacity of wider supporting surface.

Max. pressure induced by full gravity and earthquake loading occurs at "extreme fibers" of tank a distance of the average radius of the base plate from the "neutral axis".

$D_o = 10.50 FT$ $D_I = 9.84 FT$

A_1 (BASE PLATE AREA) = $(\pi(D_o + D_I)/2)(b_p) = [\pi(10.50 + 9.84)/2](0.33) = 10.54 FT$

S_1 (B/P SECT. MOD.) = $\pi(D_o^4 - D_I^4)/(32D_o) = \pi(10.50^4 - 9.84^4)/(32)(10.50) = 26.00 FT$

$$f \text{ (BEARING STRESS)} = P/A \pm M/S = \frac{W_3/(A_1)(144) \pm (M_0)(12)/(S_1)(1728)}{(10.54)(144) \pm (79.799)(12)/(76.00)(1728)} = \underline{103} \text{ F}$$

$$f_{allow} \text{ (ALLOWABLE BEARING STRESS)} = 0.3 f'_c = (30)(3,000) = \underline{900} \text{ PSI}$$

per ref. 1 ACI 318-89 A.3.1(c)

$$f = \underline{103} \leq f_{allow} = \underline{900} \text{ ?} \quad \underline{YES}$$

FOUNDATION SLAB BEARING IS OK ? YES

FOUNDATION SLAB BENDING

Assume loading uniformly distributed at SURGRADE level.
Assume SURGRADE well compacted.
Neglect conc. slab bending strength and continuity (conservative).
Assume critical section for bending located at ϕ base plate.

$$MR \text{ (ALLOWABLE FLEXURAL STRENGTH)} = 9 \sqrt{f'_c} = (9) \sqrt{3,000} = \underline{493} \text{ PS}$$

per ref. 2 PCA Report pg. 2

$$b_a \text{ (BEARING WIDTH @ SURGRADE LEVEL)} = 2(h_1 + t_1) + bp = 2(13 + .46) + .33 = \underline{1.51} \text{ F}$$

$$D_o = \underline{11.68} \text{ FT} \quad D_i = \underline{8.66} \text{ FT}$$

$$A_2 \text{ (BEARING AREA)} = (\pi (D_o + D_i) / 2) (b_a) = [\pi (11.68 + 8.66) / 2] (1.51) = \underline{48.24} \text{ FT}$$

$$S_2 \text{ (BEARING SECT. MOD.)} = \pi (D_o^4 - D_i^4) / (32 D_o) = \pi (11.68^4 - 8.66^4) / (32)(11.68) = \underline{109.16} \text{ FT}$$

$$q \text{ (SOIL BEARING PRESSURE)} = P/A \pm M/S = \frac{W_3/A_2 \pm M_2/S_2}{48.24 \pm 109.16} = \frac{123,669}{48.24} + \frac{83,630}{109.16} = \underline{3,330} \text{ PSI}$$

$$* M \text{ (BENDING MOMENT)} = q l^2 / 2 = (3,330) \left(\frac{53}{2} + 13 + .46 \right)^2 / 2 = \underline{949} \text{ FT-L}$$

$$S \text{ (SECTIONAL MODULUS)} = b d^2 / 6 = (12)(7)^2 / 6 = \underline{98} \text{ IN}$$

$$f_b \text{ (BENDING STRESS)} = 12 M / S = (12)(949) / 98 = \underline{116} \text{ PSI}$$

* for one foot wide strip

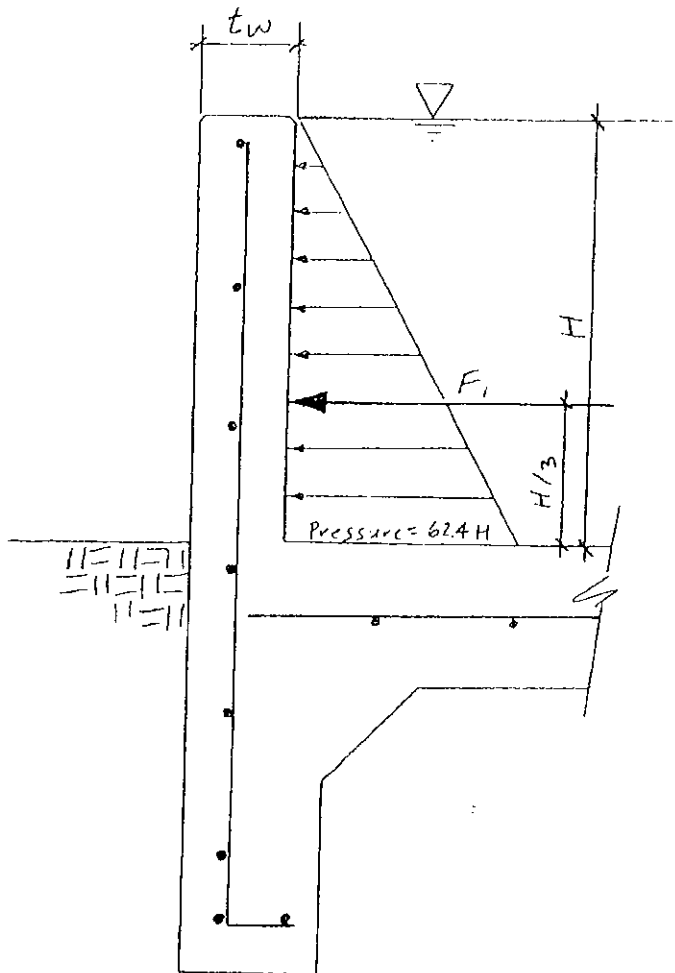
$$f_b = \underline{116} \leq MR = \underline{493} \text{ ?} \quad \underline{YES}$$

FOUNDATION SLAB BENDING IS OK ? YES

NOTE: FOUNDATION SLAB SHEAR OK BY INSPECTION

CONSULTING ENGINEERS
 Mechanical • Electrical • Civil • Environmental
 4842 SANTIAGO CIRCUIT, COLUMBIA, MD 21043

DIKE WALL HYDROSTATIC ANALYSIS



DESIGN INFORMATION

HYDROSTATIC LOAD RESISTED BY DIKE WALL
 ANALYZE 1'-0" WIDE CANTILEVER BEAM STR.
 DESIGN IN ACCORDANCE WITH ACI 318-89
 ULTIMATE STRENGTH DESIGN METHOD.
 MONOLITHIC CONCRETE WALL AND SLAB
 FLUID IS WATER, UNIT WT. = 62.4 PCF
 CALCS. TYPICALLY PER 1'-0" WIDTH OF WALL
 SAFETY KLEEN REF. DWGS, 012153, 5-17-91, 01, 90c

ASSUMPTIONS

- VERT. WALL REINF. #4 @ 24" O.C.
- HORIZ. WALL REINF. #4 @ 12" O.C.
- REBAR GRADE 40 ASSUMED
- CONC. STRENGTH @ 28 DAYS 5,000 PSI
- VERT. REBAR CENTERED IN WALL

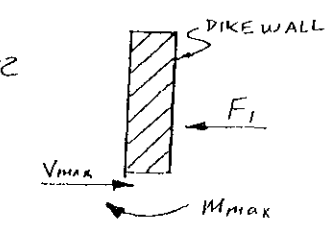
TYPICAL DIKE WALL SECTION
 NO SCALE

DATA

- $f'_c =$ 3,000 PSI
- $f_y =$ 40,000 PSI
- $H =$ 5.19 FT
- $t_w =$ 6 IN
- vert. $A_s =$.10 SQ IN
- horiz. $A_s =$.20 SQ IN
- $A_g =$.72 SQ IN

DESIGN PROCEDURE

CHECK BENDING AND SHEAR
 STRENGTH, CHECK OTHER
 ACI CODE REQUIREMENTS



FREE BODY DIAGRAM

HYDROSTATIC FORCE

PRESSURE = $62.4(H) = (62.4)(5.19) = \underline{324 \text{ PS}}$

FORCE = $F_1 = \frac{1}{2}(62.4)(H)^2 = \frac{1}{2}(62.4)(5.19)^2 = \underline{817 \text{ LB}}$

SERVICE SHEAR AND MOMENT

$V_{max} = F_1 = \frac{1}{2}(62.4)(5.19)^2 = \underline{817 \text{ LB}}$

$M_{max} = F_1(H/3) = (817)(5.19/3) = \underline{1395 \text{ FT-LB}}$

REQUIRED STRENGTH (LOAD FACTORS)

REF. ACI 318, SECTION 9.2

$V_u = 1.7 V_{max} = (1.7)(817) = \underline{1389 \text{ LB}}$

$M_u = 1.7 M_{max} = (1.7)(1395) = \underline{2372 \text{ FT-LB}}$

DESIGN STRENGTH (ϕ FACTORS)

REF. ACI 318, SECTION 9.3

NOTE: design strength must be \geq required strength

1) CHECK SHEAR

$\phi V_n = \phi(V_c + V_s), \quad V_s = 0 \text{ (negl. steel shear strength)}$

$\phi V_n = \phi V_c = \phi 2\sqrt{f'_c} b_w d$

$\phi = 0.85, \quad b_w = 12", \quad d = tw/2 = 6/2 = \underline{3 \text{ IN}}$

$$\phi V_n = (0.85)(2)\sqrt{5,000}(12)(3) = \underline{3,357 \text{ L}}$$

$$\phi V_n = \underline{3,357} \geq V_u = \underline{539} ? \quad \underline{\text{YES}}$$

SHEAR IS OK ? YES

2) CHECK BENDING

$$\phi M_n = \phi A_s f_y (d - a/2), \quad \phi = 0.90$$

$$a = A_s f_y / 0.85 f'_c b, \quad b = 12"$$

$$a = (0.10)(40,000) / (0.85)(5,000)(12) = \underline{0.131 \text{ ''}}$$

$$\phi M_n = (0.90)(0.10)(40,000)(3 - 0.131/2) = \underline{10,564 \text{ IN-L}}$$

$$\phi M_n = 10,564 / 12 = \underline{880 \text{ FT-L}}$$

$$\phi M_n = \underline{880} \geq M_u = \underline{575} ? \quad \underline{\text{YES}}$$

BENDING IS OK ? YES

OTHER ACI CODE REQUIREMENTS

1) MINIMUM REINFORCEMENT OF FLEXURAL MEMBERS

REF. ACI 318, SECTION 10.5

$$p_{min.} = 200 / f_y = 200 / 40,000 = \underline{0.005}$$

$$p = A_s / bd = 0.10 / (12)(3) = \underline{0.0028}$$

4812 SANTIANA CIRCLE, COLUMBIA, MO 65203

Project No. 92147.1B Date 9-3-95
 Project Title RALEIGH, NC.
 Subject SPENT SOLVENT TANK SYSTEM D&I ASSESSMENT
 Designer TYJ Cx By HB Prehm _____ Final SD

$P = 0.0028 \geq p_{min} = 0.005$? NO

alternately, area of steel provided shall be at least 1/3 greater than that required by analysis

$A_{s REQD} = M_u(12) / 0.9 f_y (d - a/2)$
 $= (5.15)(12) / (90)(40,000)(3 - .15/2) = 0.065 \text{ SQ/}$
 $A_{s REQD}(1.33) = (0.065)(1.33) = 0.086 \text{ SQ/}$

$A_s = 0.10 \geq A_{s REQD}(1.33) = 0.086$? YES

MINIMUM REINF. IS OK ? YES

2.) MINIMUM WALL REINFORCEMENT

REF. ACI 318, SECTION 14.3

FOR VERTICAL REINFORCEMENT,

$A_s/A_g = 0.0014 \geq 0.0015$? * NO
 MAX. REINF. SPACING $\leq 18"$? ** NO

FOR HORIZONTAL REINFORCEMENT,

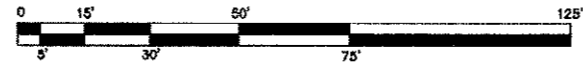
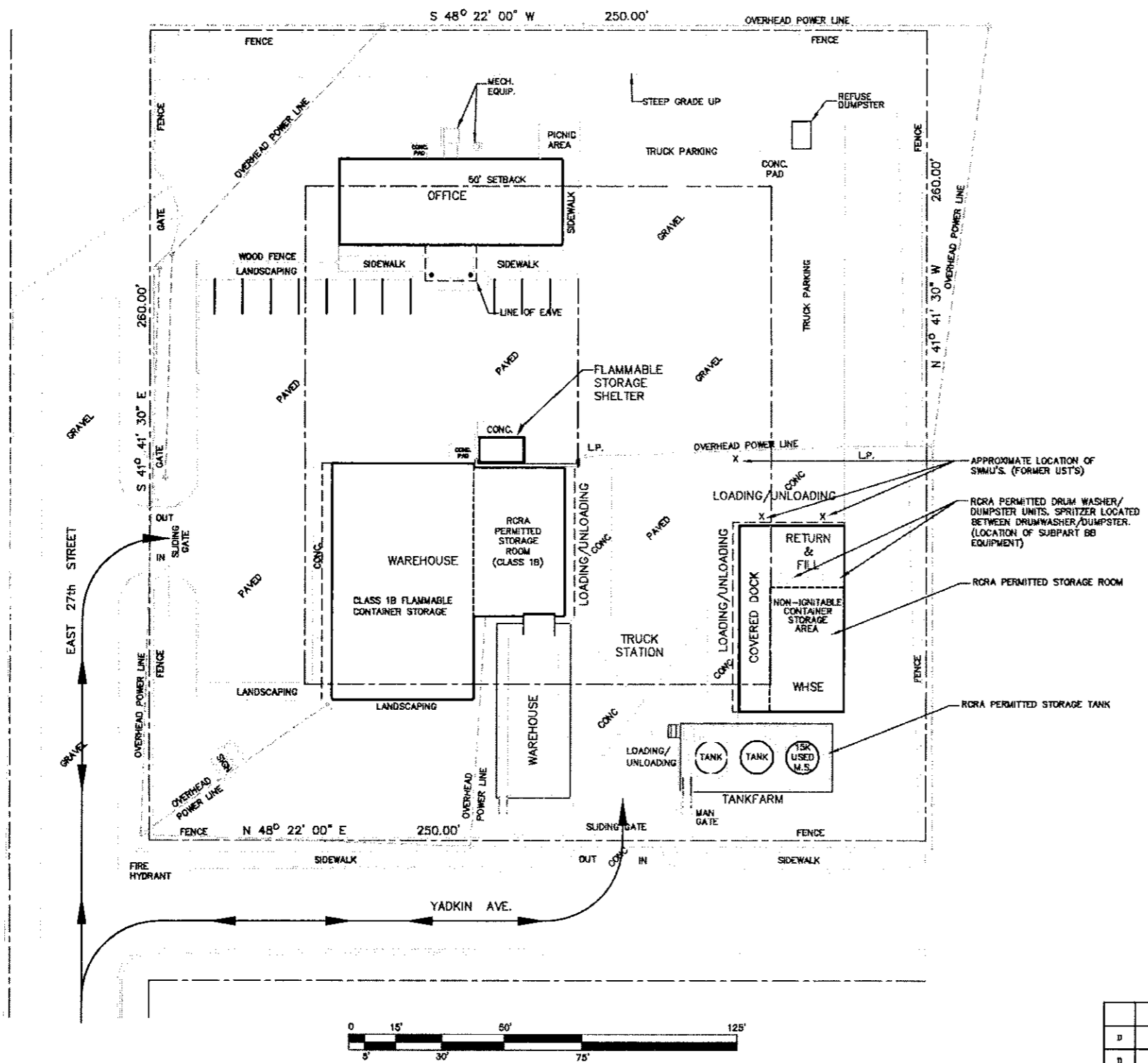
$A_s/A_g = 0.0028 \geq 0.0025$? YES
 MAX. REINF. SPACING $\leq 18"$? YES

** THE 18" MAX. SPACING REQUIREMENT COMES FROM THE 1985 EDITION OF ACI-318 WHICH WAS NOT ADOPTED UNTIL SEPTEMBER OF 1985. HOWEVER, THE TANK FARM CONCRETE WAS CONSTRUCTED IN APRIL OF 1983, THEREFORE THE 1977 EDITION OF ACI-318 WOULD APPLY. THE 1977 EDITION REQUIRES 18" AS A MAX. SPACING FOR WALLS GREATER THAN 10" THICK. THE TANK FARM DIKE WALL IS ONLY 8" THICK, THUS THIS REQUIREMENT DOES NOT APPLY.

* THIS WALL DOES NOT MEET THE MIN. REINFORCEMENT REQUIREMENTS PER ACI-318, SECTION 14.3 WITH RESPECT TO STEEL/CONC AREA RATIO, HOWEVER IT DOES HAVE MORE THAN 1/3 GREATER STEEL THAN IS REQ'D BY ANALYSIS AND THEREFORE IS STRUCTURALLY ADEQUATE.

APPENDIX B

FIGURES



LEGEND

← TRAFFIC FLOW

GENERAL NOTES:

- NON-PERMITTED AREAS MAY CHANGE
- CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NC0079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Solutions

 1500 Beane Industrial Drive • Suite 303 • Columbia • SC 29902
 • Phone: (803) 440-7300 • Fax: (803) 440-7300

TITLE

SITE PLAN
 EXISTING

SAFETY-KLEEN SYSTEMS, INC.
 8400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX 75024 800-660-5740

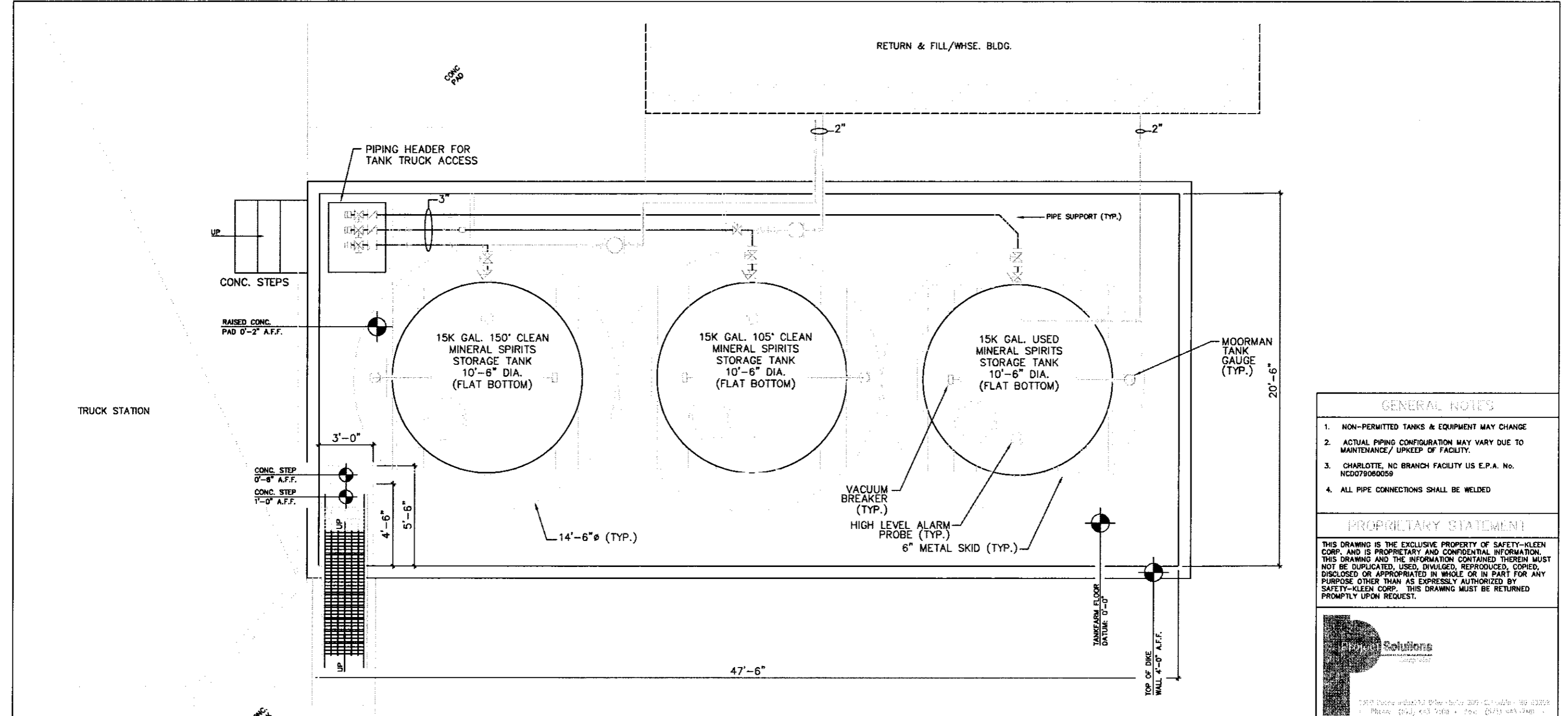
NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISE FOR PART B PERMIT RENEVAL	JEK	TB		02006
D	REVISE FOR E004 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	116796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART "B" PERMIT	MBH	KJM		070292

SCALE 1"=20'-0"

BY	CHKD	APPR	OP. APPR	DATE
MBH	KJM			06-03-92

SERVICE CENTER LOCATION: CHARLOTTE, NC
 SC-DWG NUMBER: 7055-SPO0-001
 REV. NO.: D

110796

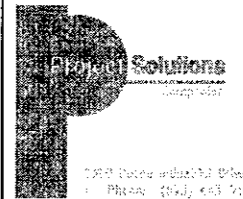


GENERAL NOTES

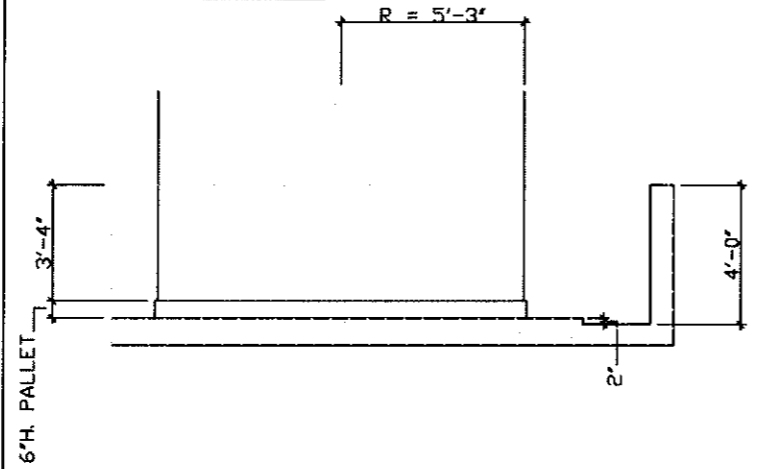
- NON-PERMITTED TANKS & EQUIPMENT MAY CHANGE
- ACTUAL PIPING CONFIGURATION MAY VARY DUE TO MAINTENANCE/ UPKEEP OF FACILITY.
- CHARLOTTE, NC BRANCH FACILITY US E.P.A. No. NCD079060059
- ALL PIPE CONNECTIONS SHALL BE WELDED

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



DIKE VOLUME CALCULATION:



VOLUME OF DIKE:	$[(47'-6" L.) (20'-6" W.) (4'-0" H.)]$ (7.48 GAL/CUFT.)	= 29134 GAL (+)
VOLUME OF RAISED PAD (3 PADS)	$3 [\pi (7'-3" R.)^2 (0'-2" H.)]$ (7.48 GAL/CUFT.)	= 618 GAL. (-)
VOLUME OF CONC. STEPS PLATFORM	$[(5'-6" L.) (3'-0" H.) (0'-6" H.) + (4'-6" L.) (3'-0" H.) (0'-6" H.)]$ = 21.74 (7.48 GAL/CUFT.)	= 163 GAL. (-)
TANK DISPLACEMENT VOLUME (2 TANKS):	$2 [\pi (5'-3" R.)^2 (3'-4" H.)]$ (7.48 GAL/CUFT.)	= 4739 GAL. (-)
25HR/24HR RAINFALL @ 6.5"	$[(47'-6" L.) (20'-6" W.) (0'-6.5" H.)]$ (7.48 GAL/CUFT.)	= 3945 GAL (-)
LARGEST TANK VOLUME		= 15000 GAL (-)
TOTAL EXCESS		= 4669 GAL (+)

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
C	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
B	RELEASED FOR PERMIT MOD.	NBH	KJM	SC/DP	022395
A	RELEASED FOR PART "B"	NBH	KJM		070192

TITLE
MINERAL SPIRITS TANKFARM
PLAN - EXISTING

SAFETY-KLEEN SYSTEMS, INC.
6400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX 75024 800-688-5740

SCALE 3/8" = 1'-0"	BY NBH	CHKD KJM	APPR -	OP. APPR -	DATE 061792
SERVICE CENTER LOCATION CHARLOTTE, NC	SC-DWG NUMBER 7055-4100-300	REV. NO. C			



022295

APPENDIX D-3

CONTAINER STORAGE UNIT ASSESSMENTS

January 18, 2006

Mr. Todd Blake, CHMM
Safety-Kleen Systems, Inc.
2320 Yadkin Avenue
Charlotte, North Carolina 28205

Reference: **Structural Integrity Assessment of Container Storage Areas**
Safety-Kleen Facility # 3-031-01
2320 Yadkin Avenue
Charlotte, North Carolina 28205
ATC Project No. 45.16031.0007

Dear Mr. Blake:

ATC Associates of North Carolina, P.C. (ATC) is pleased to present this letter report documenting the results of a Structural Integrity Assessment of the container storage areas at the Safety-Kleen facility in Charlotte, North Carolina. The container storage areas that are the focus of this report include one non-ignitable container storage area and one Class 1B flammable container storage area. The purpose of the assessment was to fulfill the requirements specified in 40 CFR 270.16(a)(1), 40 CFR 264.193(c)(1), 40 CFR 264.193(c)(2), and 40 CFR 264.193(c)(3) for the RCRA Part B Permit Renewal for the facility. This report contains the results of our field visit, document review, calculations, and conclusions.

Site Observations

On January 4, 2006, Mr. Joseph G. Schold, P.E. visited the facility and on January 10, 2006, Ms. Diana Lanier visited the facility. The facility is located at the intersection of Yadkin Road and 27th Street in Charlotte, Mecklenburg County, North Carolina. Mr. Schold and Ms. Lanier observed the various waste containment units and took measurements and photographs of the various areas of evaluation.

Review of Documents

ATC was supplied the following documents for this project:

- List of Deficiencies, Safety Kleen Systems, Inc. Charlotte, Raleigh, High Point, St. Pauls, North Carolina, from North Carolina Department of Environment and Natural Resources (NCDENR).
- Container Storage Area Containment Certification, Safety-Kleen Corporation Branch, Charlotte, North Carolina by QuesTec Corporation, August 14, 1992.



- Tank System Structural Integrity, Charlotte, North Carolina by QuesTec dated July 1, 1997.
- Hazardous Waste Mineral Spirits Tank Assessment by S&ME dated February 23, 2000.

ATC also reviewed the following at the site:

- Part B Permit Application, Safety-Kleen Systems, Inc., Service Center 3-031-01, EPA ID No. NCD 079 060 059.
- RCRA Hazardous Waste Facility, Operating Permit Application, EPA ID No. NC NCD 079 060 059, January 30, 2004.

Observations and Evaluation

Foundation Evaluation

In the container storage areas, the weight from the drums and grating exerts a minimal load on the supporting concrete slabs. ATC's on site observations indicate no settlement or cracking and our experiences with similar installations verify that the concrete slab and foundation have sufficient strength. The systems are above the 100 year flood plain and are not subject to hydrostatic uplift.

Secondary Containment Assessment

The secondary containment system consists of reinforced concrete containment areas with reinforced concrete slabs and retaining walls both above grade and below grade. A grate is present over the containment area to capture possible spills. The systems were evaluated with respect to compatibility of the construction materials with the stored contents and strength as detailed below.

Compatibility of the construction materials with the stored materials:

The non-ignitable container storage areas are used to store immersion cleaner wastes, aqueous parts washer solvent, photographic waste, perchloroethylene waste, new product, and empty drums. The Class 1B flammable storage container area is used to store paint related waste, Fluid Recovery Systems (FRS) wastes, used parts washer solvent, drum washer sediment, and dry cleaning wastes. These wastes are stored in a variety of containers ranging in size from 5-gallons to 85-gallons. Safety-Kleen's extensive experience storing these materials has proven that the materials of construction which consist primarily of carbon steel, stainless steel, concrete, polyurethane caulk, and epoxy coating are compatible with the stored contents.

Strength:

Concrete trenches and sumps are below grade and are sufficient for handling the lateral soil pressure as well as hydrostatic pressure. The secondary containment system is on the interior of the building and should not be affected by vehicular traffic.

Leak Detection System

The container storage areas are observed and inspected on a daily basis for evidence of spills by Safety-Kleen personnel. The secondary containment areas are easily accessible for visual inspection.

CONCLUSIONS

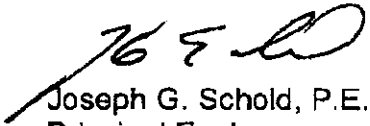
ATC has completed a structural integrity assessment of the container storage areas at the Safety-Kleen facility in Charlotte, North Carolina. The areas assessed included the non-ignitable container storage area and the Class 1B flammable container storage area. Based on the results of this assessment, ATC concludes the following:

- The base materials and thickness for the container storage areas are adequate to support the weight of containers vehicles etc., as required under 40 CFR 270.16(a)(1).
- The secondary containment systems for the container storage areas have sufficient strength and thickness to prevent failure caused by pressure gradients (including static head and external hydrological forces), physical contact with the wastes, and stress of daily operation including stresses from nearby vehicular traffic, as required under 40 CFR 264.193(c)(1).
- The container storage areas are placed on a foundation or base that is capable of providing support, resisting pressure gradients above and below the system, and preventing failure due to settlement, compression, or uplift, as required under 40 CFR 264.193(c)(2).
- This report provides a description of the leak detection system for the container storage areas, as required under 40 CFR 264.193(c)(3).

We have enjoyed being of service to you on this project. If you have any questions or if we can be of further assistance, please do not hesitate to contact us.

Respectfully,
ATC ASSOCIATES OF NORTH CAROLINA, P.C.


Genna K. Olson, P.G.
Senior Project Manager


Joseph G. Schold, P.E.
Principal Engineer

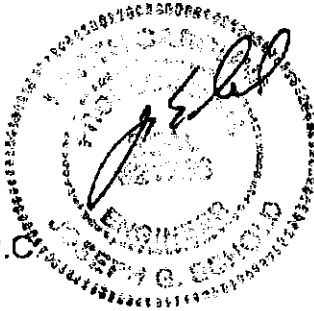
Attachments: Engineer's Certification
 Appendix A – Calculations
 Appendix B - Figures

ENGINEER'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all related attachments and that, based on my observations and my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Joseph G. Schold

Joseph G. Schold, P.E.
Principal Engineer
ATC Associates of North Carolina, P.C.
North Carolina Registration # 21736



Date 1/18/06

APPENDIX A
CALCULATIONS

TRENCH VOLUME CALCULATIONS

trench dimensions: $L = 27'-9\frac{1}{2}" = 27.79'$

$$W = 1'-9" = 1.75'$$

$$H = 1'-11\frac{1}{2}"^* = 1.96'$$

Volume:

$$V = LWH = 7.48$$

* The shortest measurable height.
There is excess volume in the slightly
sloped trench bottom.

$$V = 27.79 \times 1.75 \times 1.96 = 7.48$$

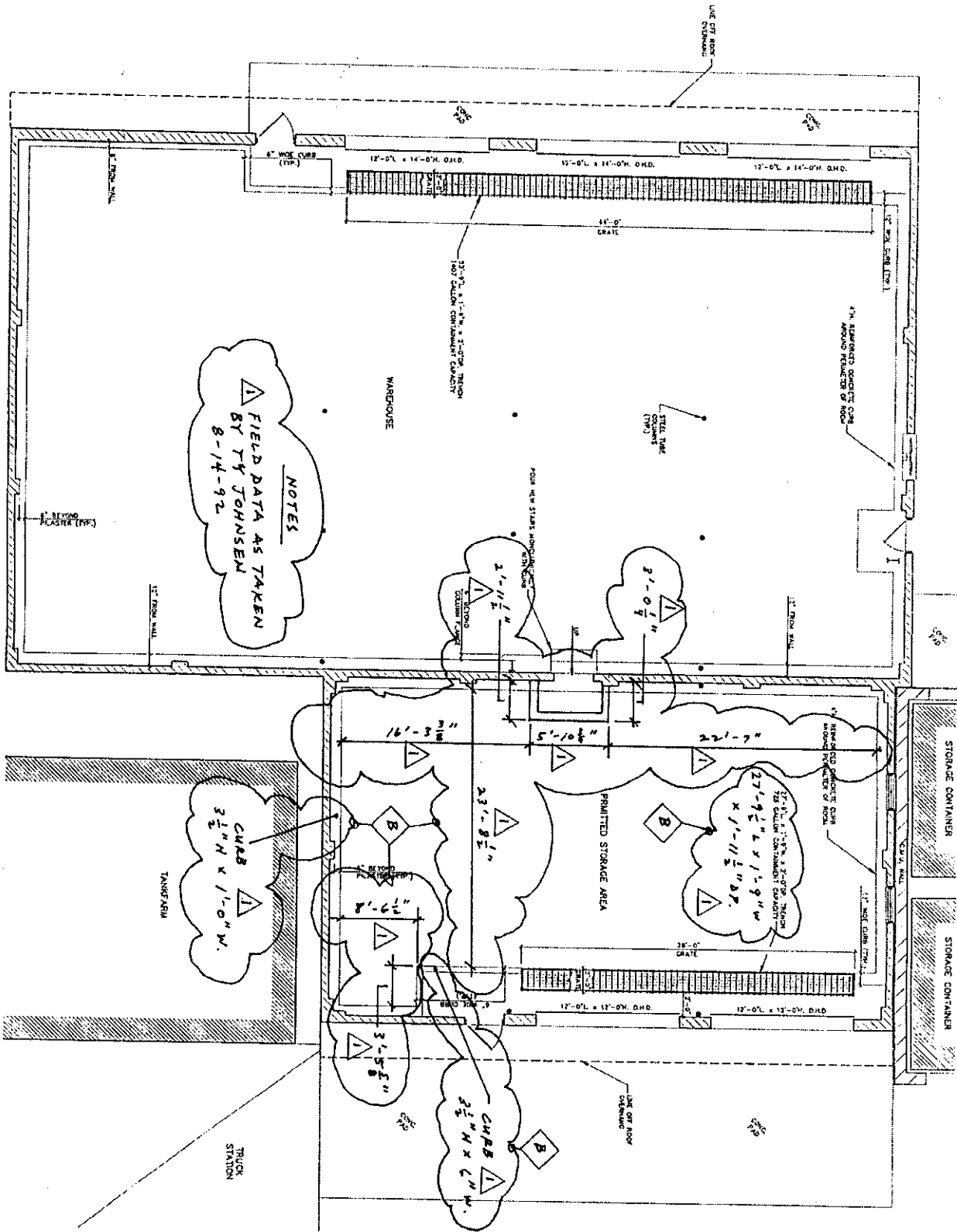
$$V = \underline{713 \text{ gallons}}$$

The volume of the largest container is 85 gallons, which is less than the volume of the trench.

The maximum volume of waste liquids that will be stored is 7130 gallons.

Ten percent of 7130 gallons is 713 gallons, which equals the capacity of the trench.

The trench volume is adequate.



NOTES
 ▲ FIELD DATA AS TAKEN
 BY TY JOHNSON
 8-14-92

▲ CRAB
 3 1/2" H x 1'-0" W.
 TANK FARM

▲ CRAB
 27'-9 1/2" L x 1'-9" W
 x 1'-11 1/2" H D.P.
 1/2" DIA. CONCRETE CAPACITY

▲ CRAB
 3 1/2" H x 1" W.

GENERAL NOTES

1. NON-PROHIBITED AREAS MAY CHANGE
2. ACTUAL CONSTRUCTION MAY VARY DUE TO ACTUAL SITE CONDITIONS
3. DIMENSIONS ARE BRAND FACTORY OR C.F.A. NO. DIMENSIONS

NO.	DESCRIPTION	REV.	DATE	BY	CHK.	APPR.
1	MISC. REVISIONS	1				
2	RELEASED FOR PART 2	1				

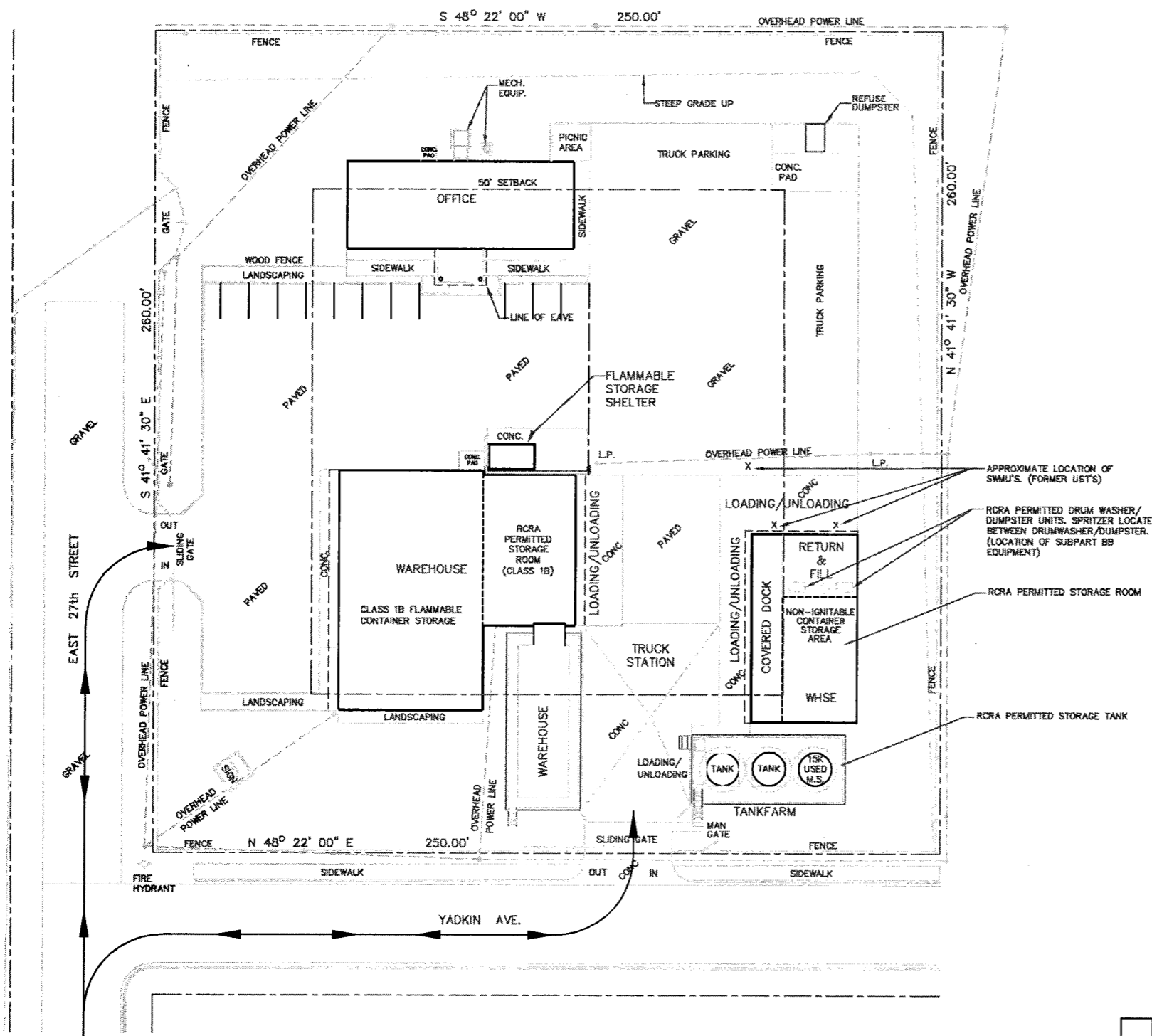
**WAREHOUSE FLOOR PLAN
 PROPOSED**

S SAFETY-KLEEN CORP.

PROJECT NO.	DATE	SCALE	BY	CHK.	APPR.
CHAMLOTTE, NC	08/14/92	AS SHOWN	TJ		

APPENDIX B

FIGURES



LEGEND



GENERAL NOTES

- NON-PERMITTED AREAS MAY CHANGE
- CHARLOTTE NC BRANCH FACILITY US E.P.A. No. HCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISE FOR PART B PERMIT RENEVAL	JEK	TB		012006
D	REVISE FOR 0304 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	110795
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM		070292

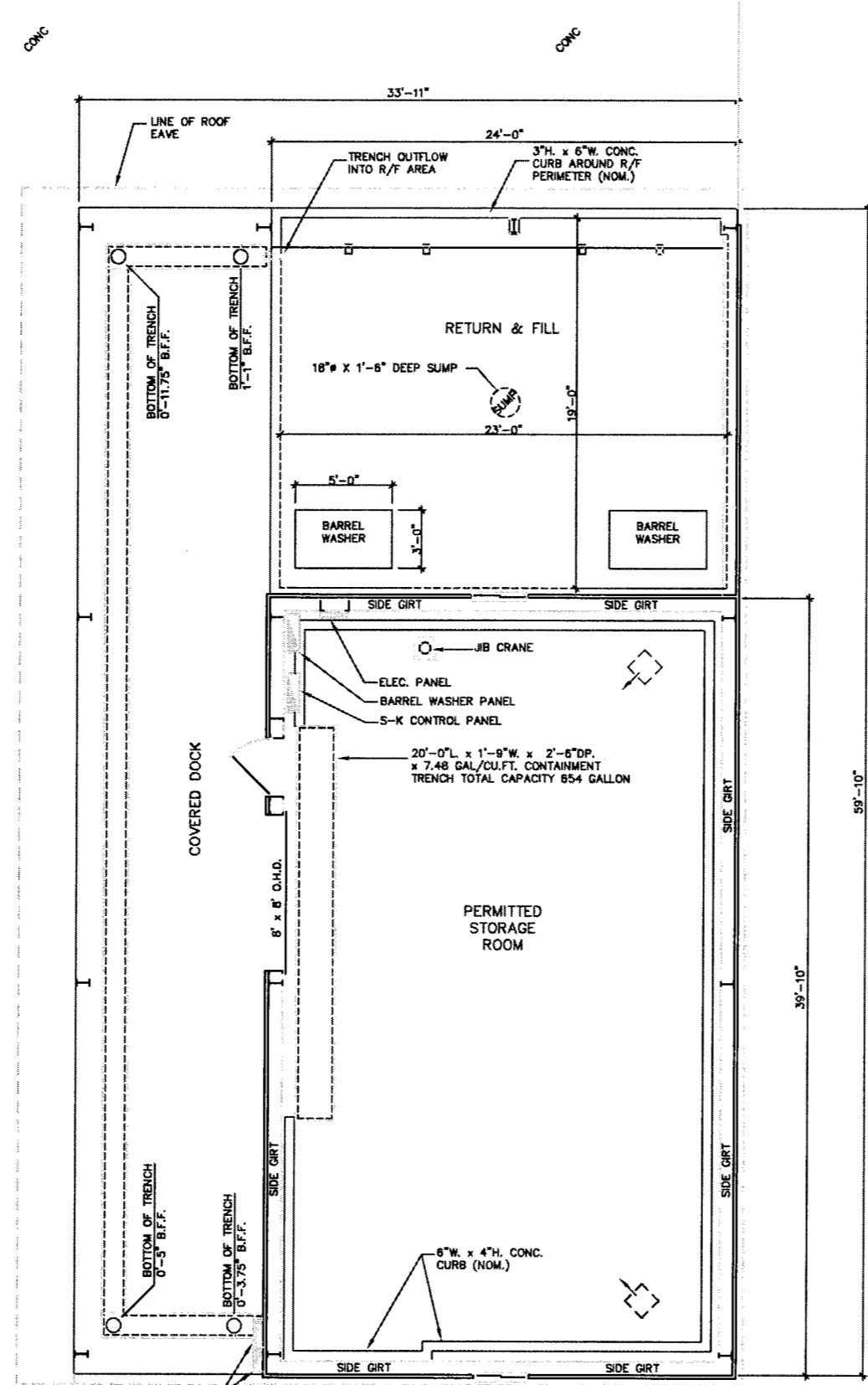
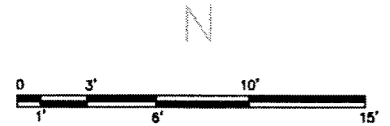
TITLE

SITE PLAN EXISTING

SAFETY-KLEEN SYSTEMS, INC.
8400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX 75024 800-800-5740

SCALE 1"=20'-0" BY MBH CHK KJM APPR DATE 06-03-92

SERVICE CENTER LOCATION CHARLOTTE, NC SO-DWG NUMBER 7055-SPOO-001 REV. NO. D



CONTAINMENT CALCULATIONS FOR RETURN/FILL AREA
 FORMULA USED (L) (W) (H) (7.48 GAL/CF)

23'-0" X 19'-0" X 3" X 7.48 GAL/CF = +817.19 GALLONS
 VOLUME OF SUMP
 FORMULA USED (R) (H) (7.48 GAL/CF)

3.142 X 81 SQ. IN. X 1'-6" X 7.48 X .00058 = +19.87 GALLONS

DISPLACEMENT OF DRUM WASHERS/DUMPSTERS
 FORMULA USED (L) (W) (H) (7.48 GAL/CF)

5'-0" X 3'-0" X 3" X 7.48 GAL/CF X 2 = -56.10 GALLONS

DISPLACEMENT OF COLUMNS -2.0 GALLONS

TOTAL CONTAINMENT +779.96 GALLONS

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



1390 Boone Industrial Drive • Suite 200 • Columbia, SC 29202
 Phone: (803) 443-7100 • Fax: (803) 443-7181

TITLE
 RETURN & FILL
 CONTAINMENT CALCULATIONS

SAFETY-KLEEN SYSTEMS, INC.
 3400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-868-9740

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISE FOR PART B PERMIT RENEWAL	JEK	TB	TB	012006
A	NEW RELEASE	MBH	KJM	-	020393

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1/4" = 1'-0"	MBH	KJM	-	-	02-03-93
SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.			
CHARLOTTE, NC	7055-WB00-201	B			

TANKFARM

APPENDIX D-4

**INDUSTRIAL HYGIENE ASSESSMENT / STUDY
OF DRUM WASHER / DUMPSTER UNITS
AND RETURN AND FILL OPERATION**



To: Kevin Knippschild
From: Gavin Burdge 
Subject: **Dec 6, 2000 Personal Air Sample Obtained at the Dolton, IL Return and Fill**
Date: Jan 27, 2001

Executive Summary

Air sampling at the return and fill indicated negligible health risk (additive exposure index < 0.1) from the inhalation route of exposure. Skin contact from splashes was a more likely route of exposure.

Discussion

A personal air sample was obtained December 6, 2000 on Tony Alvarez who worked on the 3 pm to 11 pm shift at the return and fill. A full shift sample was obtained to determine the 8-hour time-weighted average solvent concentrations. The actual dumping of drums containing 105 and 150 solvent takes about 3 to 4-hours. The air sample was obtained following standard NIOSH methods and analyzed by the AIHA accredited Safety-Kleen Lambton Occupational Hygiene Lab.

The results showed trace concentrations of several airborne solvents. All concentrations were significantly below the occupational exposure limits. A trace concentration of 0.013 ppm of benzene was detected. The TLV for benzene is 0.5 ppm. The concentration of methylene chloride detected was 0.1 ppm. The methylene chloride OSHA "action level" is 12.5 ppm. Other substances detected in trace concentrations less than 1 ppm were hexane, isopropanol, 1,1,1-trichloroethane, trichloroethylene, perchloroethylene, ethyl benzene, toluene, xylene and 1,3,5-trimethyl benzene.

This air sample did not demonstrate the need for respirators. Toluene and benzene are absorbed through the skin and all skin contact must be avoided.

The additive exposure index = $\text{conca}/\text{TLVa} + \text{concb}/\text{TLV b} + \dots \text{concn}/\text{TLVn} = < 0.1$ (negligible inhalation risk).

Recommendations

- Full-face respirators are worn for eye and face protection. Possible alternatives are wrap-around-lens type safety glasses (e.g., Uvex "Genesis" or AO Safety "GoggleGear"), and face-shield without a respirator. Chemical resistant aprons with sleeves are also recommended because of the potential for chemical splashes when drum moving, tilting, opening and dumping the drum contents.
- Chemical resistant safety boots should be worn instead of leather shoes.
- Change out of work clothes after dumping drums.

Results

Tony Alvarez, dumping drums at the Return and fill, 450 minutes, December 6, 2000		
Substance	Concentration	PEL/TLV
/Isopropanol	0.1 ppm	400 ppm
Methylene Chloride	0.1 ppm	25 ppm PEL
Hexane	0.3 ppm	50 ppm
Benzene	0.013 ppm	0.5 ppm (Skin), Confirmed Human Carcinogen
1,1,1-Trichloroethane	0.01 ppm	350 ppm
Trichloroethylene	0.05 ppm	50 ppm
Toluene	0.1 ppm	50 ppm (Skin)
Ethyl Benzene	0.02 ppm	100 ppm
Perchloroethylene	0.1 ppm	25 ppm
Xylene	0.2 ppm	100 ppm
1,3,5-Trimethylbenzene	0.2 ppm	25 ppm

Benzene is listed by ACGIH as a confirmed human carcinogen. The "skin" notation indicates that the material is absorbed through the skin.

Cc: Dan Mansueto



Safety-Kleen Lambton Laboratory Analytical Report

Reference Numbers:	C2072572 <small>Safety-Kleen</small>	97Nov 1433 <small>Client (PO or Project #)</small>
Client:	Safety-Kleen, Columbia, SC	
Dates:	December 7, 2000 <small>Sampled</small>	January 31, 2001 <small>Submitted</small>
Sample Description:	Air Monitoring	

g:\lab\analysis\reports\contract\2001\ih\gavin\c2072572.xls\header

Industrial Hygiene Analysis Information

(Analytical Results Attached)

Analysis Details		Type of Analysis		
		Dust by Gravimetry	Metals	Solvent Extractable Hydrocarbons*
Sampling	Date: Sampled By: Date Submitted:			December 7, 2000 Gavin Burdge January 31, 2001
Medium Analyzed	Type: Supplier: Lot Number:			activated charcoal SKC 2000
Digestion / Extraction	Method: Date: Analyst:			NIOSH 1500 January 31, 2001 Larry Core
Analysis	Instrument: Date: Instrumentation Analyst: Blank Corrected Analytes: Sample Discard Date:			GC/MS January 31, 2001 Larry Core None February 14, 2001 (digests consumed during analysis) (expires 2 days after extraction)
Report	Date Reported:			February 7, 2001

*Results are not corrected for desorption efficiencies within NIOSH criteria for method accuracy.

[NIOSH; "Development and Evaluation Methods", *NMAM* 4th ed. (DHHS/NIOSH Pub. No. 94-113) Sect. I, Part E, pp.40 (1996)]

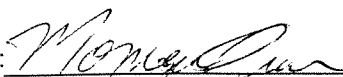
NA = Not Applicable

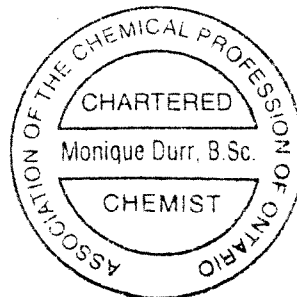
ND = Not Detected

PQL = Practical Quantitation Limit

Sample submitted to laboratory violated NIOSH protocols for sample hold times.

Lab Approval:


 Monique Durr, B.Sc., C.Chem.
 Analytical Specialist



Filed 7/01

 Date



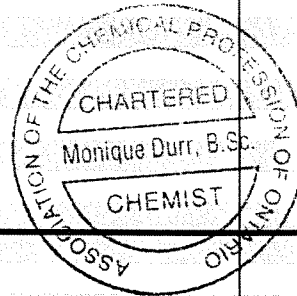


Safety-Kleen Lambton Laboratory Analytical Report

Reference Numbers:	C2072572 <small>Safety-Kleen</small>	97Nov 1433 <small>Client (PO or Project #)</small>
Client:	Safety-Kleen, Columbia, SC	
Dates:	December 7, 2000 <small>Sampled</small>	January 31, 2001 <small>Submitted</small>
Sample Description:	Air Monitoring <small>g:\lab\analysis\reports\contract\2001\ih\gavin\[c2072572.xls]header</small>	

Industrial Hygiene Organics Analysis

Parameters:	12072000-1											
Air Volume (L)	42											
	back charcoal	front charcoal	per air volume	per air volume	back charcoal	front charcoal	per air volume	per air volume	back charcoal	front charcoal	per air volume	per air volume
Units: μg	μg	μg	mg/m^3	ppm^*	μg	μg	mg/m^3	ppm^*	μg	μg	mg/m^3	ppm^*
PQL												
Blank Correction:	none	none		corrected	none	none		corrected	none	none		corrected
Isopropanol	0.7	ND	8.5	0.202	0.082							
Acrylonitrile	0.5	<0.7	<0.7	<0.017	<0.008							
Dichloromethane	0.3	1.1	8.5	0.229	0.066							
Methyl Ethyl Ketone	0.5	ND	ND	ND	ND							
Hexane	0.2	9.9	32	0.986	0.280							
Ethyl Acetate	0.2	ND	ND	ND	ND							
Chloroform	0.2	ND	ND	ND	ND							
1,2-Dichloroethane	0.3	ND	ND	ND	ND							
1,1,1-Trichloroethane	0.3	ND	2.4	0.057	0.010							
Benzene	0.5	ND	1.7	0.040	0.013							
Carbon Tetrachloride	0.5	ND	ND	ND	ND							
p-Dioxane	0.2	ND	ND	ND	ND							
Trichloroethylene	0.2	ND	11	0.255	0.047							
Methyl Isobutyl Ketone	0.2	ND	ND	ND	ND							
1,1,2-Trichloroethane	0.2	ND	ND	ND	ND							
Toluene	0.5	ND	18	0.429	0.114							
n-Butyl Acetate	0.2	ND	ND	ND	ND							
Tetrachloroethylene	0.2	ND	37	0.879	0.130							
Chlorobenzene	0.2	ND	ND	ND	ND							
Ethylbenzene	0.2	ND	2.7	0.064	0.015							
p- & m- Xylene	0.2	ND	14	0.340	0.078							
Styrene	0.3	ND	ND	ND	ND							
o-Xylene	0.3	ND	17	0.398	0.092							
1,1,2,2-Tetrachloroethane	0.2	ND	ND	ND	ND							
1,3,5-Trimethylbenzene	0.3	ND	37	0.888	0.181							
1,3-Dichlorobenzene	0.2	ND	ND	ND	ND							
1,4-Dichlorobenzene	0.2	ND	ND	ND	ND							
1,2-Dichlorobenzene	0.2	ND	ND	ND	ND							
1,3,5-Trichlorobenzene	0.2	ND	ND	ND	ND							
1,2,4-Trichlorobenzene	0.2	ND	ND	ND	ND							
1,2,3-Trichlorobenzene	0.2	ND	ND	ND	ND							
Naphthalene	0.2	ND	ND	ND	ND							
GC/FID Low Boiling Hydrocarbons	ND	ND	ND	ND	ND							
Medium boiling Hydrocarbons	ND	ND	ND	ND	ND							
High Boiling Hydrocarbons	ND	ND	ND	ND	ND							



ppm* - volume/volume, assuming compounds are an ideal gas at normal temperature, 25°C (298K), and pressure, 760mm Hg (101.33kPa) (NTP)

Lab Approval: Monique Durr
 Monique Durr, B.Sc., C.Chem.
 Analytical Specialist

Date: Feb. 7/01





FIELD FORM AND CALIBRATION DOCUMENTATION

Sample Number				Facility #	Facility Location
12	6	2000	GB		Dolton, IL

Month Day Yr Initials No.

EMPLOYEE INFORMATION

Employee Name			
Last: Alvarez	First: Tony		
Sample Obtained for: BZ	Location/Area: J	SHIFT	Start time 2:500
Job Title: Material Handler	Device Type: Badge or Pump	2ND	Stop time 2300
Job Task: Dolton, IL Return + Fill Dumping 105 + 150 Mineral Spirits @ Dolton Location R/C. (Part of Dec. 5-7, 2000 Dolton RC IIT Report, Tube was not initially sent to LAB)			

SAMPLING INFORMATION

Precalibration Date: 12/6/2000	Flowrate: 0.090 lpm	Postcalibration Date: 12/7/2000	Flowrate: 0.097 lpm
Temperature: C (Degrees Centigrade)	Pressure: STD.	mmHg (Millimeters of Mercury)	
Sample Duration: 450 mins	Start time: 1600	Stop time: 2330	
Collection Media: booms CT	Sample Type Taken Code: BZ	Analytical Method: GC/MS	
Lab: LAMBTON OC Hygiene LAB	Date Sent:	Ventilation: Local Dilution	
Total Shift Length: 480 mins	Full Shift: YES NO	Remainder of Exp. Time: mins	

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: YES NO	TYPE code: OV	Cartridge code: →
BODY code*: Full-Face Resp	EYE code: Safety Glasses	HAND code: Best Neoprene
HEAD code: N/A	OTHER codes:	

COMMENTS

450 Mins @ 95	* Work without No Coveralls or Apron
Pre-program Pump on 1600, off 2330	Leather Non-Chem. Resistant shoes
Resp worn when Dumping Drums	

SAMPLING PERFORMED BY: GBudge



To: Corporate IH File

From: Chris Bachman

Date: 4/22/05

Re: Routine Branch IH sampling event

On January 11th, 13th and January 18th, 2005 Safety-Kleen was provided with professional IH monitoring services through AIG Insurance. The objective of the surveys was to monitor (1) CSRs for solvent exposure during parts washer services, unvented gun cleaners, dry cleaning services and (2) monitor Material Handlers for solvent and noise exposure during dump/fill operations.

All results were below 50% of the applicable OSHA and ACGIH values except for the Short Term (STEL) sample for Toluene (67% of OSHA Ceiling) during the unvented gun cleaner service and the ACGIH 80-db average for Noise (88.0 db). Results will not effect the current branch PPE hazard assessments (9/2004) for servicing unvented gun cleaners, parts washers and dump/fill operations (while using pneumatic gun).

**Sound Level Measurements for Dumping and Filling Operation
January 18, 2005**

Location	Sound Level (dBA)*
Moving drums with forklift onto rack	87.5
Drums banging on floor	91.4 – 98.3
Two drums banging together	92.4
Metal lids thrown into drums	103.5
Unscrewing nut on drum with pneumatic drill	103 – 105.8
Using pneumatic drills	95.3 – 102.2
Drum rolling in washer without spray	82
Drum rolling in washer with solvent spray	95
Scraping labels off of drums	78 to 81

Bolded results indicate sound level readings above the OSHA action level and/or PEL

**Noise Monitoring Results for Dumping and Filling Operation
January 18, 2005**

Employee/ Location	Time (hh:mm) On/Off	Dose ^a , % 80-db Threshold	Lavg ^b , dBA 80-db Threshold	Dose ^a , % 90-db Threshold	Lavg ^b , dBA 90-db Threshold	ACGIH Dose ^a , % 80-db Threshold	ACGIH Lavg ^b , dBA 80-db Threshold
Material Handler	3:31 (9:46 – 1:18)	22.08	85.1	11.61	80.4	86.75	88.0
			OSHA AL= 85 dBA		OSHA PEL= 90 dBA		ACGIH TLV [®] = 85 dBA

Bolded results indicate above the OSHA action level / ACGIH TLV

Field Service Short-Term (STEL) Sampling Solvent Results (1/13/05)

Employee	Time (min)* (Start/Stop)	Sample No.	Analyte	Result (ppm)	OSHA PEL Ceiling/STEL (ppm)	ACGIH TLV [®] Ceiling/STEL (ppm)
CSR - <i>Servicing unvented gun cleaner.</i>	10 (9:24 –9:35)	13-3T	Acetone	46	NE	750
			Toluene	200	300 C	NE
		13-4M	Methanol	21	NE	250

Bolded results indicate above the OSHA action level / Ceiling Limit

Time-Weighted Average Sampling (1/11/05)

Employee	Sample No.	Time (min)* (Start/Stop)	Analyte	Result (ppm)	OSHA PEL (ppm)	ACGIH TLV [®] (ppm)
CSR <i>Servicing Parts Cleaner that uses 150 Gold</i>	A-1	286 (8:57 – 3:41)	Total Hydrocarbons (as Stoddard solvent) ^a	≤ 2.4	500	100
			Tetrachloroethylene	0.13	100	25
			1,1,1- Trichloroethane	< 0.09	350	350

Short-Term (STEL) Sampling Solvent Results (1/11/05)

Employee	Sample No.	Time (min)* (Start/Stop)	Analyte	Result (ppm)	OSHA PEL Ceiling/STEL (ppm)	ACGIH TLV® Ceiling/STEL (ppm)
CSR- <i>Servicing Model 81 Agitating Parts Cleaner that uses 150 Gold.</i>	S-1	32 (10:05 – 10:37)	Total Hydrocarbons (as Stoddard solvent) ^a Tetrachloroethylene	2.4 < 0.1	NE 200 C	NE 100
CSR <i>Servicing Parts Cleaner that uses 150 Gold.</i>	S-2	23 (11:09 – 11:32)	Total Hydrocarbons (as Stoddard solvent) ^a Tetrachloroethylene	≤ 2.4 < 0.2	NE 200 C	NE 100
CSR- <i>Removing 2 sealed perc containers from dry cleaning store</i>	S-3	10 (1:43 – 1:53)	Tetrachloroethylene 1,1,1-Trichloroethane	< 0.4 < 0.5	200 C NE	100 450
CSR- <i>Removing 2 perc containers from dry cleaning store. One container not sealed properly.</i>	S-4	13 (2:40 – 2:53)	Tetrachloroethylene 1,1,1-Trichloroethane	3.7 < 0.4	200 C NE	100 450

Table IV: Dumping and Filling Time-Weighted Average Sampling (1/18/05)

Employee	Time (min)* (Start/Stop)	Sample No.	Analyte	Result (ppm)	OSHA PEL (ppm)	ACGIH TLV® (ppm)
George Huggins <i>Dumped about fifteen 30-gallon drums of 150 solvent and nine 16-gallon drums of 105 solvent; cleaned a filter and worked with a mechanic.</i>	175 (9:38 – 12:34)	18-1	Total Hydrocarbons (as Stoddard solvent) ^a	1.7	500	100
			Tetrachloroethylene	0.20	100	25



APPENDIX B

Health and Safety Department

**Personal Protective
Equipment
Policy # SAF-06**

PERSONAL PROTECTIVE EQUIPMENT - HAZARD ASSESSMENT RECORD																
FACILITY TASK/OPERATION: Return and Fill Area - Emptying, washing and filling drums		Hazard Categories (check at least one) - All That Apply -														
		Mechanical/Physical							Chemical				Biological			
RECERT DATE		Falls from heights	Cuts, Abrasions	Impact, Crushing	Slip, Trip, Falls	Thermal Burns	Heat/Cold Stress	UV/IR Radiation (welding, cutting)	Electrical	Noise	Gases, Vapors	Dust, Fumes, Particles	Contact with Contaminated Surfaces	Splashes, Spurts	Harmful Bacteria	Harmful Virus
6/5/2015																
Approved by Floyd Keller																
POSITION TITLE Director of Health and Safety																
PARTS OF BODY																
Head	Cranium															
	Ears								X							
	Eyes													X		
	Resp Tract															
	Face													X		
Upper Limbs	Whole Head		X	X												
	Hands		X	X									X	X		
Lower Limbs	Arms		X											X		
	Feet			X										X		
Various	Legs													X		
	Skin												X			
	Abdomen												X	X		
	Whole Body				X		X									

<input checked="" type="checkbox"/>	PPE Required	Specific Type
<input checked="" type="checkbox"/>	Hearing Protection	Required when using pneumatic tools
<input checked="" type="checkbox"/>	Gloves	Cut resistant, supported neoprene gloves
<input checked="" type="checkbox"/>	Steel Toed Boots	Leather with metatarsals w/ slip resistant sole
<input checked="" type="checkbox"/>	Tyvek	Tychem QC apron w/ sleeves
<input type="checkbox"/>	Respirator	
<input type="checkbox"/>	SCBA/Airline	

<input checked="" type="checkbox"/>	PPE Required	Specific Type
<input checked="" type="checkbox"/>	Hard Hat	
<input checked="" type="checkbox"/>	Safety Glasses	Approved with side shields
<input type="checkbox"/>	Goggles	
<input type="checkbox"/>	Face Shield	
<input checked="" type="checkbox"/>	Work Uniform	
<input type="checkbox"/>	Other	

Revision Date: 6/5/2015

[Back](#)

SECTION E
GROUND WATER MONITORING

This Section does not apply.

SECTION F
PROCEDURES TO PREVENT HAZARDS
TABLE OF CONTENTS

SECTION		PAGE
F-1	Security	1
F-1(a)	Security Procedures and Equipment	1
F-1(a)(1)	24-Hour Surveillance System	1
F-1(a)(2)	Barrier and Means to Control Entry	2
F-1(a)(2)(a)	Barrier	2
F-1(a)(2)(b)	Means to Control Entry	2
F-1(a)(3)	Warning Signs	3
F-1(b)	Waiver	3
F-2	Inspection Schedule	3
F-2(a)	General Inspection Requirements	3
F-2(a)(1)	Types of Problems	4
F-2(a)(2)	Frequency of Inspection	4
F-2(b)	Facility Inspection Requirements	10
F-2(b)(1)	Monitoring Equipment	10
F-2(b)(2)	Emergency Equipment	10
F-2(b)(3)	Safety Equipment	11
F-2(b)(4)	Security Equipment	11
F-2(b)(5)	Operating and Structural Equipment	11
F-2(b)(6)	Testing of Equipment	11
F-2(c)	Specific Process Inspection Requirements	11
F-2(c)(1)	Container Inspection	12
F-2(c)(2)	Tank System Inspection	12
F-2(c)(3)	Waste Pile Inspection	14
F-2(c)(4)	Surface Impoundment	14
F-2(c)(5)	Incineration Inspection	14
F-2(c)(6)	Landfill Inspection	14

SECTION F
PROCEDURES TO PREVENT HAZARDS
TABLE OF CONTENTS
(Continued)

SECTION	PAGE
F-2(c)(7) Land Treatment Inspection	14
F-2(c)(8) Miscellaneous Unit Inspections	14
F-2(c)(9) Boilers and Industrial Furnace Inspections	15
F-2(c)(10) Drip Pad Inspection	15
F-2(c)(11) Containment Building Inspections	16
F-2(c)(12) Subpart AA-Emission Standards for Process Vents	16
F-2(c)(13) Subpart BB-Emission Standards for Equipment Leaks	16
F-2(c)(14) Subpart CC-Air Emission Standards for Tanks, Surface Impoundments, and Containers	16
F-2(d) Remedial Action	16
F-2(e) Inspection Log	17
F-3 Waiver of Preparedness and Prevention Requirements	17
F-3(a) Equipment Requirements	18
F-3(a)(1) Internal Communications	18
F-3(a)(2) External Communications	18
F-3(a)(3) Emergency Equipment	18
F-3(a)(4) Water for Fire Control	19
F-3(b) Aisle Space Requirement	19
F-4 Preventative Procedures, Structures and Equipment	19
F-4(a) Loading/Unloading Operations	19
F-4(b) Runoff	21
F-4(c) Water Supplies	22
F-4(d) Equipment and Power Failures	22
F-4(e) Personal Protection Equipment	23
F-4(f) Ventilation Equipment	23

SECTION F
PROCEDURES TO PREVENT HAZARDS
TABLE OF CONTENTS
(Continued)

SECTION	PAGE	
F-5	Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes	23
F-5(a)	Precautions to Prevent Ignition of Ignitable or Reactive Wastes	24
F-5(b)	General Precautions for Handling Ignitable, Reactive and Incompatible Wastes	24
F-5(c)	Management of Ignitable or Reactive Wastes in Containers	25
F-5(d)	Management of Incompatible Wastes in Containers	26
F-5(e)	Management of Ignitable or Reactive Wastes in Tanks	26
F-5(f)	Management of Incompatible Wastes in Tanks	26
F-5(g)	Management of Ignitable or Reactive Waste in Waste Piles	27
F-5(h)	Management of Incompatible Waste in Waste Piles	27
F-5(i)	Management of Ignitable of Reactive Waste in Surface Impoundments	27
F-5(j)	Management of Incompatible Waste in Surface Impoundments	27
F-5(k)	Management of Ignitable of Reactive Wastes Placed in Landfills	27
F-5(l)	Management of Incompatible Waste Placed in Landfills	27
F-5(m)	Management of Ignitable or Reactive Wastes Placed in Land Treatment Units	27
F-5(n)	Management of Incompatible Waste Placed in Land Treatment Units	28
F-6	Inspection, Monitoring and Documentation Requirements for Equipment Leaks	28
F-6(a)	Purpose and Applicability	28
F-6(b)	Equipment Regulated by These Requirements	28
F-6(b)(1)	Equipment Identification Requirements	29

SECTION F
PROCEDURES TO PREVENT HAZARDS
TABLE OF CONTENTS
(Continued)

SECTION	PAGE
F-6(b)(2) Equipment Standards	30
F-6(b)(2)(a) Pumps	30
F-6(b)(2)(b) Open-Ended Valves and Lines	30
F-6(c) Inspection and Monitoring Program	30

LIST OF TABLES

F-1 Inspection Schedule

LIST OF APPENDICES

F-1 Example Inspection Logs

F-2 Verification of Emergency Response Resources and Capabilities

SECTION F

PROCEDURES TO PREVENT HAZARDS

The information provided in this section is submitted in accordance with the requirements of 40 CFR 270.14(b)(4), (5), (6), (8), and (9). Other regulations addressed to complete this section include 40 CFR 264.14, 264.15, 264.17, 264.32, 264.33, 264.35, 264.73, 264.174, 264.176, 264.177, 264.193, 264.195, 264.198, 264.199, 270.15, and 270.16. The Safety-Kleen Systems, Incorporated facility employs measures to prevent the following types of hazards: intruders, equipment failures, fires, explosions, and chemical spills. These preventative measures and company policy are organized according to the following subject areas: general security provisions, inspection schedule, and prevention of accidental ignition or reaction of ignitable, reactive, or incompatible wastes.

F-1 SECURITY

F-1(a) Security Procedures and Equipment

All visitors are required to register at the main entrance upon their arrival at the Facility. The entire Facility is surrounded by a 6-foot-high chain-link metal fence, topped with three (3) strands of barbed wire. Additional safety provisions include emergency alarms in various areas of the Facility, an intercom system, and a telephone system used for on-site and off-site communication.

F-1(a)(1) 24-Hour Surveillance System

Additional security surveillance is provided throughout the active portion of the Facility by way of infrared outdoor motion detection devices and addressable door contacts on the warehouse building. Surveillance of the security system is monitored during non-operating hours by an independent commercial central monitoring station for the

purpose of detecting and reporting unauthorized access to the Facility. Facility personnel are utilized to monitor security access during normal operating hours.

F-1(a)(2) Barrier and Means to Control Entry

F-1(a)(2)(a) Barrier

The entire Facility is surrounded by a 6-foot-high chain-link fenced topped with three (3) strands of barbed wire. There are three (3) vehicle access gates and two (2) man-gates built into the northeast and northwest sides (respectively) of the perimeter fence. The main entrance gate on the northeast side of the Facility is electronically operated and is used for ingress/egress of service route vehicles, employees, and visitors. The manually operated double swing gate located on the northeast side of the Facility is not currently used for vehicle ingress/egress. The remaining vehicle access gate located in the northwest perimeter is manually operated and is used for larger van and bulk vehicle delivery or pickup. The perimeter fence and gates are constructed from galvanized metal materials. Signs direct visitors to register at the main office building upon arriving at the Facility's main entrance.

F-1(a)(2)(b) Means to Control Entry

Entry to the Facility is controlled by keeping all gates closed and/or locked, except to allow ingress or egress of service vehicles, or visually monitored by Facility personnel when the gates are not closed. Routine visitor and employee parking areas are located outside the fenced operations area. Security fencing and gates are included in the Facility inspection program to ensure they are in good operating condition. The gate on the northwest side side of the Facility is opened only for delivery or removal of materials by over-the-road vehicles. The main entrance gate off of the driveway from East 27th Street is used for ingress and egress of Safety-Kleen route trucks, employees, and visitors. There is also one (1) man-gate built into the fence adjacent to the main entrance

gate and another man-gate is located adjacent to gate on the northwest side of the Facility (Yadkin Avenue) for emergency egress purposes.

F-1(a)(3) Warning Signs

Signs that are legible from a distance of 25 feet are posted at all fence gates and along the outside of the fence with distances of 50 feet or less between each sign. The signs are visible from all angles of approach and bear the legends "Danger, Unauthorized Personnel Keep Out", and "No Smoking". Because all entrances to the Facility are controlled, additional signs are not required to be posted at the entrances to permitted areas within the fenced area. Portions of the Facility manage hazardous materials and smoking is permitted only in designated areas directly outside the administrative office building inside the secured (i.e., fenced) portion of the Facility.

F-1(b) Waiver

Safety-Kleen does not request a waiver of the requirements stated in Part 264.14(a)(1) and (2) regarding injury to intruders and violations by intruders.

F-2 INSPECTION SCHEDULE

F-2(a) General Inspection Requirements

Safety-Kleen conducts regular inspections of the Facility for equipment malfunctions, structural deterioration, operator errors, and / or discharges that could cause or lead to the release of hazardous waste constituents and adversely affect the environment or threaten human health.

The inspection schedule that has been developed for use at Safety-Kleen included security devices, safety and emergency equipment, container storage areas, tank

storage areas (internal and external inspections), monitoring equipment, and operating and structural equipment. A record of each inspection is maintained for review for a period of at least three (3) years. At a minimum, these records include the date and time of the inspection, the inspector's name, a notation of the observation made, and the date and nature of any repairs or other remedial actions taken.

Specific details of the inspection schedule are provided in the following sections. Safety and emergency equipment and security devices, as well as inspection requirements for operating and process equipment, container storage areas, tank storage areas and the structural equipment, are covered in Section F-2(c).

F-2(a)(1) Types of Problems

Table F-1 presents an inspection schedule that identifies areas of the Facility to be inspected, the specific items within each area to be evaluated, the types of problems that may be encountered, and the frequency of the inspections. The areas / equipment scheduled for inspection include the Container Storage Areas, Tank Farm, the Drum Washer/Dumpster Units, Return and Fill Station, Safety and Emergency Equipment, Security Devices, and Miscellaneous Equipment. The specific items listed in Table F-1 are considered important because of their role in preventing, detecting, or responding to potential environmental or human health hazards.

F-2(a)(2) Frequency of Inspection

Table F-1 also provides the frequency of inspection for each area and/or equipment item, which is sufficient to ensure that any problems will not go unnoticed or a significant period of time.

Safety and emergency equipment, security devices, and miscellaneous equipment inspections are conducted pursuant to the inspection schedule provided in Table F-1. Results of each inspection are recorded on either an electronic or paper inspection log. This log addresses inspections of safety and emergency equipment and security devices, such as emergency eyewash and shower, personal protective clothing, spill materials, site fence, first aid kits, fire extinguishers, communication equipment, and miscellaneous equipment. At a minimum, the frequencies of inspections are as described by applicable regulations for the types of hazardous waste management units and equipment present at the Facility.

TABLE F-1
INSPECTION SCHEDULE

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY OF INSPECTION
Parts Washer Solvent Tank Farm (including skirted area underneath storage tanks)	Tank Exterior	Corrosion, cracks, wet spots, spills	Daily (visual)
	Tank Wall / Shell Thickness Test Measurement	Thinning due to corrosion and deterioration	Min. every 10 yrs per API/UL specs.
	High Level Alarms	Inoperable, sticking	Daily (visual)
	Volume Gauges	Inoperable, malfunctioning	Daily (visual)
	Secondary Containment Area	Cracking, wet spots, deterioration, settlement, coating damaged	Daily (visual)
	Valves, Flanges and Seals	Leaks, damaged	Daily (visual)
	Piping and supports	Damaged, leaks, corrosion, settlement	Daily (visual)
	Tank Inventory	Exceeds allowable volume	Daily (visual)
	Transfer pumps, hoses, and motors	Inoperable, leaks, malfunctions	Daily (visual)
	Hose body	Deteriorations, leaks	Daily (visual)
Fusible links	Improper operation	Daily (visual)	
Truck Station Area	Secondary Containment Area	Cracking, wet spots, deterioration, settlement, coating damaged	Daily (visual)

TABLE F-1 (Continued)
INSPECTION SCHEDULE

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY OF INSPECTION
Return and Fill Station, Drum Washer /Dumpster Units (X99)	Drum Washer /Dumpsters, Ancillary Equipment	Leaks, improper operation, emptied daily, screen filter damage	Daily (visual)
	Secondary Containment Area	Cracking, wet spots, deterioration, settlement, coating damage	Daily (visual)
	Valves, Flanges and Seals, Inlet/Outlet Nozzles	Leaks, damaged	Daily (visual)
Container Storage Areas: <ul style="list-style-type: none"> • Non-Ignitable Waste Container Storage Area • Class 1B Flammable Container Storage Area 	Total volume of liquids (waste and product)	Exceeds permitted volume	Daily (visual)
	Condition of containers	Leaking, closure devices, labels with storage dates and contents	Daily (visual)
	Stacking/Placement, aisle space	Exceeds allowable height restrictions, aisle space less than two (2) feet.	Daily (visual)
	Secondary Containment curbing, floors, sumps	Cracks, deterioration, spalling, settlement, wet spots	Daily (visual)
	Labeling	Illegible, incomplete, Incorrect, missing	Daily (visual)

TABLE F-1 (Continued)
INSPECTION SCHEDULE

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY OF INSPECTION
Safety and Emergency Equipment	Fire Extinguishers, Fire Suppression System, Fire Detection Devices (heat, smoke, flame sensors)	Overdue annual inspections, inadequately charged, inaccessible, damaged	Weekly (visual), Annual (test of fire devices)
	Eye wash and shower	Improper operation, damaged, leaking	Weekly (visual/test)
	First Aid Kits	Inadequate supply	Weekly (visual)
	Spill Cleanup/ Decontamination Equipment (including absorbents, cleaning solvents, shovels, mops, brooms, and pumps used to remove liquid from containment areas)	Inadequate supply, broken or damaged, improper operation, pumps operable	Weekly (visual)
	Personal protective equipment (includes eye protection, respirator/respirator cartridges, protective clothing/uniforms, and neoprene or tyvek apron)	Inadequate supply, damaged	Weekly (visual)

TABLE F-1 (Continued)
INSPECTION SCHEDULE

AREA/EQUIPMENT	SPECIFIC ITEM	TYPE OF PROBLEM	FREQUENCY OF INSPECTION
Security Devices	Telephones and intercom system	Inoperable	Weekly (test)
	Emergency alarms	Inoperable	Weekly (test)
	Gates, doors and locks	Damaged, inoperable, sticking, corrosion, lack of warning signs	Weekly (test, visual)
	Warning signs	Missing, Illegible	Weekly (visual)
	Facility fence	Broken ties, damaged	Weekly (visual)
	Intrusion detection equipment	Visible damage, missing,	Weekly (visual)
Miscellaneous Equipment	Dry dumpster (Trash)	Sever rust/corrosion, liquids unit, excess debris	Weekly (visual)
	Emergency lighting	Inoperable, batteries low	Weekly (test)

F-2(b) Facility Inspection Requirements

F-2(b)(1) **Monitoring Equipment**

The requirements of this section regarding the available monitoring equipment maintained at this Facility are satisfied by following the inspection schedule provided in Table F-1, and by completing tank inspection logs (typical examples of which are provided in Appendix F-1). Tank gauges are visually inspected on a daily basis. Tank pressure relief and emergency vents located on the roof of the waste solvent tank are inspected annually. Results of each inspection are recorded on inspection logs (examples inspection logs are provided in Appendix F-1).

F-2(b)(2) **Emergency Equipment**

Fire extinguishers are installed throughout the Facility. It is important to note that although these units are installed extensively throughout the Facility, they are not intended for general fire fighting. These extinguishers are for minimizing the potential of a major fire at the Facility. In the event of a large fire, Safety-Kleen has made arrangements with the local fire and police departments for assistance. A complete list of emergency equipment maintained at this Facility, including fire extinguishers, spill control equipment and decontamination equipment, as well as the location of this equipment, can be found in Table G-1 and Figure G-3 of Section G, Contingency Plan. Inspections of fire extinguishers are outlined in Table F-1. In addition, portable fire extinguishers and fire suppression equipment are inspected on an annual basis by a fire equipment contractor. Example inspection logs can be found in Appendix F-1. Additional fire detection equipment has been installed to detect fires at each of the permitted storage units. These devices, which include flame sensors, heat and smoke detectors, and fire suppression equipment for the Class 1B warehouse, including the flammable waste storage section of the warehouse, are continuously monitored by a central monitoring service. The fire suppression equipment/system in the Class 1B warehouse consist of a wet (water) system that is designed to supply the sprinkler heads

along the interior ceiling of both warehouse storage rooms (RCRA permitted and non-RCRA permitted). The system is heat activated should there be a fire in this area of the Facility.

F-2(b)(3) Safety Equipment

Examples of the safety equipment maintained at this Facility that are to be inspected can be found in Table F-1 and Appendix F-1.

F-2(b)(4) Security Equipment

Examples of security equipment maintained at this Facility that is to be inspected can be found in Table F-1 and Appendix F-1.

F-2(b)(5) Operating and Structural Equipment

Examples of operating and structural equipment maintained at this Facility that is to be inspected can be found in Appendix F-1.

F-2(b)(6) Testing of Equipment

Examples of equipment requiring testing can be found in Table F-1 and Appendix F-1.

F-2(c) Specific Process Inspection Requirements

This subsection details the specific inspection procedures conducted at the Facility on a regular basis. Completion of the specific process inspections is the responsibility of the Facility Branch Manager, or designee. All inspections and results are recorded on inspection logs, organized by Facility area, and filed at the Facility. Information required

on the logs includes the inspector's name, date and time of inspection, item of inspection, typical problems encountered, status of the item, observations made during the inspection, and the date and nature of repairs and remedial action taken. Typical problems encountered with each item of inspection are provided on the logs to serve as a checklist to ensure a complete inspection. The inspector is required to check the status of each item and indicate whether its condition is acceptable (i.e., pass/fail). If the status of a particular item is unacceptable, then the appropriate and complete information is recorded, including the date and nature of repairs and remedial action.

F-2(c)(1) Container Inspection

Containers are stored in the Non-Ignitable Waste Storage Area located in western section of the Return and Fill Station Warehouse, and in the Class 1B Flammable Container Storage Area located in the southwest section of the Class 1B Warehouse Building. Inspections of the containers and container storage areas are conducted pursuant to the inspection schedule provided in Table F-1. Results of each inspection are recorded on inspection logs for each container storage area (typical examples are provided in Appendix F-1). A separate log is maintained for each area. Specific items / areas evaluated during the container inspections include condition of containers, management of containers (i.e., proper stacking, secured lids, labeling), secondary containment system, and inventory of materials stored.

F-2(c)(2) Tank System Inspection

The Tank Farm contains one tank (Tank No. 1) that is subject to the requirements of the application under RCRA. Tank inspections are conducted each Facility operating day per the inspection schedule provided in Table F-1. Results of each inspection are recorded on inspection logs (typical examples are provided in Appendix F-1). Specific items and areas evaluated during the tank system inspection include the external

portions of the tanks, the surrounding area of the tank (i.e., secondary containment system or stressed vegetation), and overfilling control equipment.

The requirements for the inspection of the external corrosion as well as the requirements for the inspection of the aboveground portions of the tank system and releases from the tank system are satisfied by following the inspection schedule provided in Appendix F-1, and by completing tank inspection logs (typical examples of which are provided in Appendix F-1). The tank exterior, secondary containment areas, valves, piping, and hoses are visually inspected on an operating day basis. Results of each inspection are recorded on tank inspection logs (typical examples of which are provided in Appendix F-1). If the tank is found to be leaking or there is evidence of severe damage or deterioration of the outer shell then the tank will be immediately emptied and removed from service until such time as the necessary evaluations and repairs are made and certified by an independent, qualified, registered, professional engineer.

The requirements for the inspection of tank construction materials and the area surrounding the tank including the secondary containment system are satisfied by following the inspection schedule provide in Table F-1. External tank shell thickness inspection and ultrasonic testing is performed at least every ten years in accordance with applicable American Petroleum Institute (API), Underwriters Laboratories (UL), and/or Steel Tank Institute (STI) standards for aboveground petroleum storage tanks. Refer to Appendix D-2, Tank System Assessments, in Section D of this permit application for specific details on the procedures utilized for assessing the mechanical integrity and fitness for continued service of the waste solvent storage.

There is no cathodic protection system present for the storage tanks at the Facility. All storage tanks are aboveground storage tanks; there are no underground storage tanks.

F-2(c)(3) Waste Pile Inspection

Safety-Kleen is not seeking a permit for a waste pile. Therefore, this section does not apply.

F-2(c)(4) Surface Impoundment

Safety-Kleen is not seeking a permit for a surface impoundment. Therefore, this section does not apply.

F-2(c)(5) Incinerator Inspection

Safety-Kleen is not seeking a permit for an incinerator. Therefore, this section does not apply.

F-2(c)(6) Landfill Inspection

Safety-Kleen is not seeking a permit for a landfill. Therefore, this section does not apply.

F-2(c)(7) Land Treatment Inspection

Safety-Kleen is not seeking a permit for land treatment. Therefore, this section does not apply.

F-2(c)(8) Miscellaneous Unit Inspections

The two drum washer/dumpster units located at the Return and Fill Station are being managed in accordance with the requirements of the RCRA Miscellaneous Unit criteria in 40 CFR Part 264.602. Inspections of these units are conducted per the inspection schedule provided in Table F-1. Results of each inspection are recorded on inspection

logs (typical examples are provided in Appendix F-1). Specific items and areas evaluated during the inspection include the external portions of the drum washer/dumpster units, the surrounding area of the units (i.e., secondary containment system), and overfilling control equipment consisting of an automated float control switch which activates the pump that will evacuate the used solvent collection reservoir in the base of the units.

The requirements for the inspection of the external and internal portions of the drum washer/dumpster units and any releases from these units and associated secondary containment system are satisfied by following the inspection schedule provided in Appendix F-1. The exterior of the units, secondary containment areas, valves, piping, and hoses are visually inspected on a daily basis. Results of each inspection are recorded on tank inspection logs (typical examples of which are provided in Appendix F-1).

The requirements for the inspection of drum washer/dumpster units' construction materials and the area surrounding the tank including the secondary containment system are satisfied by following the inspection schedule provide in Table F-1.

F-2(c)(9) Boilers and Industrial Furnace Inspections

Safety-Kleen does not have a boiler or industrial furnace. Therefore, this section does not apply.

F-2(c)(10) Drip Pad Inspection

Safety-Kleen does not have drip pads. Therefore, this section does not apply.

F-2(c)(11) Containment Building Inspections

Safety-Kleen does not have containment buildings; therefore, this section does not apply.

F-2(c)(12) Subpart AA - Air Emission Standards for Process Vents

Safety-Kleen does not have any process vents, therefore this sections does not apply.
See also Section AA.

F-2(c)(13) Subpart BB - Air Emission Standards for Equipment Leaks

Refer to Section BB.

F-2(c)(14) Subpart CC - Air Emission Standards for Tanks, Surface Impoundments, and Containers

Refer to Section CC.

F-2(d) Remedial Action

Process inspections may reveal three (3) types of problems. The first type of problem concerns the need for non-emergency maintenance (e.g., small cracks/deterioration in base or curb of a secondary containment structure). Safety-Kleen personnel will take necessary action as soon as possible to preclude further damage and to reduce the potential for emergency repairs. The inspector will note when such action should be taken and verify the status at the next regularly scheduled inspection.

The second type of problem involves a non-emergency release of hazardous waste that is discovered during the inspection (e.g., leaking waste container, waste residues on the outside of a container). In this situation, remedial action will be taken as soon as practical and will be documented in the inspection log. Daily inspections will be made until the remedial action is completed. The inspector will document additional interior safety measures until the repairs are made.

The third type of problem involves the discovery of a release or the potential for a release of hazardous constituents to the environment in sufficient quantities to constitute an emergency (e.g., rupture/failure of storage tank, solvent hoses, or piping). If this occurs, Safety-Kleen personnel will implement the contingency plan (included in Section G of this application), which provides a detailed description of the remedial action appropriate for this situation.

F-2(e) Inspection Log

An inspection log file is maintained for each calendar year and is subdivided by area. After an inspection, each log is recorded according to area, thereby providing a case history for a particular item. The inspection log file is kept with the inspection schedule in the branch Facility Office Building. Archived inspection records (i.e., beyond the current calendar year) may be stored in other secured areas at the Facility or maintained electronically. Records of inspections are kept for at least three (3) years from the date of the inspection.

F-3 WAIVER OF PREPAREDNESS AND PREVENTION REQUIREMENTS

The applicant does not wish to request a waiver of the preparedness and prevention requirements. The Facility has been designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden

release of hazardous waste or hazardous waste constituents that could threaten human health or the environment. Requirements of this Subpart are primarily addressed by this application in this section, as well as Section D and Section G.

F-3(a) Equipment Requirements

The Facility is equipped with necessary communications systems and emergency response equipment to respond to an emergency situation. A description of these systems and equipment is provided in the following sections.

F-3(a)(1) Internal Communications

Internal communications is accomplished through a public address system that is capable of reaching employees at the Return and Fill Station, Container Storage Warehouses, and the Tank Farm. Telephones and emergency alarms are also located in strategic areas of the Facility and can be used for both internal and external communication (Refer to Figure G-3). Voice communication is also used in the event of an emergency, given the relatively small size of the Facility.

F-3(a)(2) External Communications

External communication is accomplished through the Facility telephone system. The Emergency Contact List (Figure G-4) is posted by each phone. Included with these phone numbers is the 24-hour spill/incident reporting number that connects to Safety-Kleen's 24-hour emergency notification service.

F-3(a)(3) Emergency Equipment

Fire extinguishers are installed throughout the Facility. It is important to note that although these units are installed extensively throughout the Facility, they are not

intended for general fire fighting. These extinguishers are for minimizing the potential of a major fire at the Facility. In the event of a large fire, Safety-Kleen has made arrangements with the local fire and police departments for assistance. A complete list of emergency equipment, including fire extinguishers, spill control equipment and decontamination equipment, as well as the location of this equipment, can be found in Table G-1 and Figure G-3 of Section G, Contingency Plan.

F-3(a)(4) Water for Fire Control

One (1) fire hydrant is located at the corner of Yadkin Avenue and East 27th Street, immediately outside the security fence at the northeast corner of the Facility property (see Figure G-1). This fire hydrant can be used in the event of a fire emergency at the Facility. In the event of an emergency requiring water usage for fire control, the Facility employees would implement the contingency plan provided in Section G of this application.

F-3(b) Aisle Space Requirement

A minimum aisle space of two (2) feet is maintained between singlewide rows of palletized containers in the Container Storage Areas. This will allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and material handling equipment throughout these areas.

F-4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

F-4(a) Loading / Unloading Operations

Loading and unloading operations at the Facility occur at the Non-Ignitable Waste Storage Areas, the Class 1B Flammable Container Storage Area, the Return and Fill Station, and the Tank Farm.

At the Container Storage Areas drums are loaded and unloaded for storage. Drums are placed on pallets in an upright position and remain closed during movement and storage. Drums are handled with hand trucks, pallet jacks, forklifts, or a job crane to ease movement and to reduce the potential for hazards during loading and unloading operations. Small transfer pumps are available to quickly empty any leaking containers into another drum. When drums are ready for shipment to another facility, each pallet load of drums is wrapped tightly with a plastic shrink-wrap to provide stability.

Loading and unloading operations at the Return and Fill Station area occur at the dock on the south and east sides of the Return and Fill Warehouse Building. Drums are loaded and off-loaded with hand trucks. Steel dock ramps have been secured to the dock to ease movement of drums. The route trucks may also utilize a lift-gate device to assist in the movement of drums from the trucks to the loading/unloading areas.

The storage tank system consists of one (1) aboveground tank and ancillary equipment. Loading and unloading operations at this tank occur through aboveground pipelines. Used parts washer solvent is pumped through the drum washer/dumpster units to Tank No. 1, a 15,000-gallon storage tank.

The access points for the pipeline to Tank No. 1 are located within a steel protective housing unit, referred to as a storage tank access container. This unit is located adjacent to the top of the containment wall inside the northeast corner of the Tank Farm secondary containment structure. The access container provides additional containment for the pipeline access points and is protected by steel bumper posts on the opposite side of the secondary containment wall to eliminate the potential for damage by on-site traffic. Used parts washer solvent is off-loaded directly from the storage tank into a tanker truck for transportation off-site.

At the Return and Fill Station, used parts washer solvent is delivered in drums and manually emptied into one of the two drum washer/dumpster units. The material is then transferred to Tank No. 1. The drum washer/dumpster units are surrounded by secondary containment; therefore, any material that is spilled while loading and unloading liquids will be captured and pumped to the storage tank. The aboveground storage tank is equipped with high level alarms to prevent overfilling.

F-4(b) Runoff

The container storage areas, and tank with ancillary equipment, have secondary containment devices. Within the Container Storage Areas, wastes are placed on pallets and stored on a concrete floor that is surrounded by a 4 or 6 inch high concrete perimeter curb. A concrete containment sump is also located within each area. The floor is coated with a sealant, which is compatible with the wastes stored in the area, to prevent the migration of waste that may be spilled or leaked onto the floor.

The Class 1B Flammable Container Storage Area is constructed with a sump and a concrete perimeter curbing to contain any spilled or leaked material. The base of this storage area is concrete covered with a sealant to prevent the migration of waste that may be spilled or leaked onto the floor. Containers are stored on pallets and aisle space requirements are maintained. Design details for the Class 1B Flammable Container Storage Area are discussed further in Section D of this application.

The drum washer/dumpster units are underlain by a concrete floor and concrete curbing to capture and contain any spilled material. The concrete floor is sloped to a sump, which is equipped with a pump to remove any spilled material and transfer it to Tank No. 1. An epoxy and/or polyurethane coating has been applied to the surface of the concrete floor and curbing to prevent the migration of spilled waste material. The entire Return and Fill Station area is covered to protect the area from the effects of weather.

The storage tank is enclosed within a secondary containment system consisting of a steel reinforced concrete base with 48 inch high concrete sidewalls. The interior surface of the secondary containment areas are covered with an epoxy and/or polyurethane coating to seal any cracks or openings and to prevent the migration of spilled material. Fill lines and hose line connections at the Used Parts Washer Solvent Tank are located within the contained area.

Each waste storage area discussed above is equipped with emergency spill response kits to be used in the event of a spill or leak.

F-4(c) Water Supplies

Water supply contamination is prevented by several practices and physical features at this Facility. In the event of a spill or leak, all contaminated soil will be immediately removed and placed in containers.

Potential for groundwater contamination is further reduced by storing the containers with hazardous materials in buildings or areas with secondary containment. The container storage areas are indoors on a concrete base with dikes and sump areas for containing leaks and spills. All storage areas and storage tanks have secondary containment. In addition, all loading and unloading areas utilize secondary containment to contain potential leaks and spills. If necessary, any collected storm water is pumped into Tank No. 1 in the Tank Farm. Refer to Section D for a complete description of the design and construction of the container storage areas, including runoff and run-on prevention systems.

F-4(d) Equipment and Power Failure

The impact to this Facility would be minimal in the event of an equipment or power failure. The primary function of this Facility is the storage of materials in containers and aboveground storage tanks. The storage tanks are equipped with high liquid level alarms that would shut down in the event of a power failure; however, it is Safety-Kleen's standard operating practice to fill the tanks only to 95% of their capacity, and all waste transfer (loading/unloading) would cease in a power failure. The Facility does not maintain automatic waste transfer equipment. Additionally, every tank is located within a secondary containment system capable of containing the volume of liquid stored in the largest container and/or tank. If a power failure should occur during loading or unloading operations, these operations would cease until power is restored.

F-4(e) Personal Protection Equipment

Employees are supplied with appropriate safety equipment. Individuals working directly with waste materials, such as the person at the Return and Fill Station, are required to comply with OSHA standards. Safety Data Sheets (SDSs) are available for the solvents distributed and handled at the Facility. Emergency eyewash stations are located near each waste management area. Use of protective equipment is outlined in the initial and annual personnel training programs (see Section H). Refer to Appendix D-4 in Section D of this permit application for specific personal protective equipment requirements.

F-4(f) Ventilation Equipment

Refer to Sections BB and CC.

F-5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES

Any potentially incompatible waste managed at the Facility will be handled as a transfer waste only. These wastes will be temporarily stored and segregated in the Class 1B Warehouse, as specified by special requirements for incompatible waste under RCRA requirements and local fire codes. Transfer wastes temporarily stored in transportation related vehicles will be segregated according to Department of Transportation segregation requirements. Reactive wastes will not be managed at this Facility.

Ignitable waste materials are separated and stored together in waste management areas that have secondary containment systems and are isolated from any ignitable sources. Smoking is permitted only in designated areas. "No Smoking" signs are posted throughout the Facility.

F-5(a) Precautions to Prevent Ignition or Reaction of Ignitable and Reactive Wastes

Ignitable wastes are stored in the Container Storage Areas and the Storage Tank. The containers/tank are compatible with the contained wastes. The only source of ignition is external to the containers. To prevent ignition of ignitable wastes, sources of ignition are removed from the storage area and the area is clearly marked with "No Smoking" signs. Non-sparking tools and equipment are used in the Class 1B Flammable Storage Area. Containers with ignitable waste are managed so that they do not become subject to extreme heat or pressure from frictional heat, radiant heat, fire or explosion. Containers are maintained at ambient temperature and pressure.

F-5(b) General Precautions for Handling Ignitable, Reactive and Incompatible Wastes

General precautions for handling ignitable wastes are discussed above and in sections D-1(c), D-1(d), and D-2(a)(2), respectively. The following sources of ignition will be kept

away from the ignitable storage areas when such wastes are stored: open flames, smoking, cutting and welding, hot surfaces, sparks (static, electrical, or mechanical), and spontaneous ignition (heat producing chemical reactions). Reactive wastes will not be managed at this Facility. Any incompatible waste managed at the Facility will be handled, including segregation from permitted wastes, as a transfer waste only. These wastes will be stored and segregated in the Class 1B Warehouse, as specified by special requirements for incompatible waste under RCRA requirements and local fire codes. Transfer wastes temporarily stored in transportation related vehicles will be segregated according to Department of Transportation segregation rules.

F-5(c) Management of Ignitable or Reactive Wastes in Containers

Management practices in the container storage areas to prevent accidental fire and explosion include the proper storage of containers (e.g., stacking and labeling of containers), daily inspections, and provision for appropriate warning signs.

Prior to storage, the exterior, including the lid and label of each container are checked. The lid prevents foreign material from entering the drum, and the label identifies the contents of the container and other pertinent information. Containers are stored under cover to prevent contact with precipitation. Containers that are stacked are done so according to Section D of this application.

Ignitable wastes are stored in containers within the Class 1B Flammable Container Storage Area. This area is located more than fifty (50) feet, but less than two-hundred (200) feet, from the nearest Facility property boundary line. Each existing Container Storage Area predates the State of North Carolina hazardous waste regulations and has therefore been waived from the 200 feet setback requirement specified in NCAC 13A .0109(r)(2)(B).

F-5(d) Management of Incompatible Waste in Containers

Incompatible waste managed at the Facility will be handled as a transfer waste only. These wastes will be stored and segregated from the permitted waste in the Main Warehouse, as specified by the Department of Transportation rules and local fire codes. Containment berms, walls, or other devices are used to separate containers, holding waste that may be incompatible with wastes or materials stored nearby.

F-5(e) Management of Ignitable or Reactive Waste in Tanks

Used parts washer solvent is stored in Tank No. 1 within the Tank Farm. The used mineral spirits are classified as an ignitable waste and have been assigned a primary EPA Hazardous Waste Code Number of D001 (refer to Section C for additional waste characterizations). This tank is constructed of carbon steel in accordance with Underwriters Laboratories Standard 142 and conforms to the National Fire Protection Agency buffer zone standards for storing Class II liquids (i.e., located greater than 20' from property line). The tank is painted white to reflect sunlight. The tank has been labeled to indicate its contents and allowable storage capacity. The tank has also been labeled with the words "Hazardous Waste", as well as the NFPA 704M placard system. Sources of ignition have been removed from the Tank Farm and the area has been clearly marked with "No Smoking" signs. Reactive wastes are not stored in tanks at the Facility. General precautions for managing ignitable wastes are discussed above and in Section D-2(a)(2).

F-5(f) Management of Incompatible Waste in Tanks

Incompatible wastes are not stored in the storage tank at the Facility. The types of waste materials stored in the aboveground bulk storage tank includes waste parts washer solvent (used mineral spirits), and water.

F-5(g) Management of Ignitable or Reactive Waste in Waste Piles

Safety-Kleen is not seeking a permit for a waste pile.

F-5(h) Management of Incompatible Waste in Waste Piles

Safety-Kleen is not seeking a permit for a waste pile.

F-5(i) Management of Ignitable or Reactive Waste in Surface Impoundment

Safety-Kleen is not seeking a permit for a surface impoundment.

F-5(j) Management of Incompatible Wastes in Surface Impoundments

Safety-Kleen is not seeking a permit for a surface impoundment.

F-5(k) Management of Ignitable or Reactive Wastes Placed in Landfills

Safety-Kleen is not seeking a permit for a landfill.

F-5(l) Management of Incompatible Wastes Placed in Landfills

Safety-Kleen is not seeking a permit for a landfill.

**F-5(m) Management of Ignitable or Reactive Wastes Placed in Land
Treatment Units**

Safety-Kleen is not seeking a permit for a land treatment unit.

F-5(n) Management of Incompatible Wastes Placed in Land Treatment Units

Safety-Kleen is not seeking a permit for a land treatment unit.

F-6 INSPECTION, MONITORING AND DOCUMENTATION
REQUIREMENTS FOR EQUIPMENT LEAKS

Refer to Section BB.

F-6(a) Purpose and Applicability

This section has been prepared to address the air emission standards for hazardous waste treatment, storage, and disposal facilities. Specifically, Safety-Kleen is providing this section to further meet the Part B content requirements of 40 CFR 270.14(b)(5) and 270.25, and the specific requirements of Subpart BB of 40 CFR 264 related to Air Emission Standards for Equipment Leaks. Safety-Kleen has determined that Subpart AA of 40 CFR Part 264-Air Emission Standards for Process Vents is not applicable to the Facility, because any vents at this Facility are not associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air/or steam stripping operations.

F-6(b) Equipment Regulated by These Requirements

Equipment currently used and/or proposed for use at the Facility containing or contacting hazardous wastes with organic concentrations of at least 10 percent by weight are subject to the requirements outlined herein. This Facility equipment includes:

- Pumps in heavy liquid service.
- Open-ended valves or lines that have one end of the valve seat in contact with process fluid and one end with the atmosphere.
- Valves in heavy liquid service.
- Flanges and other connectors.
- Pressure relief devices.

The equipment list is associated with the Used Parts Washer Solvent Storage Tank (Tank No. 1) and ancillary equipment. These units handle used parts washer solvent and possibly collected storm water that may be pumped into Tank No. 1.

The locations of each hazardous waste management unit are shown on Figure D-1. A piping isometric for the tank system is provided within Section BB and Figure D-7. An equipment inspection and monitoring checklist for the regulated pumps, valves and flanges is also included in Appendix F-1.

It should be noted that the Facility does not use compressors for hazardous waste handling, and pumps or valves are not used for light liquid service.

The used parts washer solvent is defined as heavy liquid based on the definition in 40 CFR 264.1031. This definition states that a heavy liquid is a waste stream whose constituents have a vapor pressure less than 0.3 kPa at 20 degrees C. Additionally, the used parts washer solvent stream will impart a lower vapor pressure because of contamination with oils, greases, etc., during use. An SDS for the parts washer (mineral spirits) is provided in Section C (Waste Analysis Plan) of this permit application.

F-6(b)(1) Equipment Identification Requirements

Each piece of equipment subject to Subpart BB regulations is marked and identified to distinguish it from other, non-regulated equipment.

F-6(b)(2) Equipment Standards

F-6(b)(2)(a) Pumps

Pumps are used at the Facility for transfer of heavy liquid hazardous wastes containing organics of varying concentrations. Facility personnel inspect the pumps on a daily basis (refer to Section F-2) for signs of leaks and for proper operation. Results of the inspections are recorded on inspection logs and filed at the Facility. The equipment is repaired as soon as a problem is discovered.

F-6(b)(2)(b) Open-Ended Valves and Lines

There is one tanker truck loading / unloading line associated with the hazardous waste storage tank. Because this loading / unloading line is open-ended, it is equipped with a flanged CAM lock. The line remains closed at all times, except when loading and unloading hazardous waste liquids. All valves are welded or flanged.

F-6(c) Inspection and Monitoring Program

Pumps, valves, and pressure relief devices in heavy liquid service, as well as flanges, are subject to the inspection and repair requirements specified in 40 CFR 264.1058. Compliance with this standard is achieved by daily visual inspection of all affected equipment.

If a leak is detected through visual, audible, or olfactory observation, the piece of equipment is tagged and identified with the Equipment ID Number and the date the leak was detected. Repairs to the leaking equipment will be attempted within five (5)

calendar days of leak detection; the equipment repairs will be completed within 15 calendar days of detection. The first attempts to repair leaking equipment will consist of tightening bonnet bolts, replacing bonnet bolts, tightening packing gland nuts, or injecting lubricant into the lubricated packing. If unsuccessful, other repairs will be attempted.

Table F-1 and Appendix F-1 contain examples of the daily equipment inspection log. Appendix BB-1 in Section BB contains an example of the Leak Detection and Repair Record. These documents are used to comply with the requirements of 40 CFR 270.14(b)(5) and the applicable sections of Subpart BB.

APPENDIX F-1

EXAMPLE INSPECTION LOGS



Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO CSA Inspection Instructions	
<p>Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.</p>	
CO CSA Inspection Items	
Container Placement and Stacking - Check for evidence of failure (e.g., containers on pallets, pallets too high, unstable, other).	
Sealing of Containers - Check for evidence of failure (e.g., containers not closed or sealed, open).	
Labeling of Containers - Check for evidence of failure (e.g., no label, improper label, content, other).	
Container Integrity - Check for evidence of failure (e.g., condition, bulging, leaks, rust, corrosion, other).	
Pallets - Check for evidence of failure (e.g., broken, loose, condition).	
Doors - Check for evidence of failure (e.g., indoor area, broken or not working as intended).	
Base/ Foundation/ Roof - Check for evidence of failure (e.g., cracked, gaps, other).	
Berms/ Racks - Check for evidence of failure (e.g., cracks, gaps, broken, other).	

EXAMPLE

Debris and Refuse - Check for evidence of failure (e.g., proper storage, location, container type, other).	
Exit Signs - Check for evidence of failure (e.g. missing, lamps, battery backup, other).	
Aisle Space - Check for evidence of failure (e.g., minimum 2 ft required, other).	
Containment Area - Check for evidence of failure (e.g., secondary containment, curbing, floor, cracks, deterioration, ponding or wet spots, other).	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Loading/ Unloading Areas - Check condition of area (e.g., available equipment, spill response, containment, pad condition, valve access box, ponding or wet spots, other).	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Storage Capacity - Check for acceptable limit (e.g., area or permit restrictions, type restriction, volume limit, other).	
Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).	
Pumps - Check for evidence of failure (e.g., deterioration or broken, leaks, other).	
Inventory Age - Check for acceptable limit (e.g., within area limits, permit restrictions, other).	
Satellite Accumulation Containers - Check for condition and appropriate for area (e.g., filter/basket, solids, label and marking, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	

EXAMPLE

Inspection Overall Assessment	
-------------------------------	--



Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Return and Fill Area Instructions	
<p>Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained. Include any repairs changes or corrective actions.</p>	
CO Return and Fill Area Inspection Items	
Pump Seals - Check for evidence of failure (e.g., leaks, other).	
Pump Motors - Check for evidence of failure (e.g., overheating, other).	
Fittings - Check for evidence of failure (e.g., leaks, other).	
Valves - Check for evidence of failure (e.g., leaks, sticking, other).	
Hose Connections and Fittings - Check for evidence of failure (e.g., cracked, loose, leaks, sticking, other).	
Hose Body - Check for evidence of failure (e.g., crushed, cracked, thin spots, leaks, other).	
Clam Shell Unit Type - Lid Fusible Link - Check for evidence of failure (e.g., broken, spring missing, other).	
Clam Shell Unit Type - Lid Hinge Assembly - Check for evidence of failure (e.g., broken pivot arm, damaged lid arm, missing pins, other).	
Sliding Lid Unit Type - Gaskets - Check for	

EXAMPLE

evidence of failure (e.g., broken, cracked distorted, other).	
Sliding Lid Unit Type - Lid/ Slide Assembly - Check for evidence of failure (e.g., damaged lid, rollers, slide rail, temperature gauge, limit switches, other).	
Roll-up Door Unit Type - Seals - Check for evidence of failure (e.g., broken cracked, distorted, other).	
Roll-up Door Unit Type - Door/ Roll-up Assembly - Check for evidence of failure (e.g., damaged lid, rollers, slide rail, temperature gauge, limit switch, other).	
Wet Dumpster/Drum Washer - Check for evidence of failure (e.g., leaks, rust, split seams, distortion, deterioration, excess debris, sediment accumulation, other).	
Secondary Containment - Check for evidence of failure (e.g., excess sediment, leaks, distortion, deterioration, excess debris, other).	
Loading/Unloading Area - Check for evidence of failure (e.g., cracks, ponding or wet spots, deterioration, other).	
Satellite Accumulation Containers - Check for condition and appropriate for area (e.g., filter/basket, solids, label and marking, other).	
Ventilation Fan - Check for evidence of failure (e.g., inoperative, shutters jammed, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	



Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Safety Security Inspection Instructions	
<p>Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.</p>	
CO Safety Security Inspection Items	
Perimeter Fences - Check for evidence of failure (e.g., broken ties, corrosion, holes, distortion, other).	
Gates/External Warehouse Doors - Check for evidence of failure (e.g., locking mechanism, broken ties, corrosion, holes, distortion, direct access doors working properly, other).	
Warning Signs - Check for evidence of failure (e.g., missing, faded, other).	
Exit Signs - Check for evidence of failure (e.g., missing sign, illumination, lamp bulbs, battery backup, other).	
Exits/Firelanes/Evacuation Routes - Check that all routes are clear or unobstucted.	
Lighting System - Check for evidence of failure (e.g. expired lamps, effectiveness, location, other).	
Emergency Lighting System - Check for evidence of failure (e.g., expired lamps, battery backup, effectiveness, other).	
Accessibility of Safety Equipment/Protective Gear - Check for evidence of availability (e.g.,	

EXAMPLE

hardhats, faceshields, goggles, safety glasses, boots, gloves, aprons, uniforms, duct tape, absorbents, other).	
Adequate Supply of Safety Equipment/Protective Gear - Check for evidence of availability (e.g., cleanliness, inventory available, other).	
Condition of Safety Equipment - Check for evidence of failure (e.g., review PPE for damage or excessive wear, other).	
Breathing Apparatus Accessibility - Check for evidence of availability (e.g. SCBA respirators, equipment, other).	
Breathing Apparatus Adequate Supply/Full Charge - Check for evidence of availability (e.g., SCBA tanks, charged, other).	
Breathing Apparatus Condition - Check for evidence of failure (e.g., SCBA damage, other).	
First Aid Kits - Check for evidence of availability (e.g., adequate inventory, other).	
Bloodborne Pathogen Kits - Check for evidence of availability (e.g., adequate inventory, other).	
Emergency Eyewashes - Check for evidence of failure (e.g., disconnected or malfunctioning valves, inadequate pressure, inaccessible, malfunctioning drain, leaking, other).	
Emergency Showers - Check for evidence of failure (e.g., disconnected or malfunctioning valves, inadequate pressure, inaccessible, leaking, other).	
Internal/External Communication - Check for evidence of failure (e.g., inadequate supply of phones or radios, malfunctioning intercom, telephones not working properly, emergency alarm does not work, phone moved from proper location, other).	
Fire Extinguishers - Check for evidence of failure (e.g., overdue inspection, not charged,	

EXAMPLE

inaccessible, other).	
Absorbent Supply - Check for evidence of availability (e.g., adequate inventory, other).	
Recovery Drum Supply - Check for evidence of availability (e.g., adequate inventory, other).	
Respirators and Cartridges - Check for evidence of availability (e.g., adequate APR inventory, other).	
Fire Suppression System Accessibility - Check for evidence of failure (e.g., monitors, pull stations, alarms, other).	
Fire Suppression System Operable - Check for evidence of failure (e.g., test, other).	
Water Lines/Hydrants - Check for evidence of failure (e.g., blocked, broken, other).	
Alarm Systems - Check for evidence of failure (e.g., test, other).	
Fire Blankets - Check for evidence of availability (e.g., adequate inventory, other).	
Strainer on Fire Suppression System - Check for evidence of failure (e.g., functioning as intended, other).	
Surveillance System/Guard Service - Check for evidence of failure (e.g., equipment or service provided and functioning properly, other).	
Supplied Air Delivery System and Reserve - Check for evidence of failure (e.g., system operational, equipment functioning, other).	
Decontamination Equipment/Spill Clean-up Equipment - Check for evidence of availability (e.g., adequate supply of shovels, mops, cleaning solvents, available inventory, other).	
Portable Sump Pumps - Check for evidence of availability (e.g., adequate inventory, functioning properly, other).	
Gasoline Pumps - Check for evidence of failure (e.g., broken parts, leaks, other).	

EXAMPLE

Loud Speakers - Check for evidence of failure (e.g., test, other).	
Chocked Wheels on Parked Vehicles - Check for evidence of failure (e.g., chocks not used, missing, deteriorated, other).	
Cylinders Secure - Check for evidence of failure (e.g., properly stored, secured, chained, other).	
Ventilation Operable - Check for evidence of failure (e.g., system working as intended, other).	
Fall Protection - Check for evidence of availability (e.g., adequate inventory, integrity of equipment, other).	
Electrical Boxes - Check for evidence of failure (e.g., closed, not blocked, marked properly, other).	
Emergency Contact Info Posted - Check for evidence of availability (e.g., up-to-date postings, location requirement, other).	
Hearing Protection Available - Check for evidence of availability (e.g., type appropriate per location, other).	
Housekeeping - Check for evidence of failure (e.g., blocked egress, proper storage, procedure followed, other).	
Portable Compressor - Check for evidence of availability (e.g., adequate inventory, functioning properly, other).	
Lime Supply - Check for evidence of availability (e.g., adequate inventory, other).	
QC Lab Hood - Check for evidence of failure (e.g., functioning properly, other).	
Rolloff Parking Area - Check for evidence of failure (e.g., housekeeping, staging, other).	
Dumpster/Outside Containers - Check for evidence of failure (e.g., housekeeping, condition, appropriate use and storage, other)	

EXAMPLE

Stormwater Collection System - Check for evidence of failure (e.g., functioning properly, damaged equipment, integrity, other).	
Rally Point - Check for evidence of failure (e.g., location identified, communication, other).	
Visitor Log - Check for evidence of failure (e.g., available, communication, proper use, other).	
Contingency Plan - Check for evidence of failure (e.g., available, up-to-date, communication, other).	
Wind Instrument/Wind Sock - Check for evidence of failure (e.g., operational, functioning properly, not broken, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	



Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Tank System BB Equipment Instruction	
<p>Note condition of inspection items. Inspect all tagged and non-tagged points per area plan or system drawing specification. All unsatisfactory findings must be explained. Include any repairs, changes or corrective actions.</p>	
CO Tank System BB Equipment Inspection Items	
<p>Inspect all tagged and non-tagged tank system identified BB equipment points per area plan - Check for evidence of failure. (e.g., all inclusive review of all equipment pumps, valves, flanges, connections, unions, couplings or caps for potential leaks, active leaks, sticking, wear, does not operate smoothly, other).</p>	
<p>Each open-ended valve or line is equipped with a cap, blind flange, plug, or a second valve, which seals the open end at all times except when hazardous waste flows through the open ended valve or line. [264.1056/ 265.1056]</p>	
<p>Pieces of equipment found to be leaking, usually by visual means, are repaired within 15 calendar days and the first attempt to repair is made within 5 calendar days. [264.1058(c)/ 265.1058(c)]</p>	
<p>When a leak is detected, a weatherproof identification tag is attached to the leaking equipment with ID # and the date leak was detected. The identification may be removed after repair. [264.1064(c)/ 265.1064(c)]</p>	
<p>The liquids in use are heavy liquids. It should be assumed that all hazardous liquids managed in storage tanks contain between 80% and 100% organics.</p>	
Compliance Footer	
Inspector Signature	
Attach Photo	

EXAMPLE

Inspection Overall Assessment	
-------------------------------	--



Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Tank Systems Inspection Instructions	
<p>Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.</p>	
CO Tank Systems Inspection Items	
Tanks - Check for evidence of failure (e.g., rusty or loose anchoring, distortion, paint failure, other).	
Pipes/Piping Supports - Check for evidence of failure (e.g., distortion, corrosion, paint failure, other).	
Valves - Check for evidence of failure (e.g., disconnected, corrosion, sticking, leaks, other).	
Fittings/Hose Connections - Check for evidence of failure (e.g., loose, disconnected, corrosion, other).	
Liquid Level - Check for acceptable level. (e.g., high level max, permitted volume, other).	
Secondary Containment - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).	

EXAMPLE

Transfer Equipment/Pump and Pump Motors - Check for availability and condition (e.g., pumps, filters, strainers, hoses, leaks, overheating, other).	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Satellite Accumulation Containers - Check for condition and appropriate for area (e.g., filter/basket, solids, label and marking, other).	
Manways, Hatches, Other Openings - Check for evidence of failure (e.g., condition, corrosion, closure, other).	
Pressure Relief Valves (PRV)/ Flame Arrestors - Check for evidence of failure (e.g., condition, corrosion, other).	
Tanks marked with the words "Hazardous Waste" - Check for appropriate markings.	
Tanks not used marked as "Out of Service" - Check for appropriate markings.	
Tanks marked as to the contents - Check for appropriate markings (e.g., Non-Haz Only).	
Monitoring Equipment/Level Indicators - Check for evidence of failure (e.g., pressure and temperature gauges, level indicators, sticking, condensation, disconnected, other).	
Loading/ Unloading Areas - Check condition of area (e.g., available equipment, spill response, containment, pad condition, valve access box, ponding or wet spots, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	

APPENDIX F-2

VERIFICATION OF EMERGENCY RESPONSE RESOURCES AND CAPABILITIES



Via Electronic Mail

January 25, 2017

Mr. John Rodier
Clean Harbors Environmental Services, Inc.
101 Philip Drive
Norwell, MA 02061

Re: Verification of Emergency Resources and Contingency Plan Adequacy
Safety-Kleen Systems, Inc. – Charlotte, NC

Dear Mr. Rodier,

In accordance with North Carolina General Statute §130A-295(d), Hazardous Waste Management facilities are required to provide specific information pertaining to the facility's operation and emergency response procedures to the respective local governments and other emergency response providers that may have a role under the facility's hazardous waste Contingency Plan. An excerpt of N.C.G.S. §130A-295(d)-(f) is enclosed for your review.

These provisions require that at least 120 days prior to submitting an application for a permit, and at each two-year interval after a permit for a hazardous waste facility is issued, the permit holder (i.e., Safety-Kleen) shall verify that the resources and equipment of these agencies and organizations are available and adequate to respond to an emergency at the facility in accordance with these organization's roles which are set forth the facility's Contingency Plan. The Contingency Plan incorporates specific information about the properties of the hazardous waste managed, including the nature and type of operations conducted our facility located at 2320 Yadkin Avenue in Charlotte. A draft copy of the facility's Contingency Plan that will be included in the upcoming permit renewal application is enclosed. This verification must be provided to the NCDEQ's Hazardous Waste Section by the permit holder (i.e., Safety-Kleen) to ensure compliance with this requirement.

In consideration of this requirement, Safety-Kleen respectfully requests your assistance in assessing the adequacy of our Contingency Plan as well as the adequacy and availability of your emergency response capabilities and resources that would be required to respond to an emergency (i.e., uncontained spill/release or fire) in the event your agency or organization would be called upon should such an emergency occur at our facility located at our Yadkin Avenue facility. In order to comply with the State of North Carolina's requirement for providing this information in a timely manner, please complete and return the enclosed verification/Acknowledgement of Adequate Resources" form to document the adequacy of your emergency response equipment and support resources, including the adequacy of

Mr. Rodier
January 25, 2017
Page 2 of 2

of our Contingency Plan, to my attention no later than **March 25, 2017**. A scanned copy of the completed verification may be emailed to my attention at the email address below.

Your consideration and support in this regard would be greatly appreciated.

If you have any questions or need additional information regarding this matter, please feel free to contact me at 336-644-0332, or via email at todd.blake@safety-kleen.com.

Sincerely,



Todd M. Blake
Environmental, Health and Safety Manager

Enclosures:

- Hazardous Waste Contingency Plan
- Verification/Acknowledgement of Adequate Resources form
- Excerpt of N.C.G.S §130A-295(d)-(f)



Verification/Acknowledgement of Adequate Resources

This request is being made to comply with the requirements of North Carolina General Statute §130A-295(d)-(g). This Law requires Safety-Kleen to request verification that the resources and equipment of each local government and emergency response agency are available and adequate to respond to an emergency at the Safety-Kleen Charlotte facility in accordance with its role set forth in the facility's Contingency Plan. This confirms that your agency/organization has adequate resources to fulfill your role, as it exists in the plan and will respond as indicated in the plan, in the event an emergency requiring your services were to occur.

This agency/organization is able to fulfill its role as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has adequate resources and equipment available to respond as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has reviewed the Safety-Kleen Charlotte Contingency Plan and concurs that it is adequate with respect to our role described in the plan. Please check the appropriate box below.

Yes No

*If "No" is selected then please provide additional comments and attach them to this form.

Agency/Organization Name: CLEAN HARBORS ENVIRONMENTAL SERVICES

Printed Name: JOHN RODIER

Signature: [Handwritten Signature]

Title: DIRECTOR, ER

Date: 1/25/2017



*Certified Mail No. 7016 1970 0000 7627 6740
Return Receipt Requested*

January 25, 2017

Mr. Marcus D. Jones, City Manager
Office of the City Manager
600 East 4th Street
Charlotte, NC 28202

Re: Verification of Emergency Resources and Contingency Plan Adequacy
Safety-Kleen Systems, Inc. – Charlotte, NC

Dear Mr. Jones,

In accordance with North Carolina General Statute §130A-295(d), Hazardous Waste Management facilities are required to provide specific information pertaining to the facility's operation and emergency response procedures to the respective local governments and other emergency response providers that may have a role under the facility's hazardous waste Contingency Plan. An excerpt of N.C.G.S. §130A-295(d)-(f) is enclosed for your review.

These provisions require that at least 120 days prior to submitting an application for a permit, and at each two-year interval after a permit for a hazardous waste facility is issued, the permit holder (i.e., Safety-Kleen) shall verify that the resources and equipment of these agencies and organizations are available and adequate to respond to an emergency at the facility in accordance with these organization's roles which are set forth the facility's Contingency Plan. The Contingency Plan incorporates specific information about the properties of the hazardous waste managed, including the nature and type of operations conducted at our facility located at 2320 Yadkin Avenue in Charlotte. A draft copy of the facility's Contingency Plan that will be included in the upcoming permit renewal application submittal is enclosed. This verification must be provided to the NCDEQ's Hazardous Waste Section by the permit holder (i.e., Safety-Kleen) to ensure compliance with this requirement.

In consideration of this requirement, Safety-Kleen respectfully requests your assistance in assessing the adequacy of our Contingency Plan as well as the adequacy and availability of your emergency response capabilities and resources that would be required to respond to an emergency (i.e., uncontained spill/release or fire) in the event your agency or organization would be called upon should such an emergency occur at the Yadkin Avenue facility. In order to comply with the State of North Carolina's requirement for providing this information in a timely manner, please complete and return the enclosed "Verification/Acknowledgement of Adequate Resources" form to document the adequacy of your emergency response equipment and support services, including the adequacy of our Contingency Plan,

PO Box 843 | Oak Ridge, NC 27310 | 336.644.0332 (o)

Safety-Kleen Systems, Inc. | A Clean Harbors Company | safety-kleen.com

Mr. Jones
January 25, 2017
Page 2 of 2

to my attention no later than **March 25, 2017**. A scanned copy of the completed verification form may be emailed to my attention at the email address below.

Your consideration and support in this regard would be greatly appreciated.

If you have any questions or need additional information regarding this matter, please feel free to contact me at 336-644-0332, or via email at todd.blake@safety-kleen.com.

Sincerely,



Todd M. Blake
Environmental, Health and Safety Manager

Enclosures:

- Hazardous Waste Contingency Plan
- Verification/Acknowledgement of Adequate Resources form
- Excerpt of N.C.G.S §130A-295(d)-(f)



Verification/Acknowledgement of Adequate Resources

This request is being made to comply with the requirements of North Carolina General Statute §130A-295(d)-(g). This Law requires Safety-Kleen to request verification that the resources and equipment of each local government and emergency response agency are available and adequate to respond to an emergency at the Safety-Kleen Charlotte facility in accordance with its role set forth in the facility's Contingency Plan. This confirms that your agency/organization has adequate resources to fulfill your role, as it exists in the plan and will respond as indicated in the plan, in the event an emergency requiring your services were to occur.

This agency/organization is able to fulfill its role as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has adequate resources and equipment available to respond as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has reviewed the Safety-Kleen Charlotte Contingency Plan and concurs that it is adequate with respect to our role described in the plan. Please check the appropriate box below.

Yes No

*If "No" is selected then please provide additional comments and attach them to this form.

Agency/Organization Name: _____

Printed Name: _____

Signature: _____

Title: _____

Date: _____



*Certified Mail No. 7016 1970 0000 7627 6757
Return Receipt Requested*

January 25, 2017

Mr. Rich Granger, Deputy Fire Chief / Emergency Management Director
Charlotte Fire Department and Emergency Management Office
500 Dalton Avenue
Charlotte, NC 28206

Re: Verification of Emergency Resources and Contingency Plan Adequacy
Safety-Kleen Systems, Inc. – Charlotte, NC

Dear Mr. Granger,

In accordance with North Carolina General Statute §130A-295(d), Hazardous Waste Management facilities are required to provide specific information pertaining to the facility's operation and emergency response procedures to the respective local governments and other emergency response providers that may have a role under the facility's hazardous waste Contingency Plan. An excerpt of N.C.G.S. §130A-295(d)-(f) is enclosed for your review.

These provisions require that at least 120 days prior to submitting an application for a permit, and at each two-year interval after a permit for a hazardous waste facility is issued, the permit holder (i.e., Safety-Kleen) shall verify that the resources and equipment of these agencies and organizations are available and adequate to respond to an emergency at the facility in accordance with these organization's roles which are set forth the facility's Contingency Plan. The Contingency Plan incorporates specific information about the properties of the hazardous waste managed, including the nature and type of operations conducted at our facility located at 2320 Yadkin Avenue in Charlotte. A draft copy of the facility's Contingency Plan that will be included in the upcoming permit renewal application submittal is enclosed. This verification must be provided to the NCDEQ's Hazardous Waste Section by the permit holder (i.e., Safety-Kleen) to ensure compliance with this requirement.

In consideration of this requirement, Safety-Kleen respectfully requests your assistance in assessing the adequacy of our Contingency Plan as well as the adequacy and availability of your emergency response capabilities and resources that would be required to respond to an emergency (i.e., uncontained spill/release or fire) in the event your agency or organization would be called upon should such an emergency occur at the Yadkin Avenue facility. In order to comply with the State of North Carolina's requirement for providing this information in a timely manner, please complete and return the enclosed "Verification/Acknowledgement of Adequate Resources" form to document the adequacy of your emergency response equipment and support services, including the adequacy of our Contingency Plan,

PO Box 843 | Oak Ridge, NC 27310 | 336.644.0332 (o)

Safety-Kleen Systems, Inc. | A Clean Harbors Company | safety-kleen.com

Mr. Granger
January 25, 2017
Page 2 of 2

to my attention no later than **March 25, 2017**. A scanned copy of the completed verification form may be emailed to my attention at the email address below.

Your consideration and support in this regard would be greatly appreciated.

If you have any questions or need additional information regarding this matter, please feel free to contact me at 336-644-0332, or via email at todd.blake@safety-kleen.com.

Sincerely,



Todd M. Blake
Environmental, Health and Safety Manager

Enclosures:

- Hazardous Waste Contingency Plan
- Verification/Acknowledgement of Adequate Resources form
- Excerpt of N.C.G.S §130A-295(d)-(f)



Verification/Acknowledgement of Adequate Resources

This request is being made to comply with the requirements of North Carolina General Statute §130A-295(d)-(g). This Law requires Safety-Kleen to request verification that the resources and equipment of each local government and emergency response agency are available and adequate to respond to an emergency at the Safety-Kleen Charlotte facility in accordance with its role set forth in the facility's Contingency Plan. This confirms that your agency/organization has adequate resources to fulfill your role, as it exists in the plan and will respond as indicated in the plan, in the event an emergency requiring your services were to occur.

This agency/organization is able to fulfill its role as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has adequate resources and equipment available to respond as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has reviewed the Safety-Kleen Charlotte Contingency Plan and concurs that it is adequate with respect to our role described in the plan. Please check the appropriate box below.

Yes No

*If "No" is selected then please provide additional comments and attach them to this form.

Agency/Organization Name: _____

Printed Name: _____

Signature: _____

Title: _____

Date: _____



*Certified Mail No. 7016 1970 0000 7627 6764
Return Receipt Requested*

January 25, 2017

Mr. Kerr Putney, Chief of Police
Charlotte-Mecklenburg Police Department - Office the Chief
601 E. Trade Street
Charlotte, NC 28202

Re: Verification of Emergency Resources and Contingency Plan Adequacy
Safety-Kleen Systems, Inc. – Charlotte, NC

Dear Chief Putney,

In accordance with North Carolina General Statute §130A-295(d), Hazardous Waste Management facilities are required to provide specific information pertaining to the facility's operation and emergency response procedures to the respective local governments and other emergency response providers that may have a role under the facility's hazardous waste Contingency Plan. An excerpt of N.C.G.S. §130A-295(d)-(f) is enclosed for your review.

These provisions require that at least 120 days prior to submitting an application for a permit, and at each two-year interval after a permit for a hazardous waste facility is issued, the permit holder (i.e., Safety-Kleen) shall verify that the resources and equipment of these agencies and organizations are available and adequate to respond to an emergency at the facility in accordance with these organization's roles which are set forth the facility's Contingency Plan. The Contingency Plan incorporates specific information about the properties of the hazardous waste managed, including the nature and type of operations conducted at our facility located at 2320 Yadkin Avenue in Charlotte. A draft copy of the facility's Contingency Plan that will be included in the upcoming permit renewal application submittal is enclosed. This verification must be provided to the NCDEQ's Hazardous Waste Section by the permit holder (i.e., Safety-Kleen) to ensure compliance with this requirement.

In consideration of this requirement, Safety-Kleen respectfully requests your assistance in assessing the adequacy of our Contingency Plan as well as the adequacy and availability of your emergency response capabilities and resources that would be required to respond to an emergency (i.e., uncontained spill/release or fire) in the event your agency or organization would be called upon should such an emergency occur at the Yadkin Avenue facility. In order to comply with the State of North Carolina's requirement for providing this information in a timely manner, please complete and return the enclosed "Verification/Acknowledgement of Adequate Resources" form to document the adequacy of your emergency response equipment and support services, including the adequacy of our Contingency Plan,

PO Box 843 | Oak Ridge, NC 27310 | 336.644.0332 (o)

Safety-Kleen Systems, Inc. | A Clean Harbors Company | safety-kleen.com

Mr. Putney
January 25, 2017
Page 2 of 2

to my attention no later than **March 25, 2017**. A scanned copy of the completed verification form may be emailed to my attention at the email address below.

Your consideration and support in this regard would be greatly appreciated.

If you have any questions or need additional information regarding this matter, please feel free to contact me at 336-644-0332, or via email at todd.blake@safety-kleen.com.

Sincerely,



Todd M. Blake
Environmental, Health and Safety Manager

Enclosures:

- Hazardous Waste Contingency Plan
- Verification/Acknowledgement of Adequate Resources form
- Excerpt of N.C.G.S §130A-295(d)-(f)



Verification/Acknowledgement of Adequate Resources

This request is being made to comply with the requirements of North Carolina General Statute §130A-295(d)-(g). This Law requires Safety-Kleen to request verification that the resources and equipment of each local government and emergency response agency are available and adequate to respond to an emergency at the Safety-Kleen Charlotte facility in accordance with its role set forth in the facility's Contingency Plan. This confirms that your agency/organization has adequate resources to fulfill your role, as it exists in the plan and will respond as indicated in the plan, in the event an emergency requiring your services were to occur.

This agency/organization is able to fulfill its role as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has adequate resources and equipment available to respond as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has reviewed the Safety-Kleen Charlotte Contingency Plan and concurs that it is adequate with respect to our role described in the plan. Please check the appropriate box below.

Yes No

*If "No" is selected then please provide additional comments and attach them to this form.

Agency/Organization Name: _____

Printed Name: _____

Signature: _____

Title: _____

Date: _____



*Certified Mail No. 7016 1970 0000 7627 6733
Return Receipt Requested*

January 25, 2017

Ms. Dena R. Diorio, Mecklenburg County Manager
Charlotte Mecklenburg Government Center - County Manager's Office
600 East 4th Street
Charlotte, NC 28202

Re: Verification of Emergency Resources and Contingency Plan Adequacy
Safety-Kleen Systems, Inc. – Charlotte, NC

Dear Ms. Diorio,

In accordance with North Carolina General Statute §130A-295(d), Hazardous Waste Management facilities are required to provide specific information pertaining to the facility's operation and emergency response procedures to the respective local governments and other emergency response providers that may have a role under the facility's hazardous waste Contingency Plan. An excerpt of N.C.G.S. §130A-295(d)-(f) is enclosed for your review.

These provisions require that at least 120 days prior to submitting an application for a permit, and at each two-year interval after a permit for a hazardous waste facility is issued, the permit holder (i.e., Safety-Kleen) shall verify that the resources and equipment of these agencies and organizations are available and adequate to respond to an emergency at the facility in accordance with these organization's roles which are set forth the facility's Contingency Plan. The Contingency Plan incorporates specific information about the properties of the hazardous waste managed, including the nature and type of operations conducted at our facility located at 2320 Yadkin Avenue in Charlotte. A draft copy of the facility's Contingency Plan that will be included in the upcoming permit renewal application submittal is enclosed. This verification must be provided to the NCDEQ's Hazardous Waste Section by the permit holder (i.e., Safety-Kleen) to ensure compliance with this requirement.

In consideration of this requirement, Safety-Kleen respectfully requests your assistance in assessing the adequacy of our Contingency Plan as well as the adequacy and availability of your emergency response capabilities and resources that would be required to respond to an emergency (i.e., uncontained spill/release or fire) in the event your agency or organization would be called upon should such an emergency occur at the Yadkin Avenue facility. In order to comply with the State of North Carolina's requirement for providing this information in a timely manner, please complete and return the enclosed "Verification/Acknowledgement of Adequate Resources" form to document the adequacy of your emergency response equipment and support services, including the adequacy of our Contingency Plan,

PO Box 843 | Oak Ridge, NC 27310 | 336.644.0332 (o)

Safety-Kleen Systems, Inc. | A Clean Harbors Company | safety-kleen.com

Ms. Diorio
January 25, 2017
Page 2 of 2

to my attention no later than **March 25, 2017**. A scanned copy of the completed verification form may be emailed to my attention at the email address below.

Your consideration and support in this regard would be greatly appreciated.

If you have any questions or need additional information regarding this matter, please feel free to contact me at 336-644-0332, or via email at todd.blake@safety-kleen.com.

Sincerely,



Todd M. Blake
Environmental, Health and Safety Manager

Enclosures:

- Hazardous Waste Contingency Plan
- Verification/Acknowledgement of Adequate Resources form
- Excerpt of N.C.G.S §130A-295(d)-(f)



Verification/Acknowledgement of Adequate Resources

This request is being made to comply with the requirements of North Carolina General Statute §130A-295(d)-(g). This Law requires Safety-Kleen to request verification that the resources and equipment of each local government and emergency response agency are available and adequate to respond to an emergency at the Safety-Kleen Charlotte facility in accordance with its role set forth in the facility's Contingency Plan. This confirms that your agency/organization has adequate resources to fulfill your role, as it exists in the plan and will respond as indicated in the plan, in the event an emergency requiring your services were to occur.

This agency/organization is able to fulfill its role as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has adequate resources and equipment available to respond as set forth in the Safety-Kleen Charlotte Contingency Plan. Please check the appropriate box below.

Yes No

This agency/organization has reviewed the Safety-Kleen Charlotte Contingency Plan and concurs that it is adequate with respect to our role described in the plan. Please check the appropriate box below.

Yes No

*If "No" is selected then please provide additional comments and attach them to this form.

Agency/Organization Name: _____

Printed Name: _____

Signature: _____

Title: _____

Date: _____

7016 1970 0000 7627 6740

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
CHARLOTTE, NC 28202

Certified Mail Fee	\$3.35
\$	\$2.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$2.45
\$	\$8.55
Total Postage and Fees	

0310
06
Postmark
Here
01/25/2017

Sent To MARCUS JONES, CITY MGR
Street and Apt. No., or PO Box No.
CHARLOTTE OFFICE OF CITY MGR
City, State, ZIP+4®
600 E. 4TH ST CHARLOTTE NC 28202

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 1970 0000 7627 6733

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
CHARLOTTE, NC 28202

Certified Mail Fee	\$3.35
\$	\$2.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$2.45
\$	\$8.55
Total Postage and Fees	

0310
06
Postmark
Here
01/25/2017

Sent To Mrs. DENA DIORO, MEDWENBURG G. MGR.
Street and Apt. No., or PO Box No.
600 EAST 4TH ST.
City, State, ZIP+4®
CHARLOTTE NC 28202

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 1970 0000 7627 6764

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
CHARLOTTE, NC 28202

Certified Mail Fee	\$3.35
\$	\$2.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$2.45
\$	\$8.55
Total Postage and Fees	

0310
06
Postmark
Here
01/25/2017

Sent To MR. KERR PUTNEY, CHARLOTTE POLICE CHIEF
Street and Apt. No., or PO Box No.
601 E. TRADE ST.
City, State, ZIP+4®
CHARLOTTE, NC 28202

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 1970 0000 7627 6757

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
CHARLOTTE, NC 28206

Certified Mail Fee	\$3.35
\$	\$2.75
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$2.45
\$	\$8.55
Total Postage and Fees	

0310
06
Postmark
Here
01/25/2017

Sent To RICH GRANGER, CFD / EMA OFFICE
Street and Apt. No., or PO Box No.
500 DALTON AVE.
City, State, ZIP+4®
CHARLOTTE, NC 28206

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
MR. RICH GRANBER
CHARLOTTE PD / EMERG. MOTORP
500 DALTON AVE
CHARLOTTE, NC 28206



2. Article Number (Transfer from service label)
7016 1970 0000 7627 6757

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 B. Received by (Printed Name) **H. JACKSON** C. Date of Delivery **11/27/17**

D. Is delivery address different from item 1? Yes
 if YES, enter delivery address below: No

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (over \$500)

Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Return Receipt for Merchandise
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
MS. DENA R. DIORIO, COUNTY MGR.
CHARLOTTE MECKLENBURG COUNTY
MANAGERS OFFICE
600 EAST 4TH STREET
CHARLOTTE, NC 28202



2. Article Number (Transfer from service label)
7016 1970 0000 7627 6733

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 B. Received by (Printed Name) **C. M. Ch...** C. Date of Delivery **11/30/17**

D. Is delivery address different from item 1? Yes
 if YES, enter delivery address below: No

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (over \$500)

Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Return Receipt for Merchandise
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
MR. KERR PUTNEY, CHIEF OF POLICE
CHARL / MEDICAL POLICE DEPT.
601 E. TRADE ST.
CHARLOTTE, NC 28202



2. Article Number (Transfer from service label)
7016 1970 0000 7627 6764

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 B. Received by (Printed Name) **D. J. ...** C. Date of Delivery **11/30/17**

D. Is delivery address different from item 1? Yes
 if YES, enter delivery address below: No

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (over \$500)

Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Return Receipt for Merchandise
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
MR. MARCUS JONES, CITY MGR.
CHARLOTTE OFFICE OF CITY MGR.
600 EAST 4TH ST.
CHARLOTTE, NC 28202



2. Article Number (Transfer from service label)
7016 1970 0000 7627 6740

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 Agent
 Addressee
 B. Received by (Printed Name) **C. M. Ch...** C. Date of Delivery **11/30/17**

D. Is delivery address different from item 1? Yes
 if YES, enter delivery address below: No

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery
 Insured Mail
 Insured Mail Restricted Delivery (over \$500)

Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Return Receipt for Merchandise
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

SECTION G
CONTINGENCY PLAN
TABLE OF CONTENTS

SECTION		PAGE
G-1	General Information	1
G-2	Emergency Coordinators	16
G-3	Implementation	16
G-4	Emergency Response Procedures	17
G-4(a)	Emergency Response Notification	18
G-4(b)	Identification of Hazardous Materials	20
G-4(c)	Hazard Assessment	21
G-4(d)	Control Procedures	24
G-4(d)(1)	Prevention of Recurrence or Spread of Fires, Explosions or Releases	25
G-4(d)(2)	Container Spills and Leakage	31
G-4(d)(3)	Tank Spills and Leakage	31
G-4(d)(4)	Wastes Piles	34
G-4(d)(5)	Surface Impoundments Spills, Leakage, and Sudden Drops	34
G-4(d)(6)	Landfills	34
G-4(e)	Incompatible Waste	34
G-4(f)	Storage and Treatment of Released Material	35
G-4(g)	Post-Emergency Equipment Maintenance	35
G-5	Emergency Equipment	36
G-6	Coordination Agreements	39
G-7	Evacuation Plan	40
G-8	Required Reports	41
G-9	Availability and Revision of the Contingency Plan	43

LIST OF TABLES

G-1	Emergency Equipment List
-----	--------------------------

SECTION G
CONTINGENCY PLAN
TABLE OF CONTENTS
(Continued)

LIST OF FIGURES

- G-1 Site Plan
- G-2 Evacuation Routes
- G-3 Emergency Equipment Locations
- G-4 Emergency Contact List

SECTION G

CONTINGENCY PLAN

This Contingency Plan addresses hazardous waste spill response activities at the Safety-Kleen, Charlotte Branch (hereinafter referenced as the Facility). This Plan has been designed to address the requirements of the Resource Conservation and Recovery Act (RCRA) – 40 CFR 264, Subpart D, and the State of North Carolina companion regulations.

G-1 GENERAL INFORMATION

The Facility, located at 2320 Yadkin Avenue, Mecklenburg County, Charlotte, North Carolina, 27263, is owned and operated by Safety-Kleen Systems, Inc., a subsidiary of Clean Harbors, Inc. The Facility serves as an intermediate storage center for new and used solvents, distributing solvents to Safety-Kleen customers and transferring used solvents from the customer to a centralized recycling facility. A site plan of the Facility is presented in Figure G-1.

The Facility occupies an approximate 1.5-acre site. The Facility's operational services involve the accumulation, storage (and 10-day transfer) of waste, product, equipment, and waste cleaning solvents (primarily mineral spirits-based), perchloroethylene, waste oil, paints and thinners.

The business activities conducted at the Facility relate to the sales, leasing and servicing of parts cleaning equipment, the collection and distribution of solvents, the collection of paint wastes, and the collection and management of industrial wastes. The solvents are distributed from and returned to the service center, where separate aboveground storage tanks are utilized for the storage of clean and used parts washer solvent, and used oil. Additional space is designated for the storage of drums containing both clean and used immersion cleaner, dry cleaner wastes, photographic processing wastes, and paint wastes. The stored materials are periodically removed from the Facility and

transported to other facilities for reclamation. No reclamation activities are performed at this Facility.

Facility operations include the accumulation and storage of various waste streams, including used solvents, dry cleaner wastes, paint wastes, photographic processing wastes, and used immersion cleaner generated by Safety-Kleen customers. The facility functions as a hazardous waste storage facility, pursuant to 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities. The Facility also meets the definition of a transfer facility under 40 CFR 263 and Rule 15A NCAC 13A.0118, Standards Applicable to Transporters of Hazardous Waste. As such, the facility may hold hazardous wastes in containers for a period of ten (10) days or less during the normal course of transportation. Transfer wastes are not subject to regulation under 40 CFR 264 but may be held in the same areas used for permitted waste storage.

The Facility is owned and operated by Safety-Kleen Systems, Inc. and has been in operation since July 15, 1980. It serves customers in the south-central region of North Carolina, and portions of north central South Carolina. All land and buildings associated with the Facility are owned by the Safety-Kleen Systems, Inc. The Facility address is:

Safety-Kleen Systems, Incorporated
2320 Yadkin Avenue
Mecklenburg County
Charlotte, North Carolina 27263

U.S. EPA ID Number: NCD 079 060 059

Refer to the Emergency Contact list in Figure G-4 for the list of Emergency Coordinators and other emergency contact/response resources.

The name and address of the Facility's corporate headquarters is:

Safety-Kleen Systems, Incorporated
2600 North Central Expressway, Suite 200
Richardson, Texas 75080

The hazardous waste management units subject to RCRA storage regulations at this Facility include:

- Non-Ignitable Waste Container Storage Area.
- The Class 1B Container Storage Area inside the Class 1B Warehouse Building.
- Used Parts Washer Solvent Tank System and Ancillary Equipment.
- Two (2) Parts Washer Solvent Drum Washer/Dumpster units – Return and Fill Station/Dock.

The Facility consists of the following main elements, which are depicted on Figure G-1.

- Class 1B Container Storage Warehouse Building. Located in the central portion of Facility property, this building houses the Class 1B Flammable Container Storage Area for hazardous wastes on the southwest side of this building. The remaining portion of this Building is occupied by equipment and product storage areas, as well as storage for less than 10-day transfer wastes. Additional information pertaining to the types, methods, and quantities of hazardous wastes managed in the warehouse building is included in Section D of this permit application. The RCRA permitted portion of this building maintains a maximum storage capacity of 7,120 gallons and the remaining portion of the building is designed to store a maximum capacity of 14,070 gallons of combined product and transfer waste.
- Return and Fill Station/Non-Ignitable Waste Container Storage Area. Located in the western portion of the facility property, this building contains the Return & Fill Station, the Non-Ignitable Waste Container Storage Area for hazardous wastes, and a covered loading dock. The canopy covered Return and Fill Station occupies the

south end of this building, and contains two (2) drum washer/dumpster units and one (1) drum-rinsing unit that serve as a final clean solvent rinse for empty parts washer solvent drums. Each drum washer/dumpster unit has a capacity of 375 gallons. The covered loading dock is adjacent to the east side of the building, with the Non-Ignitable Waste Container Storage Area entrance located behind the loading dock, in the northwest section of the Return and Fill Area. The hazardous waste/material storage capacity for this area is 6,540 gallons.

- Flammable Shelter. Located in the central portion of the Facility property, directly outside the southeast wall of the Class 1B Flammable Container Storage Area. The shelter is used primarily for the storage of clean product, empty drums, and various 10-day transfer wastes.
- Allied Products Storage Warehouse Extension. This pre-fabricated metal frame structure (constructed in 2003) is located on the northeast side of the Class 1B Container Storage Warehouse Building and inside the containment area of the former Used Oil Tank Farm. This building is used for the storage of non-flammable product materials and equipment. This storage area is not a permitted hazardous waste storage unit.
- Office Building. This two-story building is located southeast of the Class 1B Warehouse Building in the south-central portion of the Facility property and houses the administrative offices and employee locker rooms.
- Parts Washer Solvent Tank Farm. This tank farm houses three (3) 15,000-gallon aboveground storage tanks, and is located directly north of the Non-Ignitable Waste Storage Area/Return & Fill Station. Only one of these tanks is permitted and designated for the storage of used parts washer solvent. All tanks are marked with their contents and the applicable NFPA placard. An additional description of each tank is provided below.

- Tank No. 1 is a 15,000-gallon capacity vertical steel aboveground tank used to store used parts washer solvent and is a RCRA regulated storage tank. It may also be utilized on an as-needed basis to store storm water that has collected within the Tank Farm or the Return and Fill Station.
- Tank Nos. 2 and 3 are 15,000-gallon capacity vertical steel aboveground tanks used to store petroleum related products that are compatible with the used parts washer solvent.
- Truck Station Area. This concrete-paved area is located adjacent to the Parts Washer Solvent Tank Farm and contains a collection sump adjacent to the tank farm containment wall. A single storage tank access container unit is located within the tank farm containment area adjacent to the truck station. This unit contains the pipe header connections that allow tanker trucks to load and unload material (i.e., clean and used solvents) to and from the tanks via aboveground pipelines.

The remaining fenced Facility property either is covered with a combination of asphalt and gravel for facility ingress / egress, parking, and miscellaneous storage, or consists of manicured grass and landscaping.

The hazardous properties of the wastes have been determined by Safety-Kleen's extensive experience in handling these waste streams, by knowledge of the processes that produce each waste, and through extensive analytical data. The following sections describe each waste stream authorized for storage under the hazardous waste management permit.

USED PARTS WASHER SOLVENT

1. U.S.EPA Waste Code

The used parts washer solvents may exhibit the hazardous waste characteristics under the following RCRA Waste Codes: D001 (Ignitable Waste), D004 through D011, D018, and D019, D021 through D030 and D032 through D043 (TCLP Waste).

2. Hazardous Properties of the Waste

- a. Physical and chemical properties: The used parts washer solvent consists primarily of solvent and/or water, solids (i.e., metal bearing residue), oil, and grease. The majority of the used parts washer solvent is a petroleum distillate solvent consisting predominantly of C-9 through C-13 saturated aliphatic hydrocarbons. To a lesser extent, aqueous based solvents are utilized. The specific gravity of the used parts washer solvent ranges between 0.70 –1.1.
- b. Ignitability: The used Safety-Kleen petroleum-naphtha based parts washer solvent may be a RCRA hazardous waste due to a flash point less than 140 degrees F. Aqueous based parts washer solvent will have a flashpoint greater than 140 degrees F.
- c. Corrosivity: The used solvent is not a corrosive waste.
- d. Reactivity: The used solvent is not a reactive waste.
- e. Toxicity: The used solvent may also exhibit the toxicity characteristic for heavy metals (i.e., lead) and/or other TCLP organic constituents.
- f. Incompatibility: The used solvent is potentially incompatible with oxidizers, which are not stored at the facility. The waste is compatible with the containers and tank in which it will be stored, and is compatible with all wastes that will be stored or handled in the permitted areas of the facility.

3. Waste Generation

Used solvents are generated off-site by Safety-Kleen customers during degreasing/cleaning operations. Safety-Kleen typically provides parts degreasing/cleaning units. Some are a “sink-on-a-drum”, while others are larger,

vat-like devices. There is also a service for customers who own their parts cleaning machines, whereby Safety-Kleen provides solvent and solvent reclamation services regardless of the machine model.

4. Waste Management

Safety-Kleen representatives collect used solvent in containers and transport these containers to Safety-Kleen's facility. These containerized used solvents are then transferred into an aboveground storage tank via the drum washer/dumpster units. The used solvent in the tank is periodically transferred via tanker truck to a Safety-Kleen owned/operated recycle center. Used parts washer solvent waste may also remain in containers and be stored in a permitted container storage area of the facility.

A drum washer unit in the return/fill area uses the same type of solvent to clean empty containers. That solvent is then transferred into the storage tank via the drum washer. The solvent residues generated from rinsing drums in the drum spritzer (clean solvent rinse) unit are gravity drained into the drum washer units and managed along with the other used solvents in the aboveground used solvent storage tank.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions as found in 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

5. Process Design Capacity and Units of Measure for Processes Used for Handling the Waste

Safety-Kleen is limited as to how much waste can be stored at the facility by the capacity of the storage tank and the capacity of the permitted storage area. A daily inventory of the volume of waste in the tank is documented and transmitted to the corporate office. The dispatch of tanker trucks is controlled from there.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

SPENT IMMERSION CLEANER

1. U.S. EPA Waste Code

The spent immersion cleaner may exhibit the toxicity characteristics under the following RCRA Waste Codes: D004 through D011, D018, D019, D021 through D030 and D032 through D043 (TCLP Waste).

2. Hazardous Properties of the Waste

- a. Physical and Chemical Properties: The spent immersion cleaner is a single-phased heavy aromatic naphtha-based formulation. This material is a hazardous waste because it exceeds the toxicity characteristics using TCLP criteria due primarily to heavy metal (lead, cadmium, etc.) and organic contamination. This organic contamination is typical of that found in auto repair shops and may include benzene from gasoline, perchloroethylene and trichloroethylene from specialty cleaning solvents, and methyl ethyl ketone from paint thinners.
- b. Ignitability: The spent solvent is not an ignitable waste.
- c. Corrosivity: The spent solvent is not a corrosive waste.
- d. Reactivity: The spent solvent is not a reactive waste.

- e. Toxicity: The spent solvent may also exhibit the toxicity characteristic for heavy metals (i.e., cadmium) and/or other TCLP organic constituents.
- f. Incompatibility: The spent solvent is potentially incompatible with oxidizers, which are not stored at the facility. The waste is not incompatible with other wastes stored in the permitted areas of the facility or the containers in which it is stored.

3. Waste Generation

Spent immersion cleaner is generated off-site by Safety-Kleen customers. Immersion cleaner is spent for removing varnish and gum from such things as carburetors, transmissions, and other metal parts. The used material is basically unchanged from its product state, except that oil, grease, and other solids may be entrained in the solvent during operations.

4. Waste Management

Spent immersion cleaner is collected in containers by Safety-Kleen personnel. The wastes remain in the covered containers at all times during transport and storage. They are typically not opened at the North Carolina facilities. It may be necessary from time to time to open these containers in order to obtain samples for additional analytical testing or to perform additional visual qualitative inspections. The containers are ultimately shipped to a Safety-Kleen recycle center.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions as found in 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

5. Process Design Capacity and Units of Measure for Processes Used for Handling the Waste

Safety-Kleen is limited as to how much waste can be stored by the maximum permitted storage capacity of the drum storage area.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

SPENT DRY CLEANING MATERIALS

1. U.S. EPA Waste Code

Spent dry cleaning wastes may be a listed waste carrying the code F002. Spent dry cleaning wastes may also exhibit the toxicity characteristics under the following RCRA Waste Codes: D001, D004 through D011, D018, D019, D021 through D030 and D032 through D043 (TCLP Waste).

2. Hazardous Properties of the Waste

- a. Physical and Chemical Properties: The waste generated from dry cleaning operations contains various concentrations of tetrachloroethylene, mineral spirits (petroleum naphtha), and trichloro-triflouroethane and other used products. The waste may also carry TCLP codes due to dirt and other contaminants removed from materials being cleaned.
- b. Ignitability: Spent dry cleaning materials may be ignitable.
- c. Corrosivity: The waste is not corrosive waste.
- d. Reactivity: The waste is not a reactive waste.

- e. Toxicity: The spent solvent may also exhibit the toxicity characteristic for various TCLP chlorinated organic characteristics.
- f. Incompatibility: Potentially incompatible materials include oxidizers, and in the case of halogenated solvents, lithium, barium, and beryllium. None of these materials are stored in the permitted area of the facility. The spent materials are compatible with the containers in which they are stored.

3. Waste Generation

The Spent Dry Cleaning Materials discussed below are generated off-site by contracted Safety-Kleen customers. These materials are generated through the use of different solvent types, as described above.

- a. Cartridge Filters: The spent dry cleaning cartridge filters retain the dry cleaning solvent, oil, grease, and undissolved elements (such as lint and soil). Filter construction materials (steel, paper, clay and/or carbon) are also part of the waste. The solvent retained in the filter cartridge generally amounts to less than 50 percent of the total cartridge weight, but the cartridges will range from dry to wet.
- b. Powder Residue: Some dry cleaners use a mixture of spent powdered materials as the filter medium for the dry cleaning solvent (instead of a cartridge filter). This filter medium generally consists of diatomaceous earth and carbon. Solvent, lint, soil, oil, and grease are retained in this filter medium. The solvent typically comprises between 40 and 50 percent of the spent powder residue by weight.
- c. Still Residue: After filtration the dry cleaning solvent is distilled to remove the dissolved materials from the spent solvent. These dissolved materials, or still residues, are in liquid or solid form and consist primarily of detergent, oil, grease, vinyl acetate (a sizing compound), water and solvent.

- d. Still Condensate: In some instances, dry cleaners will separate water generated from the dry cleaning still from the still residue. In these cases, Safety-Kleen will collect solvent contaminated separator water in a separate container instead of mixed with the still bottoms.

4. Waste Management

Dry cleaning waste is collected in containers. The wastes remain in the covered containers at all times during transport and storage. Dry cleaning waste containers remain closed until they are received at the recycling center, where they are inspected and/or tested in accordance with that facility's operating permit. Safety-Kleen does not require visual inspection of dry cleaner wastes at the customer's site or at the North Carolina facilities for the following reasons: 1) employee exposure concerns (primary reason); and 2) the negligible risk of foreign material contaminating the waste. These wastes are generated in very controlled environments, where other operations using significant amounts of other materials are not conducted. These wastes are generated within dry cleaning machines that would not lend themselves to cross-contamination by other foreign materials. The containers are ultimately shipped to a Safety-Kleen recycle center or another approved TSDF.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions under 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

5. Process Design Capacity and Units of Measure for Processes Used for Handling the Wastes

Safety-Kleen is limited as to how much waste can be stored by the maximum permitted storage capacity of the drum storage area.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

PAINT WASTES/SPENT LACQUER THINNER

1. U.S. EPA Waste Code

Paint wastes/used lacquer thinners contain solvents, which are ignitable waste (D001) and are listed as RCRA hazardous wastes (F003 and F005). The paint waste/used lacquer thinner is also being permitted as a TCLP waste codes D004 through D011, D018, D019, D021 through D030 and D032 through D043. The used paint waste/used lacquer thinner wastes are managed under the non-wastewater treatability group classification as defined under the RCRA Land Disposal Restrictions. Aqueous-based paint waste may also be accepted for storage as less than 10-day transfer waste and managed in containers in permitted storage areas at the facilities.

2. Hazardous Properties of the Waste

- a. Physical and Chemical Properties: The primary constituents of the waste are non-halogenated solvents (toluene, xylene, methyl ethyl ketone). The waste is considered RCRA hazardous due to its toxic constituents (non-halogenated solvents) and is toxic (as determined by TCLP) due to its concentrations of TCE and methyl ethyl ketone. It is also an ignitable waste.
- b. Ignitability: The waste is an ignitable waste under RCRA
- c. Corrosivity: The waste is not a corrosive waste.

- d. Reactivity: The waste is not a reactive waste.
- e. Toxicity: The spent solvent may also exhibit the toxicity characteristic for heavy metals (i.e., chromium, lead) and/or other TCLP volatile and semi-volatile organic constituents.
- f. Incompatibility: The waste is potentially incompatible with oxidizers, which are not stored or handled at the facility. The waste is compatible with other wastes stored or handled in the permitted areas of the facility, and with the containers in which it is stored.

3. Waste Generation

The paint waste/used lacquer thinner reclamation program primarily services automobile body repair shops. The waste is generated through various painting operations at the customer's location, where the waste will be containerized.

4. Waste Management

Paint waste and spent lacquer thinner are collected in containers. The waste will remain in the covered containers at all times during transport and storage. They are typically not opened at the North Carolina facilities. It may be necessary from time to time to open these containers in order to obtain samples for additional analytical testing or to perform additional visual qualitative inspections. The containers are ultimately shipped to a Safety-Kleen recycle center or another approved TSDF.

Safety-Kleen packages all wastes for transportation and storage under the guidelines for package applications and exceptions under 49 CFR 173. Each package meets the testing requirements under 49 CFR 178 as it applies, unless exempted from this requirement through regulation, a DOT exemption or conditional approval.

5. Process Design Capacity and Units of Measure for Process(es) Used for Handling the Wastes

Safety-Kleen is limited to how much waste can be stored at the facility by the permitted capacity of the container storage areas and by the National Fire Protection Association Standards.

6. Results of Chemical and Physical Analysis of the Waste

The results of chemical and physical analysis of the waste will be retained at the facilities as part of the operating record until closure of the facility.

SPILL CLEANUP WASTES

Spill cleanup wastes will result from cleanup operations conducted by Safety-Kleen. These cleanups could occur at the facility or at a customer's place of operation because of releases of hazardous materials that are supplied by Safety-Kleen or hazardous wastes generated from the materials supplied by Safety-Kleen. The spill cleanup wastes are thus materials that are of known identity and may include contaminated soils, contaminated waters (including decontamination rinses), contaminated materials used for spill control and cleanup, and disposable personnel protection equipment.

Safety-Kleen accepts these wastes from off-site when the spill occurred in the presence of a Safety-Kleen employee or if the customer can provide an analysis or other methods describing the constituents of the spill material. Spill cleanup wastes from customer's facilities where Safety-Kleen personnel did not participate in the cleanup are not accepted into permitted storage. Spills that occur on-site will be responded to as described in the Contingency Plan. Spilled material that does not fall under these scenarios will not be accepted into storage.

G-2 EMERGENCY COORDINATORS

Pursuant to 40 CFR 264.52(d) and 264.55, the Emergency Coordinator is the designated Safety-Kleen individual with responsibility to direct and supervise all emergency response actions at the Facility. The names, home addresses, and home and business telephone numbers of the primary and alternate Emergency Coordinators are contained in Figure G-4. The Emergency Coordinator contact list is posted in various locations throughout the Facility.

Names and contact information will be updated immediately if there are any changes in employee's status, address, or home or business telephone number. All of the individuals named as Emergency Coordinators have thorough knowledge of the Facility and its operations, and have the authority to commit the necessary resources needed to implement the Contingency Plan.

At all times, an employee capable of acting as the Emergency Coordinator will either be on site or readily available to reach the Facility in a short period of time.

The Emergency Coordinator will make an immediate assessment of any situation or potential situation to determine if it necessitates implementation of the Plan, as outlined in Section G-4. Any Safety-Kleen employee with responsibility to address releases of hazardous wastes will be trained to implement the Plan. This training is outlined within the facility's Operating Record (also see Section H).

G-3 IMPLEMENTATION

Pursuant to 40 CFR 264.51(a), this Contingency Plan will be implemented in those situations involving the release or threatened release of hazardous wastes which may result in threats to human health and / or the environment. Such events may include:

- Fires.
- Explosions.
- Acts of vandalism or sabotage.
- Severe weather events, such as hurricanes, tornadoes, or severe thunderstorms.
- Sudden or non-sudden releases of hazardous wastes and/or petroleum materials stored or otherwise handled at the Facility to air, soil, or surface water bodies.

G-4 EMERGENCY RESPONSE PROCEDURES

Pursuant to 40 CFR 264.52, the Contingency Plan must describe those actions to be undertaken by the Facility to minimize hazards to human health and / or the environment which result from a release or threat of release of hazardous wastes or hazardous waste constituents at the Facility. This subsection outlines the duties, and procedures that will be followed by the Emergency Coordinator(s) in the event of an actual emergency.

The effective response to actual or threatened releases of hazardous wastes at the Facility will entail a process of:

- Discovery and notification.
- Site assessment.
- Site control.
- Site cleanup.
- Restocking / decontaminating emergency equipment.
- Evaluating response.

Notification of a release of hazardous waste will be conducted by the Safety-Kleen personnel who makes discovery of such an incident. After alerting and warning personnel to the emergency, the Emergency Coordinator will be notified. Upon notification, the Emergency Coordinator will immediately assume his / her responsibilities to conduct and coordinate the activities outlined within the following

sections, or delegate responsibilities to appropriate emergency response personnel / agencies.

It is imperative to note that the procedure outlined below represent a typical outline of response measures to be undertaken for a hazardous waste release at the Facility. Each incident is unique, and the methods in which response can be effectively made to control and mitigate an incident are varied and dependent upon numerous factors. The size of the incident may be such that the hazards are immediately known and control measures can be implemented at once. Other incidents may require careful assessment before any active control measures can be implemented.

G-4(a) Emergency Response Notification

A Safety-Kleen employee, upon discovering a hazardous materials release or conditions suggesting an imminent release, will undertake immediate steps to:

- Ensure his / her own personal safety by vacating the areas of release in a safe fashion.
- Attempt to warn others in the immediate vicinity through oral or other communication, while remaining cognizant of personal safety.
- Immediately notify the Facility office via the internal alarm system and / or site telephones. The designated Emergency Coordinator will also be immediately notified.

It must be emphasized that Safety-Kleen employees who discover a release or potential release of hazardous wastes should utilize their best judgment, based upon their training and experience in handling hazardous materials, in responding in a fashion appropriate to the seriousness of the incident. The opportunity to undertake certain actions (e.g., remote shut down of equipment, placement of spill blanket down gradient of a spill)

before sounding an alarm should be considered if the particular person has been properly trained to assess and perform such activities. Additionally, where outside assistance is clearly indicated (e.g., large fire), the person discovering the incident is authorized to immediately contact the local emergency response agency (e.g., fire department), rather than delay until the Emergency Coordinator can be contacted.

Information pertaining to the quantity, type, location of materials, and the hazards of the wastes and products located at the Facility are available upon request to emergency response entities from either facility management or through the Clean Harbor's 24/7 corporate emergency operations center. Records identifying the off-site generators of the waste present at the Facility can be provided confidentially to the NCDEQ upon request.

Pursuant to 40 CFR 264.56(a)(1), the Facility is required to possess internal alarms and communications systems to facilitate the notification process. The Facility possesses the following alarms and communication systems:

- A central alarm system, monitored 24/7/365 by a third-party monitoring service provider, consisting of manually activated push-button alarms located at the Return and Fill Station and Class 1B Flammable Storage Warehouse.
- A centrally monitored fire detection system, consisting of heat, flame, and smoke detection devices, capable of alerting Facility personnel and the local fire department.
- Internal / external telephone system.
- Public address system.

When the alarms are triggered, an audible siren will sound throughout the operational areas and at the Facility Office Building in addition to immediate notification to the third-

party contracted monitoring service (i.e., central monitoring station) and the Charlotte Fire Department. The Emergency Coordinator will also be immediately contacted. Employees in operational areas would also be notified orally via voice communication or by using the public address system. Telephones are also located throughout the Facility, which can be used to provide two-way communication with other areas of the Facility. The telephones will not be used for notification purposes, unless the Emergency Coordinator has determined that the area in which the phone is located is safe.

The Emergency Coordinator may utilize the public address system to issue evacuation orders or other directives to on-site personnel. In case of failure of the public address system, such directions can be issued orally. The locations of the emergency equipment and communication system devices are depicted on Figure G-3.

G-4(b) Identification of Hazardous Materials

The locations for storage and handling of hazardous wastes and other potentially hazardous materials at the Facility can be found in Figure G-1. Whenever there is a release, fire, or explosion, the Emergency Coordinator must immediately identify the character, exact source, amount, and extent of any released materials. Because of the limited types of waste chemicals in storage, the identification process can be done using container and tank inspection logs, manifests, container labels, and Safety Data Sheets.

Pursuant to 40 CFR 264.56(b), the Emergency Coordinator or designee will consider the following sources of information in attempting to identify the materials involved in the incident, the volume of materials involved, and the hazards associated with the materials:

- Visual observations by response personnel.
- Witness accounts by other employees, particularly those who first discovered the incident.

- Pre-existing knowledge of identity of a material at a particular location.
- Tank, drum, package and / or equipment labels and placards.
- Truck placards, shipping manifests and bill-of-ladings (i.e., for on-site transportation incidents).
- Container / tank inspection logs.
- Safety Data Sheets (SDSs).
- Chemical analysis (if applicable).

The SDSs are maintained electronically and are available at all times. Other sources of information on the hazards associated with wastes involved in a release will be used as necessary (e.g., calling the Safety-Kleen 24-hour Incident Notification System, refer to Figure G-4). The limited number and consistent types of hazardous wastes, which the Facility regularly stores, will simplify identification of the characteristics and potential hazards of the wastes involved.

G-4(c) Hazard Assessment

Activities related to site assessment are the responsibility of the Emergency Coordinator. These actions include:

- Identifying the materials involved.
- Assessing the hazards they pose, and assessing the current and anticipated extent of injuries and / or damage to the environment.
- Assessing the potential methods to mitigate these hazards, including an assessment of capabilities of the Facility's resources and expertise, and the need to request outside assistance.

Pursuant to 40 CFR 264.56(c), the Emergency Coordinator will consider the following information to evaluate the potential hazards posed to human health and the surrounding environment:

- Location of the incident and approximate size of impact.

- The hazardous materials involved.

- The chemical and physical properties of these materials, and their associated health hazards.

- The incident setting, including:
 - Access.
 - Ignition sources nearby.
 - Incompatibility / reactivity hazards nearby.
 - Topography, i.e., low areas where vapors may collect.
 - Weather conditions and forecast (for outside incidents).
 - Dispersion / migration pathways.
 - Location of storm drains.

The Emergency Coordinator will apply his / her best judgment to the situation, considering both direct and indirect effects of the event. The information obtained by the hazard assessment process is utilized to assess potential methods to mitigate these hazards. Of extreme importance is the Emergency Coordinator's assessment of the capabilities of the Facility's resources and expertise, and the need to request outside assistance.

In addition, the Emergency Coordinator will assess the extent of any injuries to on-site and / or off-site personnel resulting from the incident. The Emergency Coordinator will also assess the extent of contamination to the environment, including impacts to the atmosphere, soils, surface water and / or groundwater. The Emergency Coordinator may also consult medical and environmental protection experts if necessary. If outside assistance is required, the appropriate agencies will be notified at once.

The Emergency Coordinator will assess every incident involving the release or potential release of hazardous waste at the Facility. Pursuant to 40 CFR 264.56(a)(2), if the Facility is not capable of handling any of the actions necessary to eliminate the hazards associated with the incident, the Emergency Coordinator will immediately request assistance from local or State authorities. Pursuant to 40 CFR 264.56(d)(1), if the Emergency Coordinator's assessment reveals that release(s) of hazardous wastes threaten human health or the environment outside of the Facility, and that evacuation of off-site personnel may be advisable, he must notify appropriate federal, state, and local authorities as specified in Section G-8.

Examples of a situation that would likely require outside assistance include:

- Fire situations beyond the incipient control capabilities of the Facility.
- Threatening or actual explosion situations.
- Releases of hazardous wastes that either threaten off site migration or are actively migrating off site; which could result in human health threats or environmental damage (i.e., the need to evacuate off site personnel).
- Injuries requiring medical treatment beyond the capabilities of the Facility.
- Rescue operations beyond the capabilities of the Facility.
- Releases of toxic materials that may require a level of personnel protection or monitoring equipment not available to the Facility.
- Situations threatening off site personnel and property.

Contact information for all appropriate Local and State agencies is provided in Figure G-4. Local agencies include the Local Emergency Response Team, which consists of members of the following agencies:

- Charlotte Fire Department.
- Charlotte Police Department
- Charlotte-Mecklenburg County Emergency Management Office

Technical assistance can also be obtained from the Safety-Kleen 24-hour Incident Notification System.

In addition to sources of local assistance, certain situations specified in Section G-4(c), will require reporting to State and / or Federal agencies. These situations are detailed within Section G-8 of this Plan.

G-4(d) Control Procedures

Maintaining control at the Facility during an emergency incident includes the following activities to be taken by the Emergency Coordinator or designee:

- Controlling ingress and egress from the affected area of the Facility.
- Discontinuing waste handling operations.
- Controlling the spread of the released materials (e.g., use of portable fire extinguishers for fire control, spill control, placement of emergency spill control equipment in affected areas), including the prevention of further or recurring releases, fires and / or explosions.
- Prevention of the mixing of released materials with other, incompatible materials.

The Emergency Coordinator will undertake necessary actions to control access to the affected area of the Facility by evacuating all non-essential personnel from the area, or from the entire Facility if so warranted. This may be performed by the following actions:

- Erecting physical barriers around the affected area.
- Providing oral instructions for non-essential personnel to evacuate the area (i.e., move to a safe rallying point) or to evacuate the Facility (refer to Figure G-2). Oral instructions may be given at the scene or via the Facility's public address system or by telephone, if safe to do so.
- Notifying local police or sheriff's department if they are needed to control traffic on public roadways.

The Emergency Coordinator will also undertake all necessary actions to control the releases resulting from fires and / or spills that are within the on-site capabilities of the Facility to handle. Generally, such control actions will include one or more of the above referenced actions.

G-4(d)(1) Prevention of Recurrence or Spread of Fires, Explosions or Releases

Pursuant to 40 CFR 264.56(e), the Emergency Coordinator or designee will undertake the following measures to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous wastes or materials at the Facility, in addition to those activities outlined within Section G-4(c). These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers:

- After a fire, the Facility and / or the local Emergency Response Team will undertake measures to ensure that fire residues are completely extinguished by isolating such

residue, monitoring the scene at appropriate intervals, and applying fire-suppression agents as necessary.

- Any aboveground tank that has been damaged will be emptied and either repaired or replaced. All major tank repairs to Tank No. 1 will be certified in accordance with 40 CFR 264.196(f). Should the corrosion or damage to the vessel be extensive, or if the tank is found to be leaking and on-site repair is not practicable, the tank shall be immediately taken out of service and repaired or replaced.
- Drums that have been damaged will be emptied of product or waste and removed from the site or placed in salvage drums.
- Any other drums and tanks that possibly could have been damaged by the fire, explosion or spill will be thoroughly inspected for fractures, leaks, ruptures, etc. Any found to be leaking, or at risk of imminently leaking, will be emptied and removed, replaced, or repaired.
- Attempts will be made to determine the source(s) and cause(s) of the incident.
- Additional measures that will be taken (as applicable) to prevent future occurrences of these types of incidents include:
 - Shutting down and discontinuing all waste handling processes and routine drum handling operations.
 - Containing and collecting any released waste for off-site treatment and/or disposal.
 - Removal of or isolating containers.
- Actions designed to control the spread of material already released, such as diking and drum over packing.

- Actions designed to stop the source of release, such as patching or plugging leaks, extinguishing fires, and evacuating material from a leaking drum, tank or other container. The nature of the bulk storage tank systems are such that pressure buildup is not considered likely, except in a condition of direct impingement by fire or explosion. Such conditions would be considered unsuitable for safe inspection by Facility personnel.
- Actions designed to remove other hazardous materials including incompatible material, and ignition sources, from the affected area.

Specific actions related to spill control and fire control for the facility are outlined below.

Actions to be undertaken in the event of fire or explosion at the Facility involving or potentially involving hazardous wastes are outlined below:

- Consider extent and severity of the fire, location (particularly nearby flammable or combustible materials), and Facility resources and expertise. Note that most situations involving actual or potential explosions will require the immediate evacuation of Facility personnel.
- Remove non-essential personnel and control access.
- If the Emergency Coordinator has determined that fire control actions can be undertaken without endangering the health or safety of Facility personnel, designated personnel will obtain personal protective equipment and necessary spill control equipment from the Equipment Storage Area in the main Warehouse Building (Figure G-3). Personnel will also employ hand-held fire extinguishers, located at various points throughout the Facility (Figure G-3). Incipient fire control procedures may be initiated.

- Incipient control procedures may include actions to extinguish the fire directly (refer to appropriate SDS for any specialized fire fighting procedures), and / or secondary attempts to isolate or halt spread of fire by:
 - Shutting off or removing ignition sources
 - Moving unaffected drums, containers, or tanker vehicles away from the affected area.
 - Immediately ceasing the filling or emptying of the aboveground tanks, and any drum handling operations.

- Maintain personnel at standby to notify the local Emergency Response Team if necessary.

- If the fire spreads beyond control, evacuate all on-site personnel from the Facility. The Emergency Coordinator will provide the responding fire fighters with necessary information, including:
 - Facility layout.
 - Status of injuries, and possible locations of employees still inside.
 - The type, location, and physical and chemical properties of materials stored within.
 - Status of the containment efforts.
 - What specific additional equipment may be needed from the Emergency Response Team.

- A list and location of all fire control equipment regularly kept at the Facility is contained in Table G-1 and Figure G-3.

- The nearest source of pressurized fresh water is a standard hydrant that is serviced by the municipal water supply, located immediately outside the Facility fence near the corner of Yadkin Avenue and East 27th Street.

In addition, personnel will attempt to contain the discharge of any spill, or released materials at the points where materials could exit the site onto Yadkin Avenue and East 27th Street. If necessary, the off-site storm water manholes will be monitored, and personnel will also attempt to contain any discharges before they enter the sewers. If containment at the sewer manholes is unattainable, the sewer discharge into Little Sugar Creek, located approximately 0.20 miles west of the Facility, will be monitored. The local sewer authority would also be notified in this instance.

Pursuant to 40 CFR 264.56(f), the Emergency Coordinator will monitor for leaks, pressure buildup, or other potential sources of additional release if emergency actions require the shutdown of Facility operations.

All aboveground bulk tanks and drum washers are visually inspected daily for leaks or structural flaws. Provided their health or safety would not be endangered, personnel wearing appropriate personnel protective equipment shall continue to inspect and monitor the tanks during an emergency. The nature of the bulk storage tank systems are such that pressure buildup is not considered likely, except in a condition of direct impingement by fire or explosion. Such conditions would be considered unsuitable for safe inspection by facility personnel.

If flammable or combustible materials have entered, or threaten to enter, the sumps or any other low confined spaces, these spaces will be assumed to contain flammable / explosive atmospheres unless otherwise tested. In addition, personnel will attempt to contain the discharge at the points where material exits the operational area of the facility.

It is Safety-Kleen's policy that personnel respond only to fires that can immediately be extinguished using one fire extinguisher. Any fire which cannot be brought under control immediately, or which has the potential to become uncontrollable warrants implementation of the evacuation plan. Evacuate the Facility and call the fire and police departments if a fire cannot be extinguished immediately.

A fire in the tank or container storage area can best be extinguished by:

- dry chemical,
- carbon dioxide,
- foam,
- water fog, or
- water spray.

The wastes stored at the Facility can generate poisonous gases when exposed to high heat. Paint wastes, mineral spirits, and immersion cleaner can generate carbon monoxide and other poisonous gases. Facility personnel and local authorities must be aware of the proper response, should a fire affect areas where these wastes are stored:

- Isolate the hazard area and deny entry to unauthorized personnel.
- Stay upwind; keep out of low areas.
- Ventilate closed spaces before entering them.
- Wear positive pressure breathing apparatus and protective clothing.
- Evacuate the area endangered by the gas.
- Cool the area and containers with water after the fire has been extinguished.

Explosions may result in the spread of fire, unstable structures and other hazardous conditions at the facility. Therefore, the site must not be re-entered until the fire department has determined that it is safe to do so.

Actions must be taken to ensure that fires, explosions, or releases do not occur or reoccur. These include removing the source of the problem, repairing or remediating the source of the problem, cooling the area subject to fires and explosions and replacing equipment.

The Coordinator shall ensure that any injured employee receive medical attention from qualified professionals, and assist the Fire Department and / or the Emergency Response Team in determining if surrounding areas should be evacuated. The responding Police Department will notify citizens if evacuation is necessary.

G-4(d)(2) Container Spills and Leakage

Control Actions to be undertaken in the event of a release of hazardous waste from a drum or similar small container include:

- Shutting off machinery, electrical power, or other ignition sources within the affected area.
- Removing other drums and tank trucks containing hazardous materials from the spill area.
- Immediately ceasing the filling and emptying of any bulk storage tank, and any drum handling operations, which are in the immediate area of the spill.
- Up righting and / or over packing leaking drum(s).
- Patching or plugging leaking drums(s)
- Transferring material from leaking drum(s) into another container.
- Diking spilled material with sand, dirt, oil dry, spill blankets / pigs, or other available inert material.
- Using absorbent to soak up spilled material, and transferring to drums or other appropriate containers.
- Excavating contaminated soil and initiating other remediation activities as appropriate.

G-4(d)(3) Tank Spills and Leakage

Control actions to be undertaken in the event of a release of hazardous waste from a bulk storage tank, drum washer/dumpster unit, or tanker truck include: (Note: Secondary containment is present at the storage tank and drum washer/dumpster units, and tanker

spill equipment is available. These containment measures would most likely contain any potential releases from tanks).

- Shutting off machinery, electrical power, or other ignition sources within the affected area.
- Shutting off piping, pumps, tank lines, which may be feeding the source of the release.
- Removing other drums and tank trucks containing hazardous materials from the spill area.
- Transferring material from leaking tank into another tank, drums, or tanker truck. If necessary, the area surrounding the containers to which the material is being transferred will be diked to prevent the release of product to the surrounding environment.
- Cease filling and emptying of any bulk storage tank, and any drum handling operations, which are in the immediate area of the spill.
- Patching or plugging leaking tank or associated piping.
- Diking spilled material with sand, dirt, oil dry, spill blankets / pigs, or other available inert material (particularly if the secondary containment system around the tank did not for any reason contain the release).
- Using absorbent to soak up spilled material, and transferring to drum or other appropriate containers.
- Excavating contaminated soil and initiating other remediation activities as appropriate.
- Spilled or leaked wastes will be removed from the tank system, including secondary containment, within 24-hours of detection (if possible).
- Damaged tanks will be repaired or closed per the requirements of 40 CFR 264.196(e). If a damaged tank will be repaired, certification of major repairs by an independent, qualified North Carolina Registered, Professional Engineer will be provided to the Department within 7 days after returning the tank system to service.

- If the spill event escalates to a point where it cannot be controlled, evacuate all non-essential personnel from the facility, and contact the local Emergency Response Team (refer to Figure G-4), if not already done.
- The Emergency Coordinator will provide the responding local Emergency Response Team with necessary information, including:
 - Facility layout.
 - Status of injuries, and possible locations of employees still inside.
 - The type, location, and physical and chemical properties of materials stored within.
 - Status of the containment efforts.
 - What specific additional equipment may be needed from the Emergency Response Team.

The actions to be followed in the event of a spill of hazardous waste are outlined below:

- Assessment – Consider extent and severity of the spill location (particularly nearby flammable or combustible materials), and Facility resources and expertise. This may involve the Emergency Coordinator and one or two other individuals donning personal protective equipment and visually inspecting the spill area.
- Remove non-essential personnel and control access.
- If the Emergency Coordinator has determined that the spill can be, at least in part, controlled by the Facility, designated personnel will obtain personal protective equipment and necessary spill control equipment from the Equipment Storage Area in the main Warehouse Building (see Figure G-3).

The Emergency Coordinator shall also ensure that any injured employees receive medical attention from qualified professionals, and assist the Emergency Response Team in determining if surrounding areas should be evacuated.

- Any release of hazardous waste to the environment must be reported to NCDEQ within 24 hours of its detection, except for leaks or spills which are: 1) less than or equal to a quantity of one (1) pound, and 2) immediately contained and cleaned up. Within thirty (30) days of detection of a release to the environment, a report must be submitted to NCDEQ. This report must contain the following information:
 - Likely route of migration of the release;
 - Characteristics of the surrounding soil;
 - Results of any sampling or monitoring conducted in connection with the release (submit as soon as available);
 - Proximity to down gradient drinking water, surface water, and populated areas; and;
 - Description of the response actions taken or planned.

G-4(d)(4) Waste Piles

Not applicable; this Facility does not operate hazardous waste piles.

G-4(d)(5) Surface Impoundments Spills, Leakage, and Sudden Drops

Not applicable; this Facility does not operate hazardous waste surface impoundments.

G-4(d)(6) Landfills

Not applicable; this Facility does not operate a hazardous waste landfill.

G-4(e) Incompatible Waste

Wastes solvents stored at this Facility are compatible with each other with respect to reactivity.

Any waste transferred through this Facility that would be incompatible with the stored solvents is segregated as specified by Department of Transportation rules and local fire codes.

G-4(f) Storage and Treatment of Released Material

Once the fire, explosion, and or spill incident is controlled and contained, the Emergency Coordinator shall supervise cleanup procedures and recovery of any spilled product.

If necessary, a cleanup contractor will be hired to clean up and dispose obviously impacted soil or other media resulting from the release. The Contractor(s) must be capable of responding to the Facility within 24 hours of receipt of a request for assistance from Safety-Kleen.

All wastes generated by clean up activities, including recovered product(s), wastewaters and contaminated run-off, contaminated soils, and contaminated personnel protective equipment, will be temporarily stored at the Facility in either drums and / or tanks and subsequently hauled to a Safety-Kleen recycling facility pursuant to normal Facility operations (management of cleanup wastes is outlined within the facility Waste Analysis Plan), or otherwise disposed in accordance with federal, state, and local regulations. No on-site treatment of any released wastes occurs at this Facility.

G-4(g) Post-Emergency Equipment Maintenance

During or immediately following completion of site control activities, the Emergency Coordinator will undertake actions to:

- Prevent the recurrence of fires, explosions and / or spills.
- Decontaminate and bring to readiness all equipment used in the control efforts.

- Clean up fire and spill residues, contaminated media (e.g., soils), decontamination fluids and disposable personnel protective equipment, and properly store and dispose of these materials.

Pursuant to 40 CFR 264.56(h)(2), the Emergency Coordinator will:

- Ensure that all emergency equipment used during the event is properly decontaminated. All non-disposable tools and equipment used will be thoroughly rinsed with soap and water. Personnel will also rinse themselves and their non-disposable personal protective equipment with soap and water. Respirators will be sanitized in accordance with the manufacturer's instructions. All rinse waters will be collected for disposal.
- Supervise the reloading, recharging, restoring, and other preparations to ensure that all equipment is ready for future use. Any equipment damaged or broken during the event shall be repaired or replaced. All spill kits will be restocked such that they contain their normal quantity of sorbent material.
- Pursuant to 40 CFR 264.56(n), conduct a post-event inspection to verify that all emergency equipment is available for immediate use. Prior to recommencing normal operations at the Facility, the Coordinator shall notify the U.S. EPA Regional Administrator for Region IV and the North Carolina Department of Environmental Quality – (NCDEQ) Division of Waste Management, of the readiness of this equipment.

G-5 EMERGENCY EQUIPMENT

Pursuant to 40 CFR 264.52(c), the current locations of all pieces of equipment are described in Table G-1 and diagrammed in Figure G-3. A brief description as well as the capabilities of each item specified in Table G-1 is provided below.

- Fire Extinguishers: ABC Fire extinguishers are located throughout the Facility. They are capable of extinguishing fires caused by ordinary combustibles such as paper and wood, flammable liquids such as oil and solvent, and electrically energized fires. The extinguishers must be full and affixed with an inspection tag. They are inspected monthly at the facility.
- Communications and Alarm Systems: Flame detection devices are mounted atop poles at the north and south corners of the Tank Farm. These devices allow for the detection of a spark or flame. Heat detectors are located in the Class 1B warehouse, Return and Fill dock area, and the Non-Ignitable Container Storage area. Telephones, Emergency Fire Alarms, and Intercom are also located throughout the Facility. Refer to Figure G-3 for specific equipment locations.
- Eye Wash Stations and Emergency Shower: The Facility has two (2) eyewash stations and two (2) combination eyewash/emergency showers. The eyewash stations contain solution for rinsing the eyes and they are attached to the interior wall of the Non-Ignitable Container Storage Area and the outside wall of the Class 1B Flammable Waste Storage Room. Each station accommodates one individual at a time. They are located in areas assessable to workers. The combination eyewash/emergency showers are connected to the facility plumbing and provide a steady stream of water capable of rinsing an entire worker. It also includes an eyewash station. It is operated by pulling/pushing a lever. The shower is located inside the warehouse next to the office area.
- Spill Response Equipment: Portable spill response kits are located throughout the facility including at the Return & Fill station and each of permitted storage areas. Each kit is capable of cleaning up a small spill 30 gallons or less. Each kit contains a pair of chemical resistant nitrile or neoprene work gloves, one (1) bag (20 lb. min.) of light Dry absorbent material, one (1) box of absorbent pads, and three (3) absorbent socks. Spare salvage drums and other plastic and steel drums are located outside of the Allied Products section of the warehouse and/or

inside the Class 1B warehouse and are available for use if needed. A portable electric pump with a pump capacity of approximately 20 gallons/minute is also maintained in the Class 1B warehouse for emergency use.

- Emergency and Personal Protective Equipment: Emergency and personal protective equipment includes eye protection, proper footwear, hand protection, respiratory protection, protective clothing/equipment and absorbent material. Presented below is a summary of the capabilities of each and the procedures for use:

- Eye Protection: Approved industrial safety glasses with side shields and clear lenses are issued to each employee. There is also a supply for visitors located in the Administrative Office by the front door. Goggles are also available if liquid corrosive chemicals are being handled.
- Footwear: Proper footwear is required for all personnel at all times in work area. Employees who handle containers of chemicals are required to wear steel-toed safety shoes or boots with oil resistant, non-skid soles while on the customer's premises or otherwise in uniform.
- Hand Protection: Chemical resistant and cut resistant gloves are issued to applicable personnel. Appropriate chemical resistant gloves shall be worn by all employees who have the risk of coming in contact with chemical substances. Examples of available hand protection include nitrile gloves, neoprene gloves, and leather and canvas gloves.
- Respiratory Protective Equipment: Respirators are selected and used on the basis of the hazards to which the employees are potentially exposed, as determined by periodic evaluation of workplace environmental conditions and work area monitoring. A separate written respiratory protection program has been established pursuant to 29 CFR Part 1910 –

Personal Protective Equipment. Employees are issued personal respirators and additional supplies and cartridges are available in the general product inventory supplies area.

- Other Protective Clothing and Equipment: Uniforms are provided to all Safety-Kleen personnel who have the potential contact with hazardous waste or chemical substances. Coveralls, aprons and other protective clothing are also available. Absorbent materials such as absorbent pads, socks and granular material is stored in the storage area of the warehouse and in the spill kits. These materials are capable of containing and cleaning up a small spill of solvent, oil and other hazardous substances stored at the facility.
- First Aid Kits: Wall mounted first aid kits are located in three (3) separate areas: Class 1B warehouse in the transfer waste storage area and at the RCRA permitted container storage area, as well as in the Non-Ignitable Container Storage building. These kits contain supplies to treat cuts, scrapes, bruises, burns, and other first aid injuries for up to 25 employees per kit.

G-6 COORDINATION AGREEMENTS

Pursuant to 40 CFR 264.52(c), the Facility has made arrangements with local emergency response teams to obtain assistance in emergency situations. Local police, fire, and emergency response teams have been briefed regarding the Facility layout, types of hazardous materials and wastes normally stored at the Facility, areas in which personnel may at any time be located (work areas, offices, bathroom, etc.), Facility entrances and exits, and evacuation routes. Through this Contingency Plan, the Carolina Medical Center has been informed of the types of materials normally kept at the Facility and the injuries and illnesses that might occur in case of a fire, explosion, or accidental release.

Pursuant to 40 CFR 264.53(b), local emergency response agencies, local hospital, local police and fire departments have been provided up-to-date copies of this Contingency Plan in order to familiarize them with the types of wastes/materials handled, Facility layout, operational areas and processes, as well as actions needed in the event of an emergency requiring their assistance. Documentation verifying the ability and willingness of these entities to provide assistance is maintained in the Facility operating record.

Contact information for each of the above agencies, departments and firms is provided in Figure G-4.

G-7 EVACUATION PLAN

Pursuant to 40 CFR 264.52(f), this subsection details the evacuation plan for the Facility. Evacuation of personnel from portions or all of the Facility will be performed under the direction of the Emergency Coordinator. The Emergency Coordinator is also responsible for deciding when, and under what circumstances, personnel may reenter those portions of the Facility. Whenever an uncontrolled fire or release has occurred, all personnel will evacuate the Facility and proceed to the designated assembly point to ensure that all personnel, including employees, visitors, and contractors are accounted for and safely out of any hazardous areas.

Evacuation routes and emergency exits are diagrammed in Figure G-2. The main or gate is the primary evacuation route for the Facility. The Tank Farm or north gate serves as an alternate evacuation route from the operations area. Two man-gates are also provided adjacent to both of these gates for emergency egress in the event of an evacuation. These gates remain closed during working hours. If the evacuation of facility personnel from the Facility via these gates is required, the Emergency Coordinator or designee will activate and open the gates.

All exits to be used during evacuation are clearly marked. All buildings where personnel are regularly present have at least two possible emergency exits that can be

mechanically operated. To facilitate exit in an emergency, all fire doors open outward and cannot be locked from the inside.

Evacuation signals will consist of messages broadcast over the Facility public-address system, voice signal and telephone. In the event that a full facility evacuation is ordered, all employees will calmly and rapidly proceed to either a primary or alternate emergency exits designated on Figure G-2, and leave the premises. Unless otherwise directed, all employees will assemble across the street from the Facility on Yadkin Avenue. The Coordinator or designee will conduct a head-count to determine if all employees have successfully exited, and shall inform the arriving Fire Department or Emergency Response Team if any employees are unaccounted for.

If off-site evacuation is deemed appropriate, the local Emergency Response Team shall determine the areas to be evacuated and a schedule for conducting the evacuations. To assist the Emergency Response Team in this process, the Emergency Coordinator will, as requested, provide all available information regarding:

- The type and quantities of waste material(s) released.
- The physical, chemical and toxicological properties of the released wastes.
- The migration potential of the released wastes.
- Migration pathways and conditions affecting these pathways (e.g., air release-wind direction and speed; storm sewers, streams).
- The potential for the incident to increase significantly in severity (e.g., escalation from fire to explosion).

G-8 REQUIRED REPORTING

Pursuant to 40 CFR 264.56(d)(2), if the Emergency Coordinator determines that the Facility has had a uncontrolled spill or release or other emergency event which could threaten human health, or the environment outside the facility, he / she shall determine if the off-site evacuation of persons is advisable and notify the Charlotte-Mecklenburg Emergency Management Office, the Charlotte Police Department, NCDEQ, and the National Emergency Response Center; and report the following information:

- Name and telephone number of the person reporting this incident;
- The name and address of the Facility;
- The time the incident occurred and the type of incident (fire, explosion, release, etc.);
- The types and quantities of all materials released or otherwise involved in the incident (to the extent known at the time of reporting);
- The extent of any injuries; and
- The possible hazards to human health and the surrounding environment (outside the Facility).

Pursuant to 40 CFR 264.56(j), any emergency event that requires implementation of the Plan will be reported in writing by to the North Carolina DEQ – Division of Waste Management within 15 days. This report will include:

- Name, address, and telephone number of the owner.
- Name, address, and telephone number of the Facility.
- Date, time, and type of incident.
- Type and quantity of material(s) involved.
- The extent of injuries, if any.
- An assessment of actual or potential hazards to human health or to the environment.
- The estimate quantities and disposition of recovered materials that resulted from the incident.

The Emergency Coordinator will also log the time, date, and details of the event in the Facility operating record.

Pursuant to 40 CFR 264.196(d), any spill or release of hazardous wastes from an aboveground storage tank that is greater than one pound or not immediately contained and cleaned up shall be reported to the Department within 24 hours of its detection. In addition, within 30 days, a report shall be submitted that includes the following information:

- Most probable route(s) of travel for the release.
- Description of the surrounding soils, specifically their composition, geology, and hydrogeology. A description of the area's climate shall also be included.
- Results of any soil, groundwater, or surface water sampling performed subsequent to the release. (If the results are not available within 30 days, they shall be supplied as soon as they become available).
- Distances from the release point to down gradient drinking water sources, surface water bodies, or populated areas.
- A full description of any response actions that have been executed, as well as any that are planned or pending.

G-9 AMENDMENT TO CONTINGENCY PLAN

Pursuant to 40 CFR 264.54, this Plan will be updated whenever:

- The Facility's Part B permit is revised.
- The Plan fails in an emergency.
- The Facility changes its design, construction, operations and maintenance procedures, or other circumstances in a way that 1) potentially increase the risk of fires, explosions, or releases of hazardous wastes or 2) necessitates changes to the procedures normally followed in one of the above emergencies.

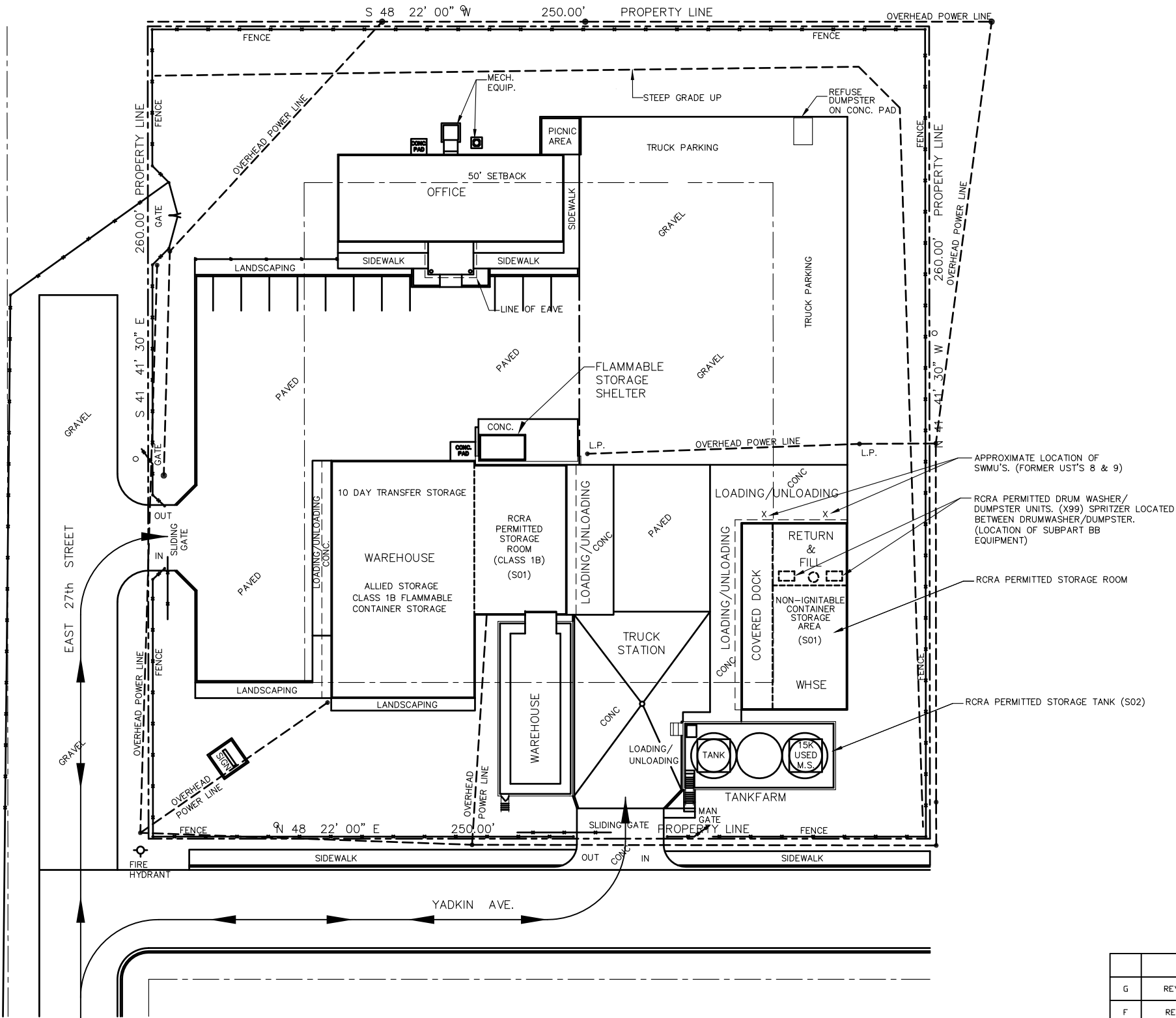
- The list of Emergency Coordinators changes.
- The list of emergency equipment changes.

TABLE G-1
EMERGENCY EQUIPMENT LIST

Equipment Description	Location(s)	Capabilities
Fire Extinguishers – Dry Chemical Multi-Purpose ABC (min. 10lb.)	Office Building, Flammable Container Storage Warehouse, Non-Ignitable Container Storage Area, Return and Fill Station and Covered Dock, Mineral Spirits Tank Farm	Able to extinguish small combustible material fires, such as paper, wood, flammable liquids, and electrical fires.
Communications and Alarm Systems (Flame, heat, and smoke detectors), Telephones, Emergency Fire Alarms, and Intercom	Office Building, Flammable Container Storage Warehouse, Non-Ignitable Container Storage Area, Return and Fill Station and Covered Dock, Mineral Spirits Tank Farm	These can be used to communicate both within the facility and with outside agencies such as fire and police departments.
First Aid Kits, Eyewash and/or Emergency Showers	Flammable Container Storage Warehouse, Non-Ignitable Container Storage Area, Return and Fill Station	Provides emergency first aid for minor employee injuries/exposures.
Spill Control and Decontamination Equipment (sorbent pads, booms, shovel, mop, broom, portable pump)	Flammable Container Storage Warehouse, Non-Ignitable Container Storage Area, Return and Fill Station, Mineral Spirits Tank Farm and Truck Station	Useful in absorbing and containing spilled liquids, oils, etc. Pumps can be used for removing larger volumes of liquids from sumps.
Personal Protective Equipment (PPE) (protective clothing/employee uniforms, chemical resistant gloves, boots, eye protection, respirator/respirator cartridges)	Flammable Container Storage Warehouse, Non-Ignitable Container Storage Area. Spare employee uniforms are maintained in the employee change/locker room located in the Office Building.	Provides personal protection to employees from chemical exposures and mechanical hazards.

FIGURE G-1

SITE PLAN



LEGEND	
	TRAFFIC FLOW
	PROPERTY LINE

- GENERAL NOTES**
- NON-PERMITTED AREAS MAY CHANGE
 - CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions Companies

2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181 •

NO.	DESCRIPTION	BY	CHK	APPR	DATE
G	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
F	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		030912
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
D	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	110796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART "B" PERMIT	MBH	KJM	-	070292

SITE PLAN EXISTING

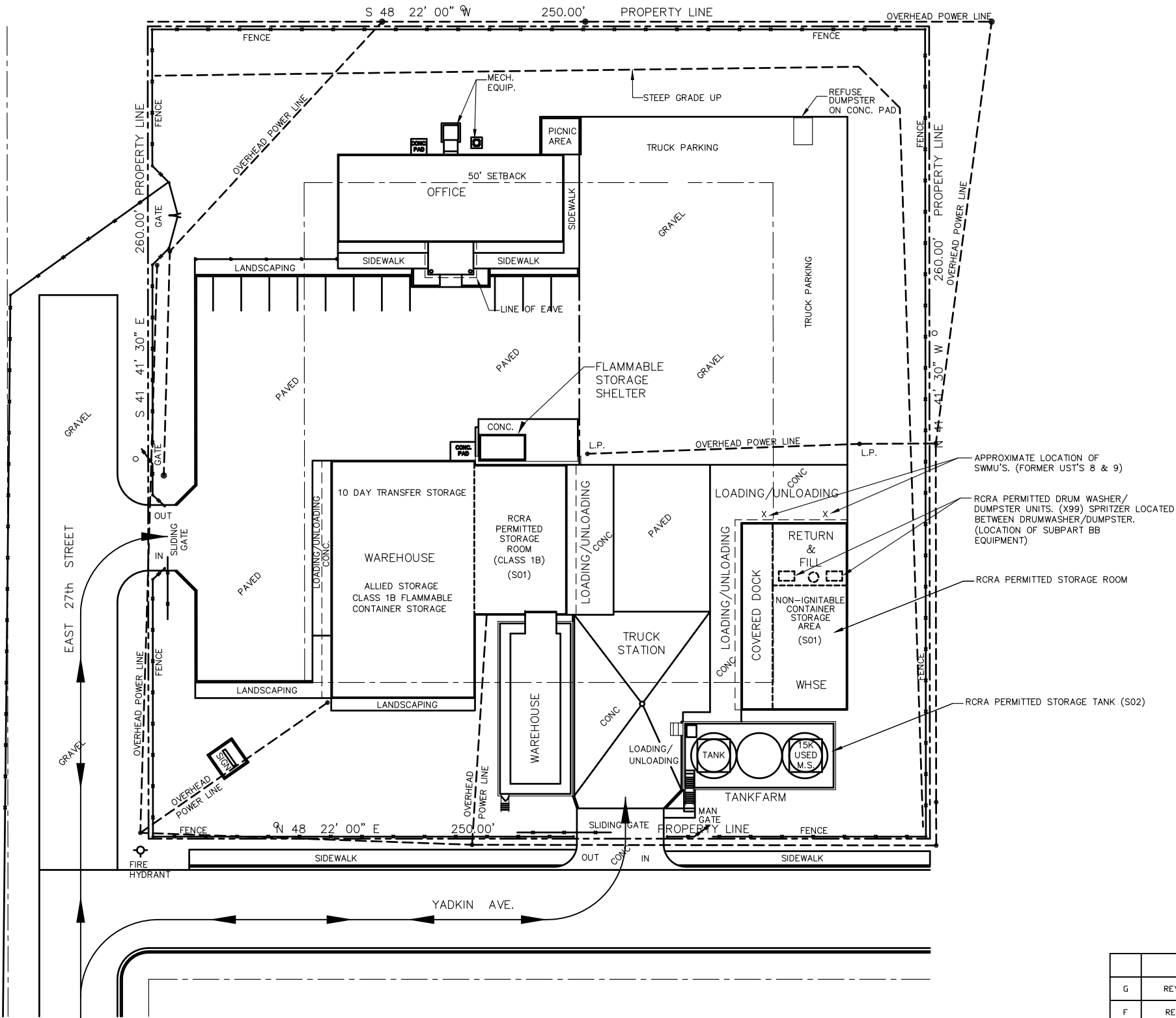
SAFETY-KLEEN SYSTEMS, INC.
 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
 PHONE 800-669-5740

SCALE 1"=20'-0"
 BY MBH CHKD KJM
 APPR - OP. APPR - DATE 06-03-92

SERVICE CENTER LOCATION CHARLOTTE, NC
 SC-DWG NUMBER 7055-SPOO-001
 REV. NO. G

FIGURE G-2

EVACUATION ROUTES



LEGEND

← TRAFFIC FLOW
 - - - - - PROPERTY LINE

GENERAL NOTES

- NON-PERMITTED AREAS MAY CHANGE
- CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions Companies

2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181

NO.	DESCRIPTION	BY	CHK	APPR	DATE
G	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
F	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		030912
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
D	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	110796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART "B" PERMIT	MBH	KJM	-	070292

SITE PLAN EXISTING

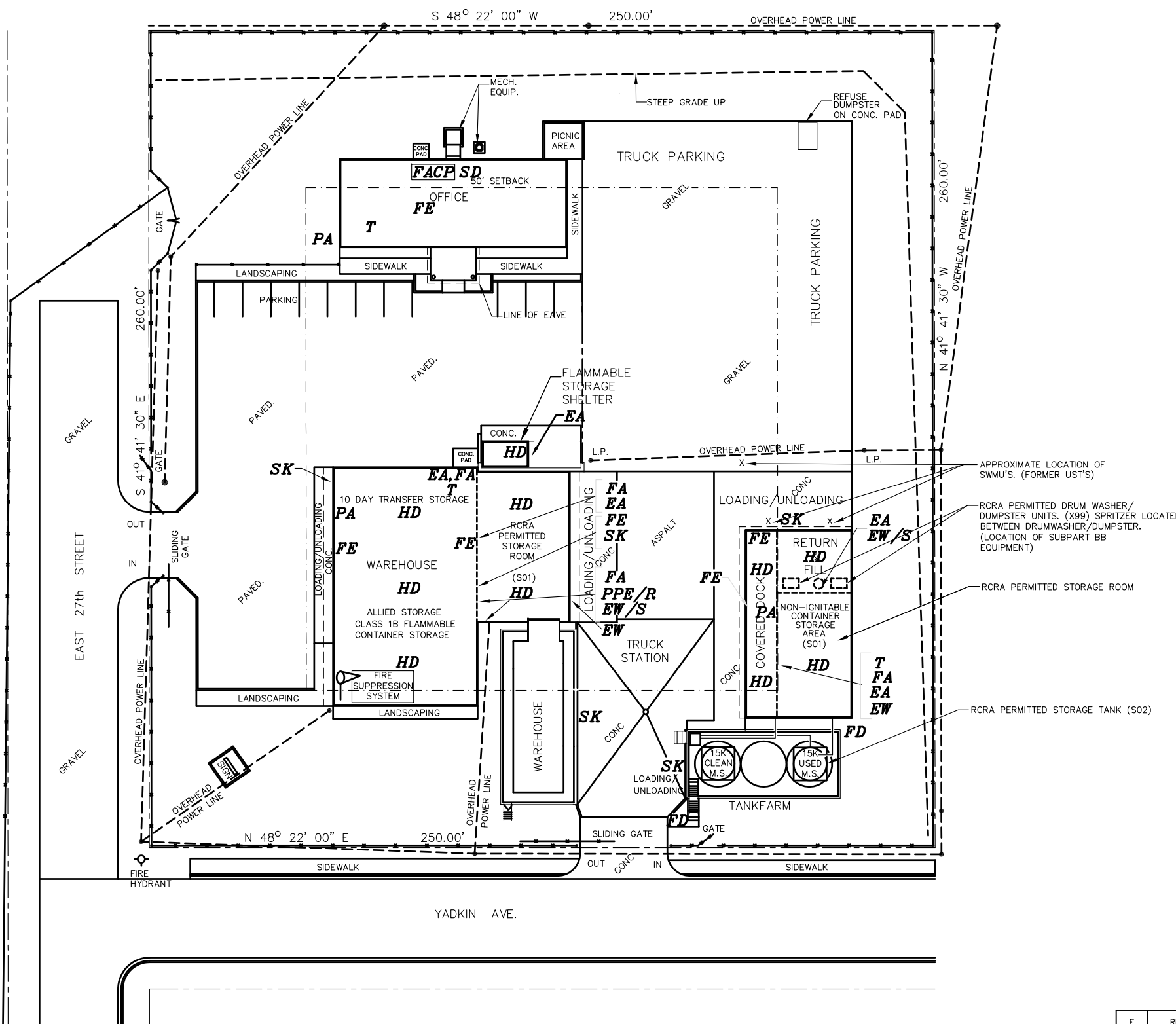
SAFETY-KLEEN SYSTEMS, INC.
 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
 PHONE 800-669-5740

SCALE 1"=20'-0"
 BY MBH CHKD KJM
 APPR - OP. APPR - DATE 06-03-92

SERVICE CENTER LOCATION CHARLOTTE, NC
 SC-DWG NUMBER 7055-SPOO-001
 REV. NO. G

FIGURE G-3

EMERGENCY EQUIPMENT LOCATIONS



- FE** FIRE EXTINGUISHER
- T** TELEPHONE
- FA** FIRST AID KIT
- EA** EMERGENCY ALARM
- EW/S** EYE WASH/SHOWER
- SK** SPILL KIT
- PPE/R** PERSONAL PROTECTIVE EQP/RESPIRATORS
- PA** PUBLIC ADDRESS SPEAKER
- HD** HEAT DETECTOR
- SD** SMOKE DETECTOR
- FD** FLAME DETECTOR
- FACP** FIRE ALARM CONTROL PANEL
- WIND SOCK



PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.



2005 West Broadway - Suite 210 - Columbia - MO 65203
 Phone: (573) 443-7100 • Fax: (573) 443-7181

F	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		042711
D	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
C	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
B	UPDATE TO SHOW REVISED PLAN	JEK	DP	DP	110403
A	NEW RELEASE	MBH	KJM	-	020393
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					

EMERGENCY EQUIPMENT PLAN					
SAFETY-KLEEN SYSTEMS, INC.					
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE 800-669-5740					
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1"=20'-0"	JEK	DP.	DP	-	110403
SERVICE CENTER LOCATION			SC-DWG NUMBER		REV. NO.
CHARLOTTE, NC			7055-SPO0-004		F

FIGURE G-4

EMERGENCY CONTACT LIST

**FIGURE G-4
EMERGENCY CONTACT LIST (Rev. 7/14/16)
SAFETY-KLEEN CHARLOTTE SERVICE CENTER**

TYPE OF CONTACT	INDIVIDUAL/ORGANIZATION/AGENCY	EMERGENCY PHONE NUMBERS
Emergency Coordinators	<p align="center">Primary: Steve Hetu 4817 Covington Drive NW Concord, NC 28027</p> <p align="center">Alternate: Sam Moody 2303 Bonterra Blvd. Indian Trail, NC 28079</p>	<p>Home: (704) 906-6030 Office: (704) 375-0098 Cell: (980) 721-8938</p> <p>Home/Cell: (980) 722-7951 Office: (704) 375-0098</p>
Local Emergency Response Agencies	<p align="center">Fire: Charlotte Fire Station # 7 3210 N. Davidson Street Charlotte, NC 28202</p> <p align="center">Police: Charlotte Police Department 601E. Trade Street Charlotte, NC 28232</p>	<p align="center">911 (Emergency) (704) 336-2851</p> <p align="center">911 (Emergency) (704) 336-3190 (non-emergency)</p>
Local Hospital	<p align="center">Carolina Medical Center 100 Blythe Boulevard Charlotte, NC 28232</p>	(704) 355-2000
General Notification	<p align="center">Safety-Kleen Incident Notification System</p> <p align="center">NCDEQ Emergency Spill/Incident Reporting</p> <p align="center">USEPA National Response Center</p>	<p align="center">(800) 468-1760 (24 hrs)</p> <p align="center">(800) 858-0368 (24 Hrs.)</p> <p align="center">(800) 424-8802 (24 Hrs.)</p>
Emergency Response Contractor	<p align="center">Clean Harbors Environmental Services, Inc.</p>	(800) 645-8265 (24 Hrs.)
Emergency Equipment Supplier	<p align="center">Safety-Kleen Lexington Distribution Center 224 Industrial Drive, Lexington, SC 29072</p>	(803) 359-2495

To use facility intercom system: pick up the phone's handset, press #6, and speak. To test fire suppression system alarm (in Class 1B storage room) or to verify false alarm, call 1-704-342-3344 and ask for Monitoring Dept. (SK acct # 296).

SECTION H
PERSONNEL TRAINING
TABLE OF CONTENTS

SECTION	PAGE
H-1 Training Program	1
H-2 Job Titles and Duties	1
H-3, H-4, H-5 Training Content, Frequency, and Techniques	3
H-6 Training Director	8
H-7 Record Keeping	9

LIST OF TABLES

H-1 Introduction and Annual Training Plan Outline for Facility Employees

LIST OF APPENDICES

H-1 Job Descriptions

SECTION H

PERSONNEL TRAINING

The information contained in this section is submitted in response to 40 CFR 270.14(b)(12) and 264.16.

H-1 Training Program

The training program implemented at Safety-Kleen for training employees in the safe handling of hazardous wastes includes classroom, interactive, written, and on-the-job training. Provisions are made for updating or revising the program as necessary to ensure compliance with the terms of the RCRA permit, changing Facility conditions, and organizational changes.

For an outline of the Training Program provided to Facility employees, refer to Table H-1.

H-2 Job Titles and Duties

The Branch General Manager is ultimately responsible for day-to-day operations, environmental compliance, and site-specific training of Facility employees. The Facility employees report to the Branch General Manager, who in turn, must provide them with the necessary resources to execute their job duties. With respect to environmental compliance, the Branch General Manager must:

- Keep the Facility clean and orderly.
- Perform or designate an employee to perform the written Facility inspections, and correct any deficiencies revealed by the inspection.
- Know the potential hazards of the material and wastes handled on-site.

- Identify potential spill and fire sources and be able to execute the Contingency Plan.
- Inform all employees of their environmental compliance responsibilities.
- Notify the proper authorities during an emergency, remedy the situation to best of his abilities, and submit necessary reports to Corporate Office and regulatory agencies.
- Maintain all environmental records (such as manifests, training records, inspection records, spill reports, etc.) on file.

The Environmental, Health and Safety Department is responsible for environmental training of the Branch General Manager, and for permitting and other compliance issues for the Facility. The Environmental, Health and Safety Department will:

- Provide oversight and training of personnel in accordance with environmental regulations and Corporate policy.
- Notify the proper authorities, oversee remedial actions and submit written reports to the regulatory agencies after an emergency situation has occurred.
- Assure that environmental permits are submitted and updated as required.
- Manage any environmental compliance issues that exceed the resources available at the Facility level.
- Participate in training new Branch Managers.

Presented below are the job titles of the personnel at the Facility.

- Branch General Manager (also commonly referred to as Branch Manager).*
- Customer Service Manager.*
- Sales and Service Representative.*
- Branch Administrator.*
- Senior Branch Administrator.*
- Lead Material Handler.*

- Material Handler.*
- Oil Sales and Service Representative*
- Vacuum Sales and Service Representative*

* Subject to training mandated by 40 CFR 264.16. Job titles and descriptions are subject to frequent change. Current job descriptions are included in the personnel training files for employees filling their positions. Job descriptions are provided in Appendix H-1.

At any given time, one or more positions may be vacant for the job titles listed above. Pursuant to 40 CFR 264.16(d)(1) and (2), job descriptions for the Safety-Kleen Facility personnel are kept on file at the Facility.

It should be noted that Safety-Kleen does have a designated Emergency Coordinator for the Facility. The role of Emergency Coordinator, however, is not a specific job title. Safety-Kleen utilizes the following criteria for selecting an Emergency Coordinator:

- Experience and knowledge of Facility operations and in handling emergency situations related to hazardous material.
- Authority to commit resources to respond to emergencies, as specified in Section G (Contingency Plan).
- Location of residence (in proximity to Facility).

Personnel being considered to assume Emergency Coordinator responsibilities will not be authorized to become an Emergency Coordinator unless they meet the above-mentioned criteria and have been trained in its implementation.

H-3, H-4, and H-5 Training Content, Frequency, and Technique

An outline of the introductory and annual training program for facility employees is shown in Table H-1. During the training program, employees are instructed on (1) the potentially dangerous nature of hazardous wastes; (2) the importance of maintaining compliance with RCRA regulations; (3) the proper handling and storage procedures for hazardous wastes; and (4) emergency procedures and contingency plan. New employees are not permitted to work in unsupervised positions until they have received all applicable training. Employees must be completely trained in all items listed in Table H-1 within the first six months of starting work or transferring to a new position, and annually thereafter.

Each employee is trained to operate and maintain the Facility safely and to understand hazards unique to the job assignment. Safety-Kleen's training programs are designed to give employees appropriate instruction (relative to the position) regarding the hazardous waste management procedures they will encounter in performing their respective duties.

The relevancy of this training may vary slightly depending on an employees' particular position. For example, administrative personnel have little involvement beyond paperwork and recordkeeping in the operation of the Facility. The role of the administrative staff in an emergency is usually limited to evacuating safely when required and accounting for personnel at the assembly point. Facility management personnel receive training in all aspects of the operation since they routinely perform multiple tasks, including implementation of the Contingency Plan. Since Operations and Service personnel have varying responsibilities in the day-to-day operations at the Facility, their site-specific training may focus more on container management standards, return and fill operations, tank management standards, inspections, waste acceptance procedures, and emergency response procedures. The relevancy of the site-specific portion of the training for Sales personnel will focus more heavily on waste acceptance, manifesting, generator requirements, container management standards, waste analysis plan implementation and emergencies.

Since the handling of hazardous materials is a large part of the operations of the service center, all employees are given training in applicable environmental regulations, transportation regulations, spill prevention, control and countermeasures, preparedness and prevention, and the RCRA Contingency Plan. A minimum of 24-hours HAZWOPER training (29 CFR 1919.120) is also provided to all employees in a non-administrative position prior to working with hazardous materials/wastes at the Facility.

This training program is designed to ensure that personnel not only handle hazardous wastes in a safe manner and minimize/prevent pollution, but also properly respond to emergency situations. The program trains hazardous waste handling / management personnel to maintain compliance under both normal operating conditions and emergency conditions.

Training elements address non-routine and emergency situations (i.e., storms, power outages, fires, explosions, spills) including:

- Procedures for locating, using, inspecting, and replacing facility emergency and monitoring equipment.
- Emergency communication procedures and alarm systems.
- Response to fires or explosions.
- Response to groundwater contamination incidents and procedures for containing, controlling, and mitigating spills.
- Shutdown of operations and power failure procedures.
- Procedures for evacuation.

TABLE H-1

**INTRODUCTORY AND ANNUAL TRAINING
PLAN OUTLINE FOR FACILITY EMPLOYEES**

- I. Purpose of Training and a Review of the Training Plan Outline

- II. Environmental Regulations and Customer Responsibilities
 - a. Small Quantity Generator vs. Large Quantity Generator
 - b. Manifesting – How to Complete and Distribute a Manifest
 - c. EPA Identification Numbers
 - d. Land Disposal Restriction Notifications
 - e. Completion of Service Document

- III. Transportation Regulations
 - a. Permits
 - b. Vehicle Inspections and Records

- IV. Waste Analysis Plan
 - a. Types of Waste Accepted at the Facility
 - b. Analyzing/Inspecting Incoming Shipments

- V. Preparedness and Prevention
 - a. Performing and Recording a Facility Inspection
 - b. Proper maintenance of Storage Facilities and Associated Equipment
 - c. Emergency Equipment – Availability and Use

TABLE H-1 (CONTINUED)
INTRODUCTORY AND ANNUAL TRAINING
PLAN OUTLINE FOR FACILITY EMPLOYEES

- VI. Contingency Plan
 - a. Implementation of the Contingency Plan – Personnel and Emergency Functions
 - 1. Spills, Releases, Fires, and Proper Response Actions
 - a. On-Site Incidents/Accidents
 - b. Transportation Accidents
 - 2. Reporting Requirements
 - a. Safety-Kleen Incident Reporting
 - b. State Emergency Response System
 - c. National Response Center
 - d. Emergency Information
 - e. Review of Safety Data Sheets

- VII. Operating Log / Record keeping
 - a. Inspections
 - b. Shipment logging (incoming and outgoing)
 - c. Document Incident and Implementation of Contingency Plan in Operating Log

- VIII. Permit Requirements
 - a. Container and Tank Storage
 - b. Overview of Closure and Financial Assurance

- IX. Hazardous Waste Transportation Requirements
 - a. Management of containers in transit (10-day transfer requirements)
 - b. Manifest completion

- IX. Changes in Regulations and Facility Operations

The outline is used as the basis or framework for training Safety-Kleen personnel in the proper procedures, equipment, and systems to be used in managing hazardous wastes.

Safety-Kleen supplements the introductory and annual training with a series of computer-based training courses/programs. These supplements are used by Safety-Kleen as one of several training aids and are subject to update whenever deemed necessary. Safety-Kleen may also replace them with other training aids in the future.

H-6 Training Director

The Safety-Kleen Environmental, Health and Safety Manager assigned to a particular Facility oversees and directs the hazardous waste management training program described herein. This person coordinates such training with the Corporate Environmental, Health and Safety Department. Regional Health and Safety Managers and Environmental, Health and Safety Managers possess multiple years of training experience and knowledge of the hazardous waste management rules and regulations, and assist Branch Managers in maintaining compliance at Safety-Kleen facilities in their geographic area of the country. Branch Managers experienced in hazardous waste management procedures may assist in presenting all or part of the site-specific portion of this training. On-the-job training is provided by supervisory personnel skilled in Facility operations and procedures. The cooperative effort of these managers must:

- Provide a training program that addresses the requirements of environmental regulations and corporate policy.
- Notify the proper authorities, oversee remedial actions, and submit a written report to the state after an emergency situation has occurred.
- Manage any environmental compliance issues that exceed the resources available at the service level.

- Participate in training new Branch Managers

Qualifications for Safety-Kleen certified regulatory trainers are available upon request. Typical qualifications include requisite education and/or experience in hazardous waste regulatory compliance. Safety-Kleen Regulatory Compliance personnel are considered hazardous waste management experts and uniquely qualified to direct and instruct the aforementioned training program.

H-7 Record Keeping

Each employee currently working unsupervised at the Facility has been fully trained at the time of this submittal. All Safety-Kleen personnel are trained within the first six (6) months of employment and annually thereafter. New employees are not permitted to work in unsupervised positions until they have completed the training requirements.

Records documenting the job title for each position, job descriptions and duties, names of employees, and completed training programs (both introductory and continuing) are kept on-site in electronic or hard copy formats. These records will be kept until closure of the facility for current employees and for three (3) years from the date of the individual employee's termination for former employees.

When an employee is transferred to another Safety-Kleen position / location, his / her training records are forwarded to the new location and copies are maintained at the former facility. Employees transferring to a North Carolina Safety-Kleen Facility will receive training on those items that differ from the previous Facility (i.e., contingency plan, permit requirements, etc.).

APPENDIX H-1

JOB DESCRIPTIONS



Safety-Kleen Corporation

Job Description

Job Code *BGM*

Job Title *Branch General Manager*

Job Summary

Manages a Branch and a Service Center. Responsible for financial and operational management including: financial performance against quota or budget (P & L), EH&S compliance through the Environmental Management System (EMS), and operational management of the facilities and of the human resources.

Key Responsibilities

Responsible for profit or loss of the facility(ies) by focusing on building new business relationships and maintaining existing customer bases and satisfaction. Prepares branch sales forecast and budget. Distributes all sales reports.

Directs and manages the activities and duties of the facility(ies)' human resources. Manages employee performance. Ensures employee retention and reduces or eliminates employee turnover. Assists with employee recruiting and training. Supervises, trains, coaches, and develops Sales and Service Representatives.

Ensures Environmental, Health and Safety compliance, and the data integrity of the Environmental Management System (EMS). Complies with all necessary federal, state, and local law and regulation related to hazardous waste operations at the facility.

Ensures effective fleet and inventory management. Monitors sales/service activities.

Builds new and positive business/community relations.

Job Requirements

Education Bachelors Degree or equivalent experience

Experience 5 < 8 years

Knowledge/Competencies

Microsoft Office software. Strong verbal and written communications skills. Solid finance and business operational skills. Excellent sales and sales management skills. Demonstrated leadership abilities.

Physical Requirements

Sedentary Physical Work – Sits for long periods of time. Exerts up to 10 pounds of force occasionally, and/or a negligible amount of force frequently or constantly to move objects.

Equipment Used

Standard Office Equipment, Personal Computer, 10-Key Adding Machine, etc.

Required Licenses/Certifications

24 Hour Hazwoper X

Medical Clearance X

40 Hour Hazwoper —

CDL X Other —

Grade **FLSA** E **EEO** 1 **Country ID** USA

Description Date 8/29/2003



Safety-Kleen Corporation

Job Description

Job Code **BSEC**

Job Title **Branch Secretary**

Job Summary

Provides clerical support for forms, reports and other paper flow for the branch's operations. Assists in the training and development of the sales force in the proper completion of paperwork.

Key Responsibilities

Assembles weekly packages of documents for Sales Representatives. Checks Sales or Hazardous Waste documents turned in by Sales Representatives. Ensures proper completion of paperwork including manifests, and alert manager of consistent errors.

Provides customer service functions by responding to customer inquiries and/or complaints, handling or routing service questions, and solving problem accounts. Maintain customer files.

Prepares Manual Forms, Manifests and LDR forms, as required. Distributes copies of service documents and manifests to customers, various Safety-Kleen locations, and to governmental agencies, as required.

Contacts customers delinquent in payment and coordinates pick-up of payments. Log wastes, adjusts service scheduling, prepares reports, completes MMVR reports and checks manifests for assigned territories.

May act as primary or alternate Emergency Coordinator. Performs other related duties as assigned by management.

Provides other clerical support duties as requested.

Job Requirements

Education High School Graduate/GED

Experience 1 < 3 years

Knowledge/Competencies

Microsoft Office software, good keyboard skills, good verbal and written communications skills. Solid basic math skills.

Physical Requirements

Sedentary Physical Work – Sits for long periods of time. Exerts up to 10 pounds of force occasionally, and/or a negligible amount of force frequently or constantly to move objects.

Equipment Used

Standard Office Equipment, Personal Computer, 10-Key Adding Machine, etc.

Required Licenses/Certifications

24 Hour Hazwoper ___
40 Hour Hazwoper ___

Medical Clearance ___
CDL ___ Other ___

Grade 8 **FLSA** N **EEO** 5 **Country ID** USA

Description Date 7/1/02



Safety-Kleen Corporation

Job Description

Job Code **LADM**

Job Title **Lead Administrative Assistant**

Job Summary

Interface with Branch personnel to direct all Branch documents through the appropriate flow paths. Uses knowledge of hazardous waste regulations and Safety-Kleen policies and procedures to determine appropriate document distribution and process.

Key Responsibilities

Supervise Branch Secretaries. Verify sales and hazardous waste documents completed by Sales and Service Representatives.

Escort government inspectors through the facility in the absence of Branch General Manager, Lead Material Handler or Environmental manager. Monitors contractors doing work on site.

Ensure proper completion of facility Operation Log, and proper maintenance of Accounts Receivable, Branch bank deposits, Manifests and other key administrative areas. Provides corrections for annual reports.

May act as primary or alternate emergency Coordinator and assists management in incident response. Coordinate personnel requirements such as DOT physicals, employee physicals, State Transporter License Numbers (if applicable), start packs, etc.

Maintain ETTS database, and ensure all personnel are up to date and documented on all training as required by Safety-Kleen and applicable government agencies. Obtains EPA ID number lists for state or region. Oversees FRS/Lab correspondence.

Perform other duties as assigned.

Job Requirements

Education High School Graduate/GED
years

Experience 3 < 5

Knowledge/Competencies

Microsoft Office software, good keyboard skills, good verbal and written communications skills. Solid basic math skills.

Physical Requirements

Sedentary Physical Work – Sits for long periods of time. Exerts up to 10 pounds of force occasionally, and/or a negligible amount of force frequently or constantly to move objects.

Equipment Used

Standard Office Equipment, Personal Computer, 10-Key Adding Machine, etc.

Required Licenses/Certifications

24 Hour Hazwoper ___ Medical Clearance ___
40 Hour Hazwoper ___ CDL ___ Other ___

Grade 10 FLSA N EEO 5 Country ID USA

Description Date 7/1/02



Safety-Kleen Corporation

Job Description

Job Code **LMHL**

Job Title **Lead Material Handler**

Job Summary

Responsible for loading and unloading, packaging, storage, and labeling of containers. Complies with environmental health and safety and general warehouse and housekeeping. Maintains familiarity with (EMS), facility permit conditions, and restrictions.

Key Responsibilities

Is familiar with the Environmental Management System (EMS), facility permit conditions and restrictions applicable to container management, handling, and emergency response.

Ensures that containers are properly packaged, marked, labeled, stored, logged, and shipped in accordance with the EMS and facility permits.

Ensures that waste storage and accumulation areas are neat, clean, and free of spills, and leaks.

Supports, trains and advises other material handlers regarding policy and procedure. Provides feedback to manager regarding staff performance issues.

Use forklifts, pallet jacks, and carts and drum lifter. Reviews all waste containers for the following: Proper manifesting, correct labels, secure lids, bolts, and bungs.

Job Requirements

Education Basic educational proficiency: Reading, Writing, Mathematics and Language skills

Experience 1 < 3 years

Knowledge/Competencies

Familiar with H.S.E. and M.S.D.S. for all product used and stored at the facility. Certified forklift operator. Certified in hazardous waste operations and emergency response.

Physical Requirements

Medium Physical Work – Exerts up to 50 pounds of force occasionally, and/or up to 20 pounds of force frequently, and/or up to 10 pounds of force constantly to move objects. Stands and/or walks more than 4 hours a day.

Equipment Used

Hand Tools , Hand Truck/Dolly, Power Tools & Equipment, Forklift, Truck, Wench, Personal Protective Equipment

Required Licenses/Certifications

24 Hour Hazwoper X

Medical Clearance X

40 Hour Hazwoper —

CDL — Other —

Grade **FLSA** N

EEO 7

Country ID USA

Description Date 7/1/02



Safety-Kleen Corporation

Job Description

Job Code **MHL**

Job Title **Material Handler**

Job Summary

Unloads incoming hazardous waste material using forklift or other equipment. Loads finished product bulk shipments, and completes paperwork. Samples inbound bulk shipments and complete paperwork. Inventory and maintain loading and unloading areas.

Key Responsibilities

Prepares bulk wastes for shipment to other Safety-Kleen locations. Empties bulk into holding vessel. Washes "RCRA Empty" drums in drum washer and fills clean drums with solvent.

Shrink wraps containerized wastes, arranging the waste on the pallet so all labels are showing, and prepares the shipment for transportation to other Safety-Kleen locations. Checks all trucks for proper strapping of drums and that cargo doors are closed.

Disassembles returned parts washing machines and prepares them for shipment to the Distribution Center. Completes daily/weekly facility inspection required by Part B Permit or by Safety-Kleen, as assigned by the Branch Manager.

Monitors waste quantity and storage limits and notifies the Branch Manager if limits will be exceeded within 24-48 hours so action can be taken. Oversees retained sample program.

Ensure dock, warehouse and return & fill areas are cleaned and organized at all times.

Job Requirements

Education Basic educational proficiency: Reading, Writing, Mathematics and Language skills

Experience < 1 year

Knowledge/Competencies

Familiar with H.S.E. and M.S.D.S. for all product used and stored at the facility. Certified forklift operator. Certified in hazardous waste operations and emergency response.

Physical Requirements

Medium Physical Work – Exerts up to 50 pounds of force occasionally, and/or up to 20 pounds of force frequently, and/or up to 10 pounds of force constantly to move objects. Stands and/or walks more than 4 hours a day.

Equipment Used

Hand Tools & Small Power Tools; Hand Truck/Dolly; Large Power Tools & Equipment, Forklift, Truck, Wench; Personal Protective Equipment

Required Licenses/Certifications

24 Hour Hazwoper X
40 Hour Hazwoper

Medical Clearance X
CDL Other

Grade FLSA N EEO 7 Country ID USA

Description Date 7/1/02



Safety-Kleen Corporation

Job Description

Job Code **CSM**

Job Title **Customer Service Mgr**

Job Summary

Manages all aspects of customer service including supervision of customer service representatives and chemists; develops policies and procedures; ensures customer satisfaction; liaison with customer and sales for the facility.

Key Responsibilities

Manages all aspects of customer service including supervision of customer service representatives and customer service technicians. Develops, trains, coaches, evaluates and develops staff to help ensure customer service and satisfaction.

Develops policies and procedures for customer service area. Directs branch service scheduling and logistics. Ensures CST and CSR compliance with all environmental, health and safety requirements.

Works with the Branch General Manager to ensure effective operations.

Administers branch accounts receivable program. Provides communication and reporting to management regarding customer service.

Ensures that all branch customer service practices are conducted consistent with high ethical standards. Provides other related services as required.

Job Requirements

Education Bachelors Degree

Experience 3 < 5 years

Knowledge/Competencies

Microsoft Office software, good keyboard skills, good verbal and written communications skills. Solid basic math skills. Good leadership and interpersonal skills.

Physical Requirements

Sedentary Physical Work – Sits for long periods of time. Exerts up to 10 pounds of force occasionally, and/or a negligible amount of force frequently or constantly to move objects.

Equipment Used

Standard Office Equipment, Personal Computer, 10-Key Adding Machine, etc.

Required Licenses/Certifications

24 Hour Hazwoper X

Medical Clearance X

40 Hour Hazwpper —

CDL X Other —

Grade FLSA E

EEO 1

Country ID USA

Description Date 7/1/02



Safety-Kleen Corporation

Job Description

Job Code **CSR**

Job Title **Customer Service Rep**

Job Summary

Provide service at a level that meets or exceeds customer expectations. Maintains a familiarity with the Environmental Management System (EMS), facility permit conditions and restrictions applicable to business.

Key Responsibilities

Service equipment at Customers. Develop strong customer relations.

Maintain high branch On Time Performance. Maintain low branch DSO.

Installation/Recovery of equipment. Level One equipment repair.

EH&S Compliance.

Other duties as assigned by the Branch Service Manager.

Job Requirements

Education High School Graduate/GED

Experience 1 < 3

years

Knowledge/Competencies

Microsoft Office software, good keyboard skills, good verbal and written communications skills. Solid basic math skills. Good interpersonal skills.

Physical Requirements

Sedentary Physical Work – Sits for long periods of time. Exerts up to 10 pounds of force occasionally, and/or a negligible amount of force frequently or constantly to move objects.

Equipment Used

Standard Office Equipment, Personal Computer, 10-Key Adding Machine, etc.

Required Licenses/Certifications

24 Hour Hazwoper X

Medical Clearance X

40 Hour Hazwpper —

CDL X Other —

Grade FLSA E

 EEO 4

Country ID USA

Description Date 7/1/02



Safety-Kleen Corporation

Job Description

Job Code **SCSR**

Job Title **Sr Customer Service Rep**

Job Summary

Assist Branch Service Manager to ensure optimum customer service leading to retention and expansion of branch business.

Key Responsibilities

Assists in recruiting, training and managing Customer Service Reps. Services equipment at Customers' sites.

Develops strong customer relations. Maintains high branch On Time Performance.

Maintains low branch DSO. Installs and recovers equipment.

Level One equipment repair. EH&S Compliance.

Other duties as assigned by the Branch Service Manager.

Job Requirements

Education Associate Degree/Post Secondary Technical Training and/or Certification

Experience 3 < 5 years

Knowledge/Competencies

Microsoft Office software, good keyboard skills, good verbal and written communications skills. Solid basic math skills. Good interpersonal skills.

Physical Requirements

Sedentary Physical Work – Sits for long periods of time. Exerts up to 10 pounds of force occasionally, and/or a negligible amount of force frequently or constantly to move objects.

Equipment Used

Standard Office Equipment, Personal Computer, 10-Key Adding Machine, etc.

Required Licenses/Certifications

24 Hour Hazwoper X Medical Clearance X
40 Hour Hazwpper — CDL X Other —

Grade **FLSA** E **EEO** 4 **Country ID** USA

Description Date 7/1/02

Branch Dispatcher

I. Role overview

Overall responsibility for routing of service personnel, fleet maintenance, DOT compliance, inventory, facility operational duties, and compliance and safety activities as assigned by the BGM.

II. Reporting relationship

The Branch Dispatcher reports to the Branch General Manager.

III. Responsibilities

Fleet Operations

Execute scheduling and routing, maximizing customer yield and asset utilization

Handheld Management

Ensure fleet is maintained to SK expectations including vendor management

Maintain DOT Compliance To Include Driver Qualification Files, DVCR's, and Driver Log Compliance

Facility Operations

Responsible for all facility maintenance including vendor management

Accountable for efficient inventory utilization and accuracy.

IV. Competencies / Skills

Ability to obtain and retain a CDL with HAZMAT endorsement (preferred)

Customer service aptitude

High level of computer proficiency

Routing and scheduling abilities

Judgment/ Decision-Making

Working knowledge of DOT/Fleet compliance

Good written and oral communication skills

Demonstrate a commitment to environmental compliance and safe work practices

Time management skills

Integrity

Negotiating skills

Attention to detail

Organization

Basic math skills

Reliable

Problem solving abilities

High school diploma or GED

V. Incentive metrics

Hourly employee

Quarterly bonus

-LOB retention

-Team revenue

Customer satisfaction score

VI. Activity metrics

LOB acquisitions

Services per rep

Service yield per rep

On time performance

Asset utilization

Job Description

Job Title: Oil Sales and Service Representative
Department: Branch Services
Reports To: Branch General Manager
FLSA Status: Exempt/Non-Exempt
Approved By: SVP HR
Approved Date: 01/29/07

Summary: The OSSR is responsible for safely and efficiently removing, transporting and delivering waste oil from customer facilities to Safety-Kleen oil recycling and refining centers.

Essential Duties and Responsibilities include but are not limited to the following.

- Receive manifests, labels & route schedule from office staff
- Perform Pre & Post Trip Inspection Report
- Perform routine route.
- Properly label, scan and document waste oil removed from customer site into handheld. Present receipt to customer, obtain authorized signature, as well as address any customer service issues and sales opportunities.
- Complete end of day paperwork (any manifests, orders etc. that were not already in the handheld). Dock handheld for overnight upload.
- Ensure environmental compliance and operate vehicles in accordance with DOT, local, state and federal requirements

Qualifications: To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

Education and/Or Experience: High school diploma or (GED) and six months+ related experience, and/or training.

Certificates, Licenses, Registrations: Class C CDL and Haz Mat endorsement and Tanker.

Competencies and Skills: Customer Service, Attention to Detail, Recognize the importance of, and adherence to, Safety regulations and policies, Time Management, Product Knowledge, Sense of Direction, Knowledge of Hazardous Waste, and Organization skills.

Physical Demands: While performing the duties of this job, the employee must frequently sit, walk, stand, crawl or drive a truck with reasonable accommodations. The employee must frequently carry, lift, pull or push 50 pounds or more. The employee is constantly required to reach, bend, kneel, squat, climb, stoop or twist; and talk or hear. The employee must constantly drive a large truck.

Work Environment: While performing the duties of this job, the employee is frequently exposed to moving mechanical parts and outside weather conditions. The employee is occasionally exposed to wet and/or humid conditions; high, precarious places; fumes or airborne particles; extreme cold; extreme heat; and risk of electrical shock.

Job Description

Job Title: Vacuum Sales and Service Representative
Department: Branch Services
Reports To: Branch General Manager
FLSA Status: Exempt/Non-Exempt
Approved By: SVP HR
Approved Date: 01/29/07

Summary: The VSSR provides waste fluid removal services to our customers. This involves using vacuum equipment to pump waste materials and liquid from oil-water separator pits, as well as transporting & delivering the waste material to Safety-Kleen disposal sites.

Essential Duties and Responsibilities include but are not limited to the following.

- Receive manifests, labels & route schedule from office staff
- Perform Pre & Post Trip Inspection Report
- Perform routine route and associated daily activities.
- Properly label, scan and document waste materials & liquids removed from customer site.
- Present receipt to customer, obtain authorized signature, as well as answer any customer service issues.
- Complete end of day paperwork.
- Ensure environmental compliance and operate vehicles in accordance with DOT, local, state and federal requirements.
- Ensure strict compliance to Branch SOP's.

Qualifications: To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

Education and/Or Experience: High school diploma or (GED) and six months+ related experience, and/or training.

Certificates, Licenses, Registrations: Class C CDL and Haz Mat endorsement and Tanker.

Competencies and Skills: Customer Service, Attention to Detail, Recognize the importance of, and adherence to, Safety regulations and policies, Time Management, Product Knowledge, Sense of Direction, Knowledge of Hazardous Waste, and Organization skills.

Physical Demands: While performing the duties of this job, the employee must frequently sit, walk, stand, crawl or drive a truck with reasonable accommodations. The employee must frequently carry, lift, pull or push 50 pounds or more. The employee is constantly required to reach, bend, kneel, squat, climb, stoop or twist; and talk or hear. The employee must constantly drive a large truck.

Work Environment: While performing the duties of this job, the employee is frequently exposed to moving mechanical parts and outside weather conditions. The employee is occasionally exposed to wet and/or humid conditions; high, precarious places; fumes or airborne particles; extreme cold; extreme heat; and risk of electrical shock.

SECTION I
CLOSURE PLANS, POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS
TABLE OF CONTENTS

SECTION		PAGE
I-1	Closure Plans	1
I-1(a)	Closure Performance Standard	5
I-1(b)	Partial Closure and Final Closure Activities	8
I-1(c)	Maximum Waste Inventory	8
I-1(d)	Schedule for Final Closure and Partial Closure	8
I-1(d)(1)	Time Allowed for Closure	9
I-1(d)(1)(a)	Extension of Closure Time	9
I-1(e)	Closure Procedures	9
I-1(e)(1)	Inventory Disposal, Removal and Decontamination of Equipment	9
I-1(e)(2)	Closure of Disposal Units	12
I-1(e)(3)	Closure of Container Units	12
I-1(e)(4)	Closure of Tanks	13
I-1(e)(5)	Closure of Waste Piles	15
I-1(e)(6)	Closure of Surface Impoundments	15
I-1(e)(7)	Closure of Incinerators	16
I-1(e)(8)	Closure of Landfills	16
I-1(e)(9)	Closure of Land Treatment	16
I-1(e)(10)	Closure of Miscellaneous Units	16
I-2	Post-Closure Plan	17
I-3	Notices Required for Disposal Facilities	17
I-4	Closure Cost Estimate	17
I-5	Financial Assurance Mechanisms	18
I-5(a)	Closure Trust Fund	18
I-5(b)	Surety Bond	19
I-5(c)	Closure Letter of Credit	19
I-5(d)	Closure Insurance	19

SECTION I
CLOSURE PLANS, POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS
TABLE OF CONTENTS
(Continued)

SECTION	PAGE
I-5(e) Financial Test and Corporate Guarantee for Closure	19
I-5(f) Combinations	19
I-6 Post-Closure Cost Estimate	19
I-7 Liability Requirements	19
I-8 Liability Requirements	19
I-9 State Financial Mechanism	20

LIST OF TABLES

I-1	Maximum Waste Inventory
I-2	Samples, Target Constituents, and Analytical Methods for Closure of Hazardous Waste Management Units
I-3	Closure Performance Standards: Clean Closure Criteria for Closure of Hazardous Waste Management Units

LIST OF FIGURES

I-1	Site Plan
I-2	Closure Schedule

LIST OF APPENDICES

I-1	Closure Cost Estimate & Corrective Action Cost Estimate
I-2	Financial Assurance
I-3	Liability Insurance

SECTION I

CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

I-1 CLOSURE PLANS

This section of the permit application is submitted in accordance with the requirements of 40 CFR Sections 270.14(b)(13), 270.14(b)(15), 270.14(b)(17), 264.110 through 264.115, 264.142, 264.143, 264.146, 264.147, 264.178, 264.197, 264.228, 264.351, 264.258, and 264.601, as they address the proper closure of container storage areas, tanks, and miscellaneous units (return and fill stations). Safety-Kleen will perform closure activities in the following hazardous waste management areas:

1. Aboveground Storage Tanks:
 - One 15,000-gallon steel tank for used parts washer solvent

2. Container Storage Areas:
 - Non-Ignitable Waste Container Storage Area
 - Class 1B Flammable Container Storage Area (No. 1)

3. Miscellaneous Units (Solvent Return and Fill Station):
 - Two 375 gallon capacity drum washer/dumpster units for used parts washer solvent.

Figure I-1 identifies the physical location of each of the permitted waste management units. This closure plan identifies the steps necessary to completely close each area at any point during its intended operating life. If it becomes necessary to close the entire facility, then the entire closure plan will be implemented to meet the closure performance standard. Safety-Kleen will maintain a copy of the approved closure plan and all revisions to the plan on-site. Safety-Kleen will notify the Agency, to the extent possible,

of its intent to begin closure at least 45 days prior to the start date. If only select units are to be closed, a notification of partial closure will be submitted. Within 60 days of completion of closure, Safety-Kleen will submit to the Agency a certification from both the owner and an independent North Carolina registered professional engineer that the waste management units have been closed in accordance with the approved closure plan. The notification and certification of closure completion will be sent by registered mail.

This closure plan is designed to ensure that the waste management units will not require further maintenance and controls. This plan is also intended to eliminate the need for post-closure activity, and will minimize the release of hazardous waste, leachate, or contaminated rainfall to the air, groundwater, surface water, and surrounding land. Safety-Kleen intends to utilize comprehensive management practices to minimize spills and releases throughout the life of the Facility. Good housekeeping will be emphasized continuously; therefore, closure activities will be simplified to the extent practicable.

Detailed descriptions of the steps needed to remove, close in place, or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial or final closure are included in this plan. This plan describes the necessary actions when the extent of operation would make closure the most difficult and costly. Basic assumptions include:

- Third-party operators will implement Facility closure.
- All on-site equipment and structures will be functional.
- Necessary off-site RCRA disposal facilities are assumed to be within 500 miles of the Facility.
- Catastrophic release causing widespread contamination has not occurred.
- The permitted storage areas are assumed to be filled to capacity at the time of closure.

All employees and contractors directly involved in closure activities will have, at a minimum, coveralls, safety glasses, hard hats, safety shoes, gloves, and dust masks (Level D) available. While closure activities are being conducted, visitors to the site will be required to wear safety glasses, safety shoes, and a hard hat. Employee decontamination will take place when necessary, consisting of washing boots, disposing of any disposable clothing (gloves and dust masks), washing hands, and washing of any non-disposable equipment.

Each waste management unit has an estimated service life of more than 20 years and partial closure is not anticipated; however, partial closure may be implemented if required. Safety-Kleen will implement the appropriate portion of the closure plan any time an area or major piece of equipment within an area is to be abandoned, reconstructed or replaced. All contaminated equipment, structures, soils, and residues will be disposed of properly.

Table I-1 delineates the maximum inventory for each waste management unit. The determination of the maximum inventory has taken into consideration management's intended operating practices; restrictions of drum stacking heights, high-level alarm set points and dimensions of the permitted units.

This Facility will be continuously updated and closure of the entire operation is not anticipated for the near future. Once final closure is initiated, the entire Facility will be closed within 180 days, and all waste inventories will be removed within 90 days.

TABLE I-1
MAXIMUM WASTE INVENTORY

Waste Management Area	Maximum Capacity (gal)
1. Tank Farm	
Used Parts Washer Solvent	15,000*
2. Container Storage Areas	
Class 1B Flammable Container Storage Area No. 1	7,120
Non-Ignitable Container Storage Area	6,540
3. Miscellaneous Units (Solvent Return and Fill Station)	
Used Parts Washer Solvent (Two 375 gallon capacity drum washer/dumpster units.)	750*

* = Capacity includes piping, pumps, and appurtenances.

I-1(a) Closure Performance Standard

This section of the closure plan is designed to ensure that the Facility in general and the RCRA-regulated hazardous waste management areas in particular will be closed in such a manner that further maintenance and controls are minimized or eliminated to the extent necessary to prevent threats to human health and the environment, and to prevent post-closure escape of hazardous waste, leachate, contaminated runoff or hazardous waste decomposition products to the groundwater, surface water, atmosphere, or soils.

Safety-Kleen proposes numerical closure performance standards for the Facility. Based on the wastes handled at this Facility and extensive experience at other facilities, Safety-Kleen has developed comprehensive lists of target constituents that will be analyzed for the various samples that will be collected to verify successful decontamination of the various waste management units. Table I-2 lists the target analytical constituents and analytical methods for the various samples. The list is representative of wastes handled at the Facility and is consistent with other RCRA closures for similar Safety-Kleen facilities over the past several years.

For rinse water samples, the closure performance standard will be attainment of non-detects (i.e., the Practical Quantitation Limit [PQL] for the given sample analysis). For groundwater and/or soil if applicable, Table I-3 lists the proposed numerical closure performance standards. The standards listed for groundwater are the Title 15A NCAC 2L .0202 Groundwater Standards. The standards listed for soil are the lowest values from the "2L, MCL and Soil Screening Levels Table" published by the NCDEQ Hazardous Waste Section. The values listed in Table I-3 are based on the "2L, MCL and Soil Screening Levels Table" dated February 2012, but the most recent values established by the Hazardous Waste Section at the time of closure will be used. For soil and groundwater, attainment of the concentrations in Table I-3 would constitute

attainment of clean closure for the given waste management unit that attains those standards.

Table I-2. Samples, Target Constituents, and Analytical Methods for Closure of Hazardous Waste Management Units

Unit/Sample*	No. of Samples	Analytical Constituents	Analytical Method ^a	Closure Performance Standard -- Concentration
Container Storage Areas (Two): Final Rinsate Sample	1 / CSA	TCLP Metals	6010C and 7470A	See supplemental Table I-3
	1 / CSA	TCLP Organic Compounds	8260B and 8270D**	See supplemental Table I-3
	1 / CSA	Other Organic Compounds: - Methylene chloride - 1,1,1-trichloroethane - 1,1,2-trichloro-1,2,2-trifluoroethane - xylene - acetone - ethyl acetate - methyl isobutyl ketone - toluene	8260B	See supplemental Table I-3
Storage Tank: Final Rinsate Sample	1	TCLP Metals	6010C and 7470A	See supplemental Table I-3
	1	TCLP Organic Compounds	8260B	See supplemental Table I-3
Return and Fill Station: Final Rinsate Sample (one from each drum washer/dumpster unit)	1	TCLP Metals	6010C and 7470A	See supplemental Table I-3
	1	TCLP Organic Compounds	8260B	See supplemental Table I-3

^a = From EPA SW—846, 3rd Edition.

* = One or more soil samples may be collected from any given waste management unit as described in the text; if so, then the analytical parameters and methods would be the same as those for the rinse water samples for the given unit.

** = Analyses for TCLP pesticides and herbicides will not be performed.

Table I-3. Closure Performance Standards for Soil and Groundwater*: Clean Closure Criteria for Closure of Hazardous Waste Management Units

Target Constituents	GROUNDWATER		SOIL	
	Proposed Acceptable Concentration (mg/L)		Proposed Acceptable Concentration (mg/kg)	
Arsenic	0.01		0.39	
Barium	0.7		580	
Benzene	0.001		0.0073	
Cadmium	0.002		3	
Carbon tetrachloride	0.0003		0.0021	
Chlorobenzene	0.05		0.43	
Chloroform	0.07		0.29	
Chromium	0.01		0.29	
o-cresol	0.4		4.1	
m-cresol	0.4		4	
p-cresol	0.04		0.4	
Cresol	NS		NS	
1,4-dichlorobenzene	0.006		0.07	
1,2-dichloroethane	0.0004		0.002	
1,1-dichloroethylene	0.007		0.045	
2,4-dinitrotoluene	0.0001		0.0016	
Hexachlorobenzene	0.00002		0.0026	
Hexachlorobutadiene	0.0004		0.0087	
Hexachloroethane	NS		NS	
Lead	0.015		270	
Mercury	0.001		1	
Methyl ethyl ketone	4		16	
Nitrobenzene	NS		NS	
Pentachlorophenol	0.0003		0.031	
Pyridine	NS		NS	
Selenium	0.02		2.1	
Silver	0.02		3.4	
Tetrachloroethylene	0.0007		0.005	
Trichloroethylene	0.003		0.018	
2,4,5-trichlorophenol	0.063		2.5	
2,4,6-trichlorophenol	0.004		0.16	
Vinyl chloride	0.00003		0.00019	
Methylene chloride	0.005		0.023	
1,1,1-trichloroethane	0.2		1.2	
1,1,2-trichloro-1,2,2-trifluoroethane	200		9,000	
Xylene	0.5		5.8	
Acetone	6		24	
Ethyl acetate	3		12	
Methyl isobutyl ketone	0.1		0.43	
Toluene	0.6		5.5	

Source: Title 15A NCAC 2L .0202 Groundwater Standards for groundwater, lowest values from the "2L, MCL, and Soil Screening Levels Table" published by the NCDEQ Hazardous Waste Section for soil.

*The standard for rinse water samples will be non-detects (PQLs), unless the unit will be recycled in which case the standard is not applicable.

NS = No standard listed.

I-1(b) Partial Closure and Final Closure Activities

The hazardous waste management units are shown on Figure I-1 and summarized in Table I-1. Safety-Kleen will conduct final closure of the various waste management units by implementing the procedures described herein. It is possible that partial closure (i.e., closure of any given waste management unit) may also occur at this Facility. In the case that partial closure of a waste management unit is conducted, partial closure will be conducted as described in the application. Closure of any given permitted unit would include moving the inventory to another RCRA authorized treatment, storage, or disposal facility.

I-1(c) Maximum Waste Inventory

See Table I-1.

I-1(d) Schedule for Final Closure and Partial Closure

The proposed schedule for closure and associated inspections is shown in Figure I-2. Safety-Kleen will provide the Department written notice of its intention to close the site 45 days prior to initiating closure activities. Once final closure is initiated, the entire Facility will be closed within 180 days, and all waste inventories will be removed within 90 days. Any partial closures would also follow that same schedule. All hazardous waste stored within a given unit to be closed would be removed within 90 days of the beginning of the given closure activities. Safety-Kleen will amend this closure plan any time the Facility's operating plans are modified to an extent that would require closure plan amendment. Closure plan amendments will be made within 60 days of any such Facility changes. Closure would be completed within 180 days. Safety-Kleen does not anticipate the need to request more than 180 days to complete closure of the hazardous waste management units. Safety-Kleen will submit the owner's and the independent professional engineer's certifications within 60 days of completing closure activities.

I-1(d)(1) Time Allowed for Closure

Refer to Section I-1(d).

I-1(d)(1)(a) Extension of Closure Time

Safety-Kleen may request an extension of the closure period if:

- Activities required to comply with the performance standard take longer than estimated.
- Closure of the site would be incompatible with continued operation of the Facility.
- There is reasonable likelihood that an individual other than the current owner will recommence operation at the site within one year.

If Safety-Kleen should decide to seek an extension, it will be requested prior to expiration of the 90-day period allowed to remove inventories and at least 30 days prior to expiration of the 180-day period allowed to complete closure. The request will contain a demonstration of why the extension is necessary.

I-1(e) Closure Procedures

This section of the closure plan is designed to ensure that the Facility in general and the RCRA regulated units in particular are closed in such a manner that further maintenance and controls are minimized or eliminated to prevent threats to human health and the environment, and to prevent post-closure escape of hazardous waste, leachate, contaminated runoff, or hazardous waste decomposition products to the groundwater, surface water, atmosphere, or soils.

I-1(e)(1) Inventory Disposal, Removal and Decontamination of Equipment

Upon initiation of closure plan implementation, all on-site hazardous waste (except the small volume that cannot be pumped from the tank) will be removed and transported to a

RCRA permitted TSD facility (or recycling facility) with proper packing, labeling and manifest procedures. Specific waste removal procedures are described in the respective sections of this closure plan for the different waste management areas [i.e., Sections I-1(e)(3), I-1(e)(4), and I-1(e)(10)]. After inventory/removal processing (i.e., recovery of non-waste liquids that can be used or sold), decontamination and closure of the various waste management areas will proceed in general as described below; additional specific procedures are described in the respective sections of this closure plan for the different waste management areas [i.e., Sections I-1(e)(3), I-1(e)(4), and I-1(e)(10)].

Each waste management unit will be dry-swept, or any residual waste removed by appropriate hand tools (shovel, bucket, etc.). Each unit will be inspected, decontaminated, and sampled to document successful closure. A licensed North Carolina professional engineer (P.E.), or his/her designee, will inspect the concrete flooring and/or containment areas for indications of “through-going” cracks as a means of evaluating whether or not soil sampling is warranted. The P.E. will be responsible for making this determination and providing appropriate certification of the closure report. The P.E. will incorporate some or all of, but not necessarily only, the following activities into the inspection:

- Observe cleaned surface for cracks and document any found;
- Note any of the following for any observed crack:
 - Incongruous elevation differences on either side of the crack;
 - Significant separation of the paving (the amount of separation is not prescribed, it depends on evaluation of the other factors described herein);
 - Indications of differential settlement;
 - Indications of vegetative growth (root propagation, vegetation growth within a crack, or other natural growth that could create or indicate through-going cracks); and
 - Unusual and deep erosion or damage of the concrete surface.
- Perform an informal percolation test for otherwise inconclusive cracks. (i.e., Place water in the area of the crack and observe, for a brief period; if there are

signs of water migration through the crack, after initial wetting, the crack would be considered through-going.)

If soil sampling is warranted, testing will be conducted and documented in the closure report. If the P.E. determines that a “through-going” crack exists within the concrete containment, one soil sample will be collected per every 5 linear feet of “through-going” crack. The soil sample(s) will be laboratory analyzed as outlined in Table I-2, and the sample analytical results will be interpreted in accordance with the Table I-3 closure performance standard. If warranted by soil sample results, soil removal may be implemented. If soil removal inside or below structures is performed, a revised closure plan will be submitted detailing proposed excavation procedures. If soil removal is implemented, then a minimum of three confirmatory soil samples would be collected (one from the excavation base, and two from the perimeter of the excavation at a depth of 1.5 ft) for analysis per Table I-2, and the results would be compared with Table I-3. The actual number and location of the soil samples will be determined in the field following any soil excavation. The excavated soil would either be transported and disposed of at a RCRA permitted TSD facility or tested and disposed of in accordance with applicable local, state, and federal regulations.

Decontamination of each waste management area will proceed as described in the respective sections of this closure plan for the different waste management areas [i.e., Sections I-1(e)(3), I-1(e)(4), and I-1(e)(10)]. Representative rinsate samples will be collected from each waste management area as described in detail in Sections I-1(e)(3), I-1(e)(4), and I-1(e)(10). Rinsate samples will be laboratory analyzed (Table I-2). Decontamination procedures will be repeated, if needed, until the analysis of the final rinsate shows non-detects for each constituent of concern.

The final step in the decontamination process will involve the decontamination of all equipment used in the closure of the waste management areas, provided that such equipment is not restricted or dedicated to ongoing hazardous waste management activities. The equipment will be scrubbed with a detergent solution and rinsed via high

pressure water until no visible evidence of residual waste is observed. The equipment will then be rinsed three additional times to ensure decontamination has been effective. If equipment cannot be rendered visually clean it will be disposed of at a RCRA permitted TSD. All such equipment decontamination will take place within a contained area where decontamination wash and rinse waters can be controlled and recovered.

The wash and rinse solutions will be transferred to a tanker truck and will be disposed of at a RCRA permitted TSD facility, or recycling facility, or tested and disposed of in accordance with applicable local, state, and federal regulations. Equipment and supplies will be disposed of off-site as hazardous waste if decontamination is not feasible.

I-1(e)(2) Closure of Disposal Units

No wastes or contaminated materials are to remain at closure; therefore, this section does not apply.

I-1(e)(3) Closure of Container Storage Area

The container storage area is used to store/accumulate containers of used materials (e.g. used parts washer solvent, used immersion cleaner, dry cleaning waste, waste antifreeze, tank or drum washer sediment, paint waste, industrial solvents, or other non-regulated wastes or products). At the time of facility closure or partial closure of the container storage area, waste inventory will be removed and transported under manifest to a permitted hazardous waste TSD facility. After inventory/removal processing and the professional engineer's inspection [see Section I-1(e)(1)], closure of the permitted container storage areas will proceed as follows. Each container storage area will be dry swept, followed by scrubbing with a detergent solution. The area will be scrubbed and rinsed at least three times with high pressure water. All wash and rinse solutions will be controlled, transferred to a tanker truck, and transported off-site for disposal at a RCRA-permitted TSD facility (or recycling facility) with proper labeling and manifest procedures.

The floors of each container storage area will be rinsed once more with high-pressure water. One representative sample of the final rinse water will be collected from a sump at each container storage area and laboratory analyzed (Table I-2) to determine compliance with the closure performance standard. Decontamination procedures will be repeated until non-detect levels have been achieved for each constituent of concern. Equipment, containers and supplies will be disposed of off-site as hazardous waste if decontamination is not feasible.

The following equipment will be used as necessary to successfully close the container storage areas:

- Industrial high-efficiency particulate filter vacuum.
- Brooms and scoops.
- Personal Protective Equipment.
- Drum and sump pumps.
- Water and high-pressure water hoses.
- Safety equipment.
- Forklift.
- Sampling supplies
- Other equipment as required.

I-1(e)(4) Closure of Tanks

Waste material from the tank will be removed using a tanker truck pump (for used solvent), vacuum truck (for heavy sludge) or similar equipment and transported to a permitted hazardous waste TSD facility for reclamation and/or disposal. After inventory/removal processing and the professional engineer's inspection [see Section I-1(e)(1)], closure of the waste tank area will proceed as follows.

The liquid content of the tank will be pumped to a tanker truck or vacuum truck, transported, and disposed at an appropriate licensed off-site facility; all hazardous waste

will be sent to a RCRA permitted TSD facility (or recycling facility) with proper labeling and manifest procedures. Prior to any person entering a tank, an effort will be made to remove as much liquid as possible using a vacuum truck. After the liquid waste has been removed to the maximum extent feasible, the following decontamination protocols will be implemented for the tank.

All piping and ancillary equipment associated with the tank will be flushed. This includes all piping between the tank and the drum washer/dumpster units. The tank and containment area will then be washed as many times as necessary with water and detergent solutions in order to remove residual materials. Other methods to remove the residual waste material from the tanks and containment areas will depend on the physical properties and quantities of that material. These methods may include, but not be limited to scraping, chipping, or high pressure water. Once washing is complete, the tank and containment areas will be triple-rinsed with high pressure water.

One representative sample of the final rinse water will be collected from the tank and laboratory analyzed (Table I-2). Decontamination procedures will be repeated, if needed until the analysis of the final rinsate shows non-detects for each constituent of concern, unless the tank is to be recycled as scrap metal. If the tank is to be recycled, the indicated closure performance standards are not applicable.

Following washing and rinsing of the tank and sampling of the rinsate (and removal of these liquids), the tank and piping may be left in place. This closure plan envisions allowing for determination of the disposition of the tank at the time of closure. The tank and piping may be left in place or relocated/disposed of.

In cases where the tank and piping are to be relocated or disposed of, following washing and rinsing of the tank and sampling of the final rinsate (and removal of these liquids), the tank and piping will be removed and properly disposed of. To safely remove the

tank, all ancillary piping and plumbing equipment will be disconnected. The tank will be removed and reused or cut up by Safety-Kleen and sold as scrap. If the tank is recycled as scrap metal, it is exempt from regulation per 40 CFR 261.6 and a certificate of destruction will be provided as part of the closure certification. If decontamination of the tank is not successful, then the tank must be disposed of as hazardous waste.

The secondary containment structure around the tank will be dry swept, scrubbed with a detergent solution, and rinsed with high pressure water three times. Wash and rinse solutions will be transferred to an appropriate tank or container and managed in an appropriate manner. The containment area will then be rinsed once more with high-pressure water. One representative sample of the final rinse water will be collected from the secondary containment and laboratory analyzed (Table I-2) Decontamination procedures will be repeated, if needed, until the analysis of the final rinsate shows non-detects for each constituent of concern.

Health and safety procedures to be followed during the tank cleaning will be in accordance with the Occupational Safety and Health Administration (OSHA) requirements detailed in 40 CFR 1910.146.

I-1(e)(5) Closure of Waste Piles

Safety-Kleen is not seeking a permit for a waste pile and, therefore, this section does not apply.

I-1(e)(6) Closure of Surface Impoundments

Safety-Kleen is not seeking a permit for a surface impoundment and, therefore, this section does not apply.

I-1(e)(7) Closure of Incinerators

Safety-Kleen is not seeking a permit for an incinerator and, therefore, this section does not apply.

I-1(e)(8) Closure of Landfills

Safety-Kleen is not seeking a permit for a landfill; therefore, this section does not apply.

I-1(e)(9) Closure of Land Treatment

Safety-Kleen is not seeking a permit for land treatment; therefore, this section does not apply.

I-1(e)(10) Closure of Miscellaneous Units

The return and fill station is used to collect and return the used parts washer solvents to the waste storage tank via the drum washer unit(s). The sediment in the drum washers will be removed and containerized, labeled, and manifested as a hazardous waste and transported to a permitted hazardous waste TSD facility. After inventory/removal processing and the professional engineer's inspection [see Section I-1(e)(1)], closure of the miscellaneous units (i.e., the Solvent Return and Fill Station, including secondary drum cleaners and drum washer/dumpster units) will proceed as follows. The miscellaneous units and associated secondary containment will be decontaminated by scrubbing with a detergent solution. The surfaces of the units and their secondary containment will be scrubbed and rinsed at least three times. The surfaces will then be rinsed once more with high-pressure water. One representative sample of the final rinse water will be collected from each drum washer/dumpster unit and laboratory analyzed (Table I-2). Decontamination procedures will be repeated until the analysis of the final rinsate shows non-detects for each constituent of concern, unless the unit is to be recycled as scrap metal. If the unit is to be recycled, the indicated closure performance standards are not applicable.

All wash and rinse solutions will be controlled, transferred to a tanker truck, and transported off-site for disposal at a RCRA-permitted TSD facility (or recycling facility) with proper labeling and manifest procedures.

The following equipment will be used as necessary to successfully close the container storage areas:

- Industrial high-efficiency particulate filter vacuum.
- Brooms and scoops.
- Personal Protective Equipment.
- Drum and sump pumps.
- Water and high-pressure water hoses.
- Safety equipment.
- Forklift.
- Sampling supplies
- Other equipment as required.

I-2 POST-CLOSURE PLAN

Post-closure plans are not required of the permitted units.

I-3 NOTICES REQUIRED FOR DISPOSAL FACILITIES

This facility is not a disposal facility; therefore, this section does not apply.

I-4 CLOSURE COST ESTIMATE

The closure cost estimate information presented herein is submitted in accordance with the requirements of 40 CFR Sections 270.14(b)(15), 264.142, 264.178, and 264.197 and correlating North Carolina regulations. Appendix I-1 provides the estimated costs required to close the facility's permitted hazardous waste management units in 2017

dollars, the base year of this cost estimate. The closure cost estimate is based on the point in operating life when extent and manner of operation would make closure most expensive. This closure cost was compiled using R.S. Means cost data and will be evaluated annually for sufficiency and revised. The closure cost estimate also includes engineering costs and a contingency fund. The contingency fund incorporates any incremental increase in costs that might be incurred doing partial closures.

This cost estimate, as shown in Appendix I-1, is based on the following assumptions:

- Facility's operations are in compliance with the permit and all equipment is operable at the time that closure activities are initiated,
- Closure activities will be affected by Third Party contractors,
- No salvage or credit is taken for equipment or waste recycling,
- Waste inventories at closure are the maximum permitted by the permit,
- Necessary off-site RCRA permitted processing and disposal facilities are within the distances specified within the estimates,
- Since the facility property is owned by Safety-Kleen, the storage tanks, appurtenances, and secondary containment structures will not necessarily need to be removed during the execution of closure activities, and
- All non-RCRA waste (equipment, scrap, demolition debris) leaving the site has been decontaminated prior to off-site disposal.

I-5 FINANCIAL ASSURANCE MECHANISM

Safety-Kleen Systems, Inc. is the Facility operator. The cost for closure of the Facility as estimated above is assured through an Insurance Policy (See Appendix I-2).

I-5(a) Closure Trust Fund

Safety-Kleen is currently not using a Closure Trust Fund.

I-5(b) Surety Bond

Safety-Kleen is currently not using a Surety Bond.

I-5(c) Closure Letter of Credit

Safety-Kleen is currently not using a Letter of Credit.

I-5(d) Closure Insurance

A copy of the Closure Insurance Certificate can be found in Appendix I-2.

I-5(e) Financial Test and Corporate Guarantee for Closure

Safety-Kleen is currently not using a Corporate Guarantee for Closure.

I-5(f) Combinations

Safety-Kleen will not be using a combination of financial mechanisms in order to secure closure.

I-6 POST-CLOSURE COST ESTIMATE

A Post Closure Cost Estimate is not required.

I-7 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE

Financial Assurance Mechanism for Post-Closure is currently not required.

I-8 LIABILITY REQUIREMENTS

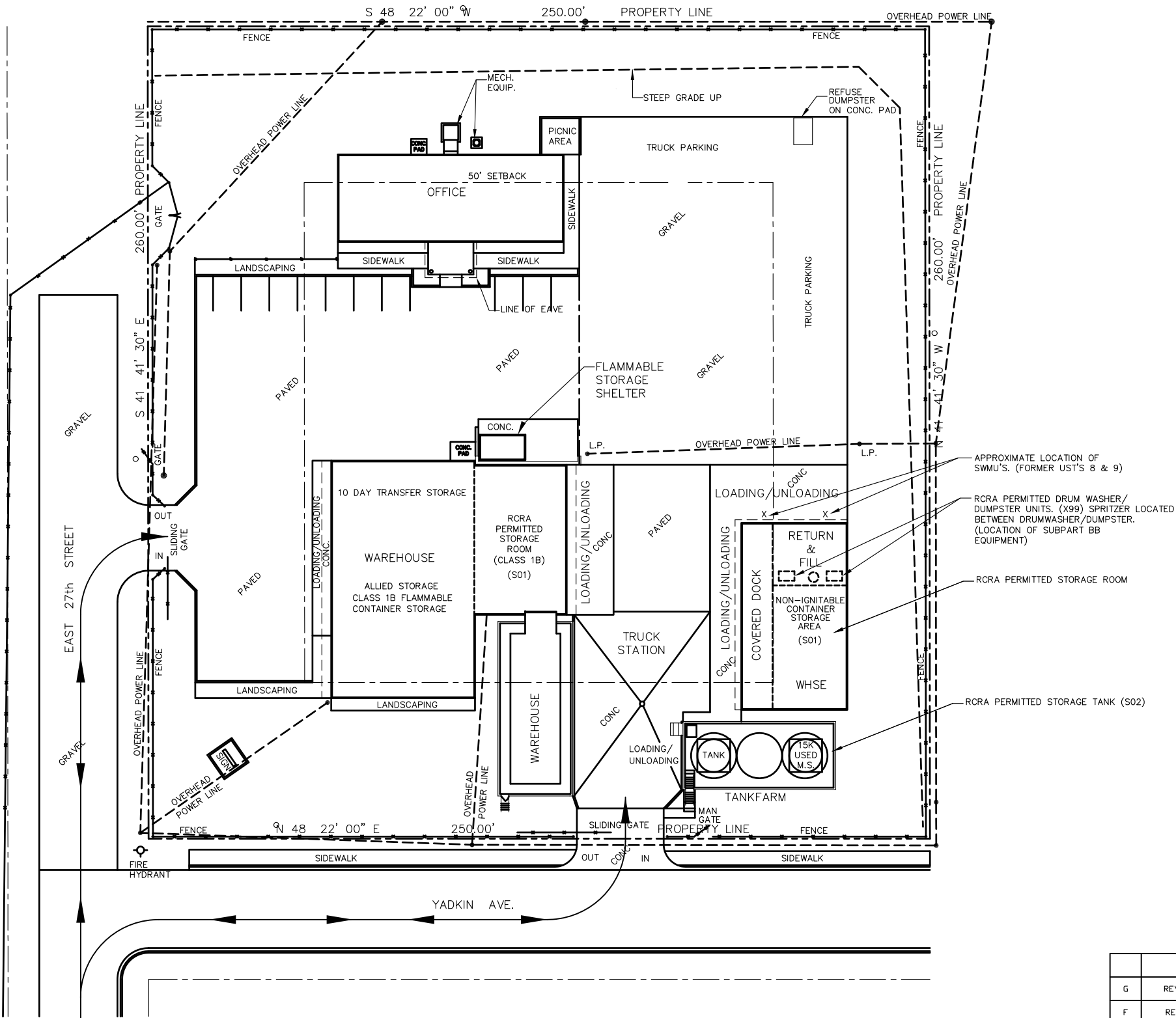
Safety-Kleen complies with the liability requirements of 40 CFR 264.147 and 265.147 as adopted in 10 NCAC 10F.0032. Appendix I-3 presents the most recent liability insurance document.

I-9 STATE FINANCIAL MECHANISM

This section does not apply.

FIGURE I-1

SITE PLAN



LEGEND

← TRAFFIC FLOW
 - - - PROPERTY LINE

GENERAL NOTES

- NON-PERMITTED AREAS MAY CHANGE
- CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

Project Solutions Companies

2005 West Broadway • Suite 210 • Columbia • MO 65203
 • Phone: (573) 443-7100 • Fax: (573) 443-7181

NO.	DESCRIPTION	BY	CHK	APPR	DATE
G	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
F	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		030912
E	REVISE FOR PART B PERMIT RENEWAL	JEK	TB		012006
D	REVISE FOR 2004 SUB-PART BB	JEK	TB		13104
C	REMOVED E.G. TANK REF.	MBH	KJM	DP/JM	110796
B	RELEASED FOR PERMIT MOD.	MBH	KJM	DP/SC	022395
A	RELEASED FOR PART 'B' PERMIT	MBH	KJM	-	070292

SITE PLAN EXISTING

SAFETY-KLEEN SYSTEMS, INC.
 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
 PHONE 800-669-5740

SCALE 1"=20'-0"
 BY MBH CHKD KJM
 APPR - OP. APPR - DATE 06-03-92

SERVICE CENTER LOCATION CHARLOTTE, NC
 SC-DWG NUMBER 7055-SPOO-001
 REV. NO. G

FIGURE I-2

CLOSURE SCHEDULE

APPENDIX I-1

CLOSURE COST ESTIMATE

AND

CORRECTIVE ACTION COST ESTIMATE

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
1. PROJECT COORDINATION AND SCHEDULING				
<u>Prime Contractor Costs</u>				
- Obtain subcontractor quotes and coordinate activities with subcontractor prior to implementing closure	Project Manager	\$94	10	\$940
- Coordinate scope and schedule of project activities with owner/operator, decontamination contractor, regulatory agencies and analytical laboratory	Project Manager	\$94	10	\$940
- Review facility permit and closure plan	Project Manager Field Engineer	\$94 \$60	6 6	\$564 \$360
- Prepare project/site specific Health and Safety Plan	Health/Safety Specialist	\$80	6	\$480
- Prepare project activity and project status reports	Project Manager	\$94	4	\$376
	Office Expenses	\$100	1	\$100
	Miscellaneous Expenses	\$100	1	\$100
Activity 1. Subtotal				\$3,860
2. MOBILIZE TO SITE AND PREPARE FOR CLOSURE				
<u>Assumptions</u>				
- Waste mineral spirits tank is full (15,000 gallons)				
- Maximum capacity 155 gallons of sediment per drum washer = 155 x 2 = 310 gallons = 6 - 55 gallon drums				
- One CSA will be closed with maximum capacity of 6,540 gallons = 119 - 55 gallon drums.				
- One Flammable Materials Storage Shelter with maximum capacity of 7,120 gallons = 130 -55-gallon drums				
<u>Prime Contractor Costs</u>				
- Mobilize Prime Contractor (round trip = 2)	Project Manager Field Engineer	\$503 \$503	2 2	\$1,006 \$1,006
- Project Management and Supervision and participate in on-site coordination meeting with owner/operator and subcontractors	Project Manager Vehicle (per day) Per diem	\$94 \$50 \$95	8 1 1	\$752 \$50 \$95
- Supervise waste loading activities	Field Engineer Vehicle (per day) Per diem	\$60 \$50 \$95	8 1 1	\$480 \$50 \$95
- Purchase 6 55 gallon drums for drum washer sediment	55-gallon Drums	\$65	6	\$390
<u>Subcontractor Costs</u>				
- Subcontractor mobilization (round trip = 2)	Mobilize	\$1,781	2	\$3,918
- Subcontractor per diem (total project 3 persons x 7 days)	Per Diem	\$95	21	\$2,195
- Subcontractor PPE (includes tyvek, respirator, cartridges, boot, gloves etc for 3-man crew)	Equipment/Consumables	\$1,311	LS	\$1,442
- Transfer tank contents to tankers	Labor/equipment/expenses	\$0.33	15000	\$5,445
- Transport waste mineral spirits to a TSD for treatment/disposal Assumes 3 tanker trailers required to remove 15,000 gallons (5,000 gallons max each load) Estimated cost per mile =1.81/mile + markup, overhead and profit = \$2.52/mile Estimated mileage = 500 miles	Transport 3 trailers x 500 miles TSD @\$0.45/gallon (CPro cost)	\$2.52 \$0.450	1500 15000	\$3,780 \$6,750
- Transfer drum washer sediment to drums	Labor/equipment/expenses	\$0.97	310	\$331
- Transfer drums of drum washer sediment to trucks with forklift (unit is based on total drums divided by 4 drums per pallet)	Labor/equipment/expenses	\$37	2	\$61
- Transfer drums from CSA to trucks with forklift (unit is based on total drums divided by 4 drums per pallet)	Labor/equipment/expenses	\$37	30	\$1,211
- Transfer drums from Flammable Materials Storage Shed to trucks with forklift (unit is based on total drums divided by 4 drums per pallet)	Labor/equipment/expenses	\$37	33	\$1,323
- Transport drums to TSD for Treatment/Disposal Assumes 3 trucks to transport drums (84 per truck max) Estimated cost per mile =\$2.21/mile + markup, overhead and profit = \$3.06/mile Estimated mileage = 500 miles Estimated disposal/treatment cost (per drum) (Cpro avg)	Transport 3 trailers x 500 miles TSD @ \$179/drum (CPro cost)	\$3.06 \$179	1500 255	\$4,590 \$45,645
Activity 2. Subtotal				\$80,614

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
3. STORAGE TANK DECONTAMINATION AND REMOVAL				
<u>Assumptions:</u>				
- The tank, piping and appurtenant equipment will be scrapped following decontamination (included as worse case cost)		Tank Height (ft)	23.92	
- Rinsate sampling is not necessary because the tank will be scrapped		Tank Radius (ft)	5.25	
- Includes decontamination of the containment area		Tank Area (internal sf)	962.22	
- 1 day to decontaminate AST, piping, ancillary equipment, and containment, 1 day to remove AST and scrap		Piping Length (ft)	67.00	
- Assumes containment area to remain in place following decontamination		Piping Radius (ft)	0.13	
- Assumes 1 rinsate sample required to leave containment in place		Piping Area (internal sf)	52.72	
- Assumes 2 soil samples required from beneath containment area. Actual number of samples will be based on engineer's inspection.		Ancillary Equip. (internal sf)	50.00	
<u>Prime Contractor Costs</u>				
- Project Management and Supervision	Project Manager	\$94	8	\$752
	Vehicle (per day)	\$50	1	\$50
	Per diem	\$95	1	\$95
- Supervise Storage Tank Decontamination and Removal Activities	Field Engineer	\$60	16	\$960
	Vehicle (per day)	\$50	2	\$100
	Per diem	\$95	2	\$190
	Air monitoring equipment	\$404	1	\$404
- Collect soil samples	Sample Technician	\$60	4	\$240
	Vehicle (per day)	\$50	0.5	\$25
	Per diem	\$95	0.5	\$48
	Sample supplies/shipping	\$250	LS	\$250
<u>Subcontractor Costs</u>				
- Disconnect electrical appurtenances	Labor/equipment	\$750	LS	\$825
- Decontaminate waste AST, piping and appurtenant equipment (unit cost based on pressure washing 760 sq ft total surface area)	Labor	\$3.65	1065	\$4,276
Equipment includes pressure washer and operation costs (per day)	Equipment	\$187	1	\$206
- Decontaminate containment area (unit cost based on pressure washing 1520 sq ft)	Labor	\$1.11	1520	\$1,856
Equipment includes pressure washer and operation costs (per day)	Equipment	\$187	1	\$206
- Remove AST from containment (Includes certificate of destruction for AST)	Labor/equipment/expenses	\$3,601	LS	\$3,961
<u>Laboratory Subcontractor Costs</u>				
- Analyze 1 rinsate sample from containment area for VOCs, SVOCs and TAL metals	VOCs @ \$147/sample SVOCs @ \$265/sample Metals @ \$336/sample Total per sample cost	\$748	1	\$823
- Analyze 2 soil samples for VOCs, SVOCs, and Metals (8)	VOCs @ \$147/sample SVOCs @ \$265/sample Metals @ \$97/sample Preserved Sample Containers @ \$10/sample Total per sample cost	\$519	2	\$1,142
Activity 3. Subtotal				\$16,407

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
4. DECONTAMINATE THE RETURN/FILL STATION				
<u>Assumptions:</u>				
- Decontamination shall consist of washing with detergent/water solution and rinsing with high-pressure spray				
- Return/Fill structure and dock area will be scrapped (included as worse case cost)				
- Rinsate sampling is not necessary because the drum washers will be scrapped				
- Assumes 2 soil samples required from beneath containment area. Actual number of samples will be based on engineer's inspection				
- Square footage used for decontamination includes containment				
<u>Prime Contractor Costs</u>				
- Inspect containment for cracks, gaps, or other potential lapses of integrity (P.E. or designee)	Project Engineer	\$94	8	\$752
	Vehicle (per day)	\$50	1	\$50
	Per diem	\$95	1	\$95
- Fill cracks and gaps (if necessary) prior to implementing decontamination activities	Field Engineer	\$60	4	\$240
	Vehicle (per day)	\$50	0.5	\$25
	Per diem	\$95	0.5	\$48
- Supervise washing of R/F Station and associated components (i.e. piping, pumps, and appurtenances)	Field Engineer	\$60	16	\$960
	Vehicle (per day)	\$50	2	\$100
	Per diem	\$95	2	\$190
- Collect 2 soil samples for analysis of VOCs, SVOCs and metals	Field Engineer	\$60	4	\$240
	Vehicle (per day)	\$50	0.50	\$25
- 4 hrs total for sampling	Per diem	\$95	0.50	\$48
	Sample supplies	\$250	LS	\$250
<u>Subcontractor Costs</u>				
- Decontaminate drum washers, grating, containment and piping (unit cost based on pressure washing 1000 sq ft total surface area) Equipment includes pressure washer and operation costs/day	Labor	\$2.92	1000	\$3,212
	Equipment	\$187	1	\$206
- Remove drum washers, pans if present, ancillary equipment and scrap	Labor/equipment/expenses	\$1,800	LS	\$1,980
<u>Laboratory Subcontractor Costs</u>				
- Analyze 2 soil samples for VOCs, SVOCs, and Metals (8)	VOCs @ \$147/sample			
	SVOCs @ \$265/sample			
	Metals @ \$97/sample			
	Preserved Sample Containers @ \$10/sample			
	Total per sample cost	\$519	2	\$1,142
Activity 4. Subtotal				\$9,562

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
5. DECONTAMINATE CONTAINER STORAGE AREA				
<u>Assumptions:</u>				
- One CSA with total capacity of 6,540 gallons/805 sq ft				
- Decontamination shall consist of washing with a detergent water solution and rinsing with a high-pressure spray				
- CSA remains in-place following closure				
- Decontamination of CSA includes floor, curbing and containment trenches, requires approximately 1 day.				
- Any ramps leading into the storage areas (if present) will also be decontaminated.				
- Assumes 1 rinsate and 2 soil samples required. Actual number of soil samples will be based on engineer's inspection.				
<u>Prime Contractor Costs</u>				
- Inspect the floor of each CSA for cracks, gaps, or other potential lapses of integrity (P.E. or designee)	Project Engineer Vehicle (per day) Per diem	\$94 \$50 \$95	8 1 1	\$752 \$50 \$95
- Fill cracks and gaps (if necessary) prior to implementing decontamination activities	Field Engineer Vehicle (per day) Per diem	\$60 \$50 \$95	4 0.5 0.5	\$240 \$25 \$48
- Supervise and document decontamination of CSA	Field Engineer Vehicle (per day) Per diem	\$60 \$50 \$95	8 1 1	\$480 \$50 \$95
- Collect sample of final rinsate from each CSA and submit for laboratory analysis	Field Engineer Vehicle (per day) Per diem	\$60 \$50 \$95	4 0.5 0.5	\$240 \$25 \$48
- Collect 2 soil samples for analysis of VOCs, SVOCs and metals	Field Engineer Vehicle (per day) Per diem Sample supplies	\$60 \$50 \$95 \$250	4 0.5 0.5 LS	\$240 \$25 \$48 \$250
<u>Subcontractor Costs</u>				
Decontaminate container storage area (unit cost based on pressure washing 105 sq ft per hour and 805 sq ft) Equipment includes pressure washer and operation costs (1/2/ day)	Labor Equipment	\$1.11 \$187	805 1	\$983 \$206
<u>Laboratory Subcontractor Costs</u>				
- Analyze 1 rinsate sample from containment area for VOCs, SVOCs and TAL metals	VOCs @ \$147/sample SVOCs @ \$265/sample Metals @ \$336/sample Total per sample cost	\$748	1	\$823
- Analyze 2 soil samples for VOCs, SVOCs, and Metals (8)	VOCs @ \$147/sample SVOCs @ \$265/sample Metals @ \$97/sample Preserved Sample Containers @ \$10/sample Total per sample cost	\$519	2	\$1,142
Activity 5. Subtotal				\$5,863

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
6. DECONTAMINATE THE FLAMMABLE STORAGE SHELTER				
<u>Assumptions:</u>				
- Decontamination shall consist of washing with detergent/water solution and rinsing with high-pressure spray				
- Flammable Materials structure and dock area will remain in place				
- Assumes 1 rinsate sample required to leave in place				
- Assumes 2 soil samples required from beneath containment area. Actual number of samples will be based on engineer's inspection				
- Square footage used for decontamination includes containment				
<u>Prime Contractor Costs</u>				
- Inspect containment for cracks, gaps, or other potential lapses of integrity (P.E. or designee)	Project Engineer	\$94	8	\$752
	Vehicle (per day)	\$50	1	\$50
	Per diem	\$95	1	\$95
- Fill cracks and gaps (if necessary) prior to implementing decontamination activities	Field Engineer	\$60	4	\$240
	Vehicle (per day)	\$50	0.5	\$25
	Per diem	\$95	0.5	\$48
- Supervise washing of structure and containment	Field Engineer	\$60	16	\$960
	Vehicle (per day)	\$50	2	\$100
	Per diem	\$95	2	\$190
- Collect sample of final rinsate from structure and submit for laboratory analysis	Field Engineer	\$60	4	\$240
	Vehicle (per day)	\$50	0.5	\$25
	Per diem	\$95	0.5	\$48
- Collect 2 soil samples for analysis of VOCs, SVOCs and metals	Field Engineer	\$60	4	\$240
	Vehicle (per day)	\$50	0.50	\$25
	Per diem	\$95	0.50	\$48
- 4 hrs total for sampling	Sample supplies	\$250	LS	\$250
<u>Subcontractor Costs</u>				
- Decontaminate structure, grating, containment (unit cost based on pressure washing 1000 sq ft total surface area)	Labor	\$2.92	1000	\$3,212
	Equipment	\$187	1	\$206
<u>Laboratory Subcontractor Costs</u>				
- Analyze 1 rinsate sample from containment area for VOCs, SVOCs and TAL metals	VOCs @ \$147/sample SVOCs @ \$265/sample Metals @ \$336/sample Total per sample cost	\$748	1	\$823
- Analyze 2 soil samples for VOCs, SVOCs, and Metals (8)	VOCs @ \$147/sample SVOCs @ \$265/sample Metals @ \$97/sample Preserved Sample Containers @ \$10/sample Total per sample cost	\$519	2	\$1,142
Activity 6. Subtotal				\$8,717
7. CONTAINERIZE, STAGE, TRANSPORT AND DISPOSE OF DECONTAMINATION WASTES				
<u>Assumptions:</u>				
- 700 gallons wash water generated from decontamination of waste UST (including residual sludge) + 250 gallons from the containment = 18 drums				
- 450 gallons wash water generated from decontamination of the return/fill structure, and 250 gallons from the containment = 700 gallons = 13 drums				
- 500 gallons of wash water generated from decontamination of CSA = 10 drums				
- 500 gallons of wash water generated from decontamination of Flammable Materials Storage Shelter = 10 drums				
- PPE, plastic sheeting, consumables contained in 5 drums				
<u>Prime Contractor Costs</u>				
- Ensure drums are properly labeled, coordinate pick up and disposal	Project Manager	\$94	8	\$752
	Vehicle (per day)	\$50	1	\$50
	Per diem	\$95	1	\$95
- Purchase 55-gallon drums	Drums @ \$65 each	\$65	56	\$3,640
<u>Subcontractor Costs</u>				
- Load Drums for Transport with forklift (unit is based on total drums divided by 4/pallet)	Labor/equipment/expenses	\$37	14	\$570
- Transport drums to TSD for Treatment/Disposal Assumes 1 truck to transport 56 drums (84 per truck max) Estimated cost per mile = \$2.21/mile x overhead, profit and markup = \$3.06/mile Estimated mileage = 500 miles	Transport 1 trailer x 500 miles	\$3.06	500	\$1,530
Estimated disposal/treatment cost/drum for rinsate	TSD (based on CPro rate)	\$179	51	\$9,129
Estimated disposal/treatment cost for PPE drums (assumed haz to landfill)	TSD (based on CPro rate)	\$150	5	\$750
Activity 7. Subtotal				\$16,516

Activity	Category	Hourly Rate or Unit Charge	Hours or Unit Estimate	Subtotal (Includes 10% Markup for Subcontractors)
8. CLOSURE CERTIFICATION REPORT				
<u>Assumptions:</u>				
- Closure certification report signed by a State Registered P.E. and owner/operator				
- Closure results verify clean closure				
<u>Prime Contractor Costs</u>				
- Compile field notes, photographs, manifests and other documentation	Project Manager	\$94	4	\$376
	Field Engineer	\$60	8	\$480
- Compile any rinsate, and/or soil sample data into summary tables	Project Manager	\$94	8	\$752
	Field Engineer	\$60	8	\$480
- Prepare Closure Certification Report	Project Manager	\$94	20	\$1,880
	Field Engineer	\$60	8	\$480
- Prepare closure certification statement	Project Engineer	\$94	4	\$376
- Office Expenses	Drafting/Clerical	\$42	4	\$168
	Miscellaneous/Copying/Postage	\$150	LS	\$165
Activity 8. Subtotal				\$5,157
COST ESTIMATE ACTIVITIES SUMMARY				
1. PROJECT COORDINATION AND SCHEDULING				\$3,860
2. MOBILIZE TO SITE AND PREPARE FOR CLOSURE				\$80,614
3. STORAGE TANK DECONTAMINATION AND REMOVAL				\$16,407
4. DECONTAMINATE THE RETURN/FILL STATION				\$9,562
5. DECONTAMINATE CONTAINER STORAGE AREA				\$5,863
6. DECONTAMINATE THE FLAMMABLE STORAGE SHELTER				\$8,717
7. CONTAINERIZE, STAGE, TRANSPORT AND DISPOSE OF DECONTAMINATION WASTES				\$16,516
8. CLOSURE CERTIFICATION REPORT				\$5,157
Contingency (10%)				\$14,669
TOTAL CLOSURE COST ESTIMATE (Adjusted for location)				\$161,364

Notes:

- Prime Contractor, Decontamination Subcontractor labor rates, Transportation, Equipment and Analytical rates obtained from Environmental Cost Handling Options and Solutions (ECHOS) Environmental Remediation Cost Data, 12th Edition, 2006
- Prime contractor labor rates include overhead (20%), profit (20%) and markup (50%)
- Subcontractor labor rates include overhead (5%) and profit (10%)
- A 10% markup was applied to subcontractor prices
- Assumes waste inventory and decontamination wastes transported to an appropriate TSD Facility, which is assumed to be located within 500 miles (for purposes of estimating mileage only)
- Waste inventory disposal/treatment unit cost obtained from CostPro, and includes the low cost for bulk liquids (\$0.45/gallon) based on suitability of mineral spirits for fuel, and average cost (\$179/drum) for drummed wastes
- Location Factor is not applied to Waste Disposal costs derived from CostPro
- This closure cost estimate is based on the point in the facility operating life which would make the cost most expensive

Activity	Estimate
1. OPERATION AND MAINTENANCE OF SVE SYSTEM	
<u>Assumptions</u>	
- Assumes operation of SVE system for three years.	
- Quarterly SVE influent and effluent sampling.	
- EPA TO-15 analysis for vapor samples.	
- Data evaluation and reporting.	
1a. Project Management and Coordination	Subtotal (1a) \$2,430
1b. Field Activities	
Labor	\$20,730
Travel Expenses	\$2,984
Subcontractors (Utility Bills, Carbon Changeout, Misc System Parts)	\$24,090
Equipment	\$5,160
Laboratory Costs	\$5,700
	Subtotal (1b) \$58,664
1c. Data Evaluation and Reporting	Subtotal (1c) \$4,110
Activity 1. Subtotal \$65,204	
2. POST-REMEDATION CONFIRMATORY SOIL SAMPLING	
<u>Assumptions</u>	
- Assumes three hand auger borings at B-5, B-6, and B-7 locations.	
- Collection of five soil samples for EPA Method 8260 and 8270 analyses.	
- Data evaluation and reporting.	
2a. Project Management and Coordination	Subtotal (2a) \$325
2b. Field Activities	
Labor	\$1,650
Travel Expenses	\$38
Equipment	\$135
Laboratory Costs	\$2,141
	Subtotal (2b) \$3,964
2c. Data Evaluation and Reporting	Subtotal (2c) \$1,680
Activity 2. Subtotal \$5,969	
3. GROUNDWATER MONITORING	
<u>Assumptions</u>	
- Scope of work detailed in May 2011 CMS report and Groundwater Sampling & Analysis Plan.	
- Three sampling events to be conducted during first year to comply with injection permit sampling requirements.	
- Standard sampling events to be conducted semiannually (concurrent with injection monitoring during injection phase).	
- Water level gauging events to be conducted quarterly.	
- Analysis by EPA Method 8260 and EPA Method 8270 (PAHs only) for all sampling events.	
- Analysis for additional parameters related to injection for two events.	
- Semiannual reporting.	
- Assumes monitoring of on-going reductions due to injection during Year 1, then three additional years of confirmatory post-remediation monitoring (Years 2 through 4).	
3a. Project Management and Coordination	Subtotal (3a) \$3,680
3b. Field Activities	
Labor	\$21,735
Travel Expenses	\$956
Equipment	\$6,075
Laboratory Costs	\$16,164
	Subtotal (3b) \$44,930
3c. Data Evaluation and Reporting	Subtotal (3c) \$14,160
Activity 3 Subtotal \$62,770	
4. CLOSURE/WELL ABANDONMENT	
<u>Assumptions</u>	
- Abandonment of seven monitoring wells, 12 injection wells, and two SVE wells.	
- Reporting.	
4a. Project Management and Coordination	Subtotal (4a) \$325
4b. Field Activities	
Labor	\$850
Travel Expenses	\$47
Subcontractors (Driller for Well Abandonment)	\$6,677
Equipment	\$20
	Subtotal (4b) \$7,594
4c. Data Evaluation and Reporting	Subtotal (4c) \$550
Activity 4 Subtotal \$8,469	
1. OPERATION AND MAINTENANCE OF SVE SYSTEM	\$65,204
2. POST-REMEDATION CONFIRMATORY SOIL SAMPLING	\$5,969
3. GROUNDWATER MONITORING	\$62,770
4. CLOSURE/WELL ABANDONMENT	\$8,469
TOTAL CORRECTIVE ACTION COST ESTIMATE	\$142,412

APPENDIX I-2

FINANCIAL ASSURANCE



Clean Harbors
 42 Longwater Drive
 P.O. Box 9149
 Norwell, MA 02061-9149
 781.792.5000
 800.282.0058
 www.cleanharbors.com

VIA FEDERAL EXPRESS (TR#778263821474)

January 24, 2017

Ms. Jenny Lopp, Financial Compliance Analyst
 Compliance Branch, Hazardous Waste Section, Division of Waste Management
 North Carolina Department of Environmental Quality
 ENR Building (Green Square)
 217 West Jones Street
 Raleigh, NC 27603

RE: Safety-Kleen Systems, Inc.
 Financial Assurance - January 25, 2017 Annual Inflation Increase

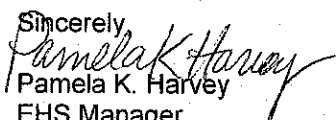
Dear Ms. Lopp:

Enclosed is an original insurance certificate issued by Indian Harbor Insurance Company for financial assurance coverage for the Safety-Kleen facilities located in North Carolina listed below.

The certificate has been amended, effective January 19, 2017, to reflect the annual inflation increases of the financial assurance. The increases were calculated by multiplying the existing 2016 financial assurance values by the annual inflation factor 1.01049. This inflation factor was calculated by dividing the annual Implicit Price Deflator (IPD) for Gross National Product (GNP) for 2015 (110.090) by the annual IPD for GNP for 2014 (108.947). These IPDs were obtained on December 13, 2016 from the U.S. Department of Commerce, Bureau of Economic Analysis, Table 1.1.9 Implicit Price Deflators for Gross Domestic Product.

Charlotte (Closure):	$\$172,111 \times 1.01049 = \$173,916$
(Corrective Action):	$\$151,895 \times 1.01049 = \$153,489$
Archdale (Closure):	$\$222,147 \times 1.01049 = \$224,478$
(Corrective Action):	$\$73,599 \times 1.01049 = \$74,371$
Raleigh (Closure):	$\$195,578 \times 1.01049 = \$197,629$
(Corrective Action):	$\$112,425 \times 1.01049 = \$113,605$
St. Pauls (Closure):	$\$155,931 \times 1.01049 = \$157,567$
(Corrective Action):	$\$105,665 \times 1.01049 = \$106,774$

If you have any questions or require any additional information regarding this submittal, please contact me at 219-746-5050 or at Harvey.Pamela@cleanharbors.com.

Sincerely,

 Pamela K. Harvey
 EHS Manager
 Clean Harbors, Inc.
 Safety-Kleen Systems, Inc., a Clean Harbors Company

Enclosure

"People and Technology Creating a Safer, Cleaner Environment"

CERTIFICATE OF INSURANCE FOR CLOSURE AND/ OR POST-CLOSURE CARE AND/OR
CORRECTIVE ACTION

Name and Address of Insurer (herein called the "Insurer"):

Indian Harbor Insurance Company
Seaview House, 70 Seaview Avenue
Stamford, CT 06902-6040

Name and Address of Insured (herein called the "Insured"):

Safety-Kleen Systems, Inc.
42 Longwater Drive
Norwell, MA 02061

Facilities Covered:

			Closure:	Corrective Action
Charlotte 3-031-01	2320 Yadkin Avenue Charlotte, NC 28205	NCD079060059	\$173,916	\$153,489
Archdale 3-064-01	6182 Old Mendenhall Rd Archdale, NC 27263	NCD077840148	\$224,478	\$74,371
Raleigh 3-171-01	125 Sommerville Park Rd Raleigh, NC 27603	NCD000776740	\$197,629	\$113,605
St. Paul 3-031-02	934 North 5 th Street St. Pauls, NC 28384	NCD980846935	\$157,567	\$106,774
TOTAL:			\$753,590	\$448,239

Face Amount: \$1,201,829
Policy Number: PEC000659415
Effective Date: January 19, 2017

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for closure and corrective action for the facilities identified above.

The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.101(a), 264.101(b), 265.101(c), 264.143(e), 264.145(e) as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Secretary of the Department of Environment and Natural Resources, the Insurer agrees to furnish to the Secretary a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 40 CFR 264.151(e) as such regulations were constituted on the date shown immediately below.

Mary Ann Susavidge
Authorized Signature for Insurer

Mary Ann Susavidge, Vice President
Name of Person Signing/ Title/Address

Lynda A. Sergeant
Signature of witness or notary

1-18-17
Date

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Lynda A. Sergeant, Notary Public
Uwchlan Twp., Chester County
My Commission Expires June 18, 2020
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

APPENDIX I-3

LIABILITY INSURANCE



Clean Harbors Environmental Services, Inc.
221 Sutton Street
North Andover, MA 01845
978.683.1002
www.cleanharbors.com

VIA FEDERAL EXPRESS (TRN 777588730416)

October 28, 2016

Ms. Jenny W. Lopp
Financial Compliance Analyst
Hazardous Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
1646 Mail Service Center
Raleigh, NC 27699

RE: Hazardous Waste Facility Liability Insurance Policy Renewal
Clean Harbors Reidsville, LLC – EPA ID No. NCD000648451
Safety-Kleen Systems, Inc. – multiple EPA ID Numbers

Dear Ms. Lopp:

Please find enclosed two (2) original signed Hazardous Waste Facility Certificates of Liability Insurance, issued by Indian Harbor Insurance Company under policy number PEC0042039. One certificate is for the Clean Harbors Reidsville, LLC facility located in Reidsville, NC while the second certificate covers all of the Safety-Kleen facilities located in North Carolina. The renewed policy number is PEC004203903 and the renewed policy period is November 1, 2016 – November 1, 2017.

If you have any questions regarding this submittal, please feel free to contact me at bellm@cleanharbors.com or at 978-687-5042.

Sincerely,

A handwritten signature in cursive script that reads "Wallace M. Bell".

Wallace M. Bell
Compliance Manager
Clean Harbors, Inc.
Safety-Kleen Systems, Inc., a Clean Harbors Company

Enclosures

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. Indian Harbor Insurance Company, the Insurer of Seaview House, 70 Seaview Avenue, Stamford, CT 06902-6040, hereby certifies that it has issued liability insurance covering bodily injury and property damage to Safety-Kleen Systems, Inc., the Insured, of 42 Longwater Drive, Norwell, MA 02061 in connection with the Insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at EPA ID# _____, SEE ATTACHED LIST for sudden and nonsudden accidental occurrences. The limits of liability are \$2,000,000 each occurrence and \$2,000,000 annual aggregate, exclusive of legal defense costs. The coverage is provided under policy number PEC004203903 issued on November 1, 2016. The effective date of said policy is November 1, 2016.
2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:
 - (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.
 - (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).
 - (c) Whenever requested by "Secretary" of the Department of Environment and Natural Resources (DENR), the Insurer agrees to furnish to the "Secretary" a signed duplicate original of the policy and all endorsements.
 - (d) Cancellation of the insurance, whether by the Insurer, the Insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Secretary.
 - (e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Secretary.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151(j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.



(Signature of Authorized Representative of Insurer)

Date: 10-18-16

Mary Ann Susavidge, Vice President

Authorized Representative of Indian Harbor Insurance Company

c/o XL Catlin
505 Eagleview Boulevard
Suite 100
Exton, PA 19341-0636

SAFETY-KLEEN SYSTEMS, INC. LOCATIONS

STATE OF NORTH CAROLINA

**2320 Yadkin Avenue
Charlotte, NC 28225**

NCD079060059

**12040 Goodrich Drive
Charlotte, NC 28273**

**125 Sommerville Park Road
(aka 6225 Old Stage Road)
Raleigh, NC 27603**

NCD000776740

**934 North 5th Street or
Highway 301, North
St. Paul, NC 28384**

NCD980846935

**6180-82 Old Mendenhall Road
Archdale, NC 27263**

NCD077840148

SECTION J
OTHER FEDERAL LAWS

Pursuant to 40 CFR 270.14(b)(20), Safety-Kleen is providing notice herein that it has evaluated those Federal laws outlined in 40 CFR 270.3, and below, and has determined the following relative to this permit application:

- *The Wild and Scenic Rivers Act* – Not Applicable;
- *The National Historic Preservation Act of 1966* – Not Applicable;
- *The Endangered Species Act* – Not Applicable;
- *The Coastal Zone Management Act* – Not Applicable; and
- *The Fish and Wildlife Coordination Act* – Not Applicable.

SECTION K
CERTIFICATION
TABLE OF CONTENTS

SECTION		PAGE
K-1	Application Signature	1
K-2	Certification Statement	1

SECTION K
CERTIFICATION

K-1 Application Signature

See Section A of the permit application.

K-2 Certification Statement

Safety-Kleen Systems, Inc.
2320 Yadkin Avenue
Charlotte, NC 28205

"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 fine and imprisonment for knowing violations."

Mark Hansen
Signature

5/2/17
Date

Mark Hansen
Name

EHS Director
Title

SECTION L
INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS
TABLE OF CONTENTS

SECTION	PAGE
L-1 Summary	1
L-1(a) Description of SWMUs and AOCs	2

LIST OF FIGURES

L-1 Solid Waste Management Unit Location Map
--

SECTION L
INFORMATION REQUIREMENTS FOR SOLID WASTE
MANAGEMENT UNITS

L-1 **SUMMARY**

A Preliminary Review and Visual Site Inspection conducted by an EPA contractor on December 19, 1989 identified five (5) solid waste management units (SWMUs). A Phase II RFI report was submitted to the North Carolina Department of Environmental Quality (NCDEQ) on January 9, 2001. The report concluded that semi volatile organics are not present in the shallow aquifer, and metals are not present in the shallow aquifer above background concentrations. In response, NCDEQ issued a letter on March 12, 2003, which requested installation of a deep monitoring well to evaluate the potential for environmental impact in the deep bedrock aquifer. Subsequent installation and sampling of a deep monitoring well did not indicate volatile organics above regulatory cleanup standards (Title 15A NCAC 2L .0202 Groundwater Standards). A report documenting the deep monitoring well installation and sampling was submitted on November 18, 2003. The report recommended completion of two semiannual monitoring events to confirm that concentrations of volatile organics are below cleanup standards.

A Soil Investigation Workplan was prepared by ATC and dated September 22, 2009. NCDEQ made comments to the workplan, which included the installation of monitoring wells and groundwater sampling. In December 2010, soil samples were collected, monitoring wells were installed, and groundwater samples were collected and the results were submitted to NCDEQ on February 22, 2011. Based on review of the sampling results NCDEQ issued a letter on March 31, 2011 requesting submittal of a Corrective Measures Study (CMS), revised corrective action cost estimate, revised closure plan for SWMU-8 and SWMU-9, and Groundwater Sampling and Analysis Plan (SAP).

A Corrective Measures Study (CMS) and a Groundwater SAP were submitted for the site on May 6, 2011, then approved by NCDEQ in a letter dated June 3, 2011. Quarterly sampling and/or water level gauging events were initiated in June 2011 as specified in

the Groundwater SAP. The CMS recommended installation of a soil vapor extraction (SVE) system to remediate impacted soil and chemical injection to remediate impacted groundwater. Following receipt of an Underground Injection Control permit, chemical injection was performed at the site in December 2011 and March 2012. An SVE pilot test was completed and proposed design specifications for the SVE system were submitted to NCDEQ for review on September 28, 2011. The specifications were approved by NCDEQ in a letter dated October 31, 2011. The SVE system construction is underway and startup is expected to be completed by the established deadline of July 15, 2012.

L-1(a) Description of SWMUs and AOCs

A brief description of the units of concern is presented below:

- SWMU No.1 – Trash Dumpster
 - This 5-cubic yard capacity metal dumpster originally identified during the Visual Site Inspection was previously located in the south corner of the facility. The unit was owned by Browning Ferris Industries. This non-RCRA regulated dumpster was used for storing municipal solid waste. No liquids or hazardous materials were disposed of in the dumpster. This unit was located outside on a concrete slab and made of metal with a metal lid. A similar dumpster currently exists which is also serviced by a commercial solid waste disposal service company.
 - Operated from June 1978 until replaced by current trash dumpster.
 - No documented releases occurred at this SWMU (based on Facility data).
 - This SWMU has been deleted.
 - No further action is required for this SWMU.

- SWMU No. 2 – Paint Waste Storage Rooms
 - Two paint waste storage rooms located on the southeastern side of the general warehouse. The metal storage structure has two rooms that are 6' x 14'. The floor of the rooms once consisted of wood grates that were elevated

approximately 4 inches above the floor. Below the flooring is a metal sump (pan), which holds 150 gallons. The unit was used solely to store clean paint lacquer cleaner and RCRA regulated paint wastes.

- Operated from 1988 to early 1990s. Only one metal storage shed/room is presently utilized for only storing clean paint lacquer thinner related and parts cleaning products.
 - No documented releases occurred at this SWMU (based on Facility data).
 - No further action is required for this SWMU.
- SWMU No. 3 – Wet Dumpster Units (2)
 - This SWMU consists of two (2) RCRA regulated wet dumpsters located in the mineral spirits solvent return and fill station located south of the Non-Ignitable Waste Drum Storage Building (i.e., SWMU No. 4) on southwestern portion of the property, and a concrete loading/unloading dock and a concrete curb. The entire area serves as a transfer area where drums of used parts washer solvents are emptied into the two wet dumpsters. The drums are subsequently cleaned and filled with clean mineral spirits. Prior to the current operation these two dumpster units, used mineral spirits solvents were conveyed from these units to two former underground storage collection tanks (USTs).
 - Physical descriptions and dimensions of the wet dumpster units are provided in Sections B-1, D-1, D-8 and Figure D-10, respectively.
 - Operated from mid-1980s to present.
 - No documented releases occurred at this SWMU (based on Facility data).
 - No further action is required for this SWMU.
 - SWMU No. 4 – Temporary Drum Storage Area
 - This unit is located on the southwest side of the facility adjacent to the solvent return and fill station area and is used for the storage of non-ignitable RCRA-regulated waste containers. This unit is currently operated as the RCRA permitted Non-Ignitable Container Storage Warehouse.

- Physical descriptions and dimensions of this unit are provided in Sections B-1, D-1, and Figure D-4, respectively.
 - Operated from early 1980s to present.
 - No documented releases occurred at this SWMU (based on Facility data).
 - No further action is required for this SWMU.
- SWMU No. 5 – Aboveground Storage Tank
 - RCRA regulated 15,000 gallon aboveground storage tank used to store spent parts washer solvents conveyed from the two wet dumpsters.
 - Physical descriptions and dimensions of this unit are provided in Sections B-1, D-2 and Figures D-5 and D-6, respectively.
 - Operated from 1985 to present.
 - No documented releases occurred at this SWMU (based on Facility data).
 - No further action is required for this SWMU.
- SWMU No. 6 – Class 1B Flammable Container Storage Area
 - This unit is located at the center of the facility to the east of the solvent return and fill station and to the north of the administrative office building. This unit is used for the storage of Class 1B Flammable RCRA-regulated waste containers and is presently a RCRA permitted container storage area. A portion of this building is occupied by equipment and product storage areas, as well as storage for less than 10-day transfer wastes. This unit is currently operated as the Class 1B Flammable Container Storage Warehouse.
 - Physical descriptions and dimensions of this unit are provided in Sections B-1, D-1, and Figure D-4, respectively.
 - Operated from early 1980s to present.
 - No documented releases occurred at this SWMU (based on Facility data).
 - No further action is required for this SWMU.
- SWMU No. 7 – Non-ignitable Container Storage Area
 - This unit is a SWMU 4 above and can be eliminated.

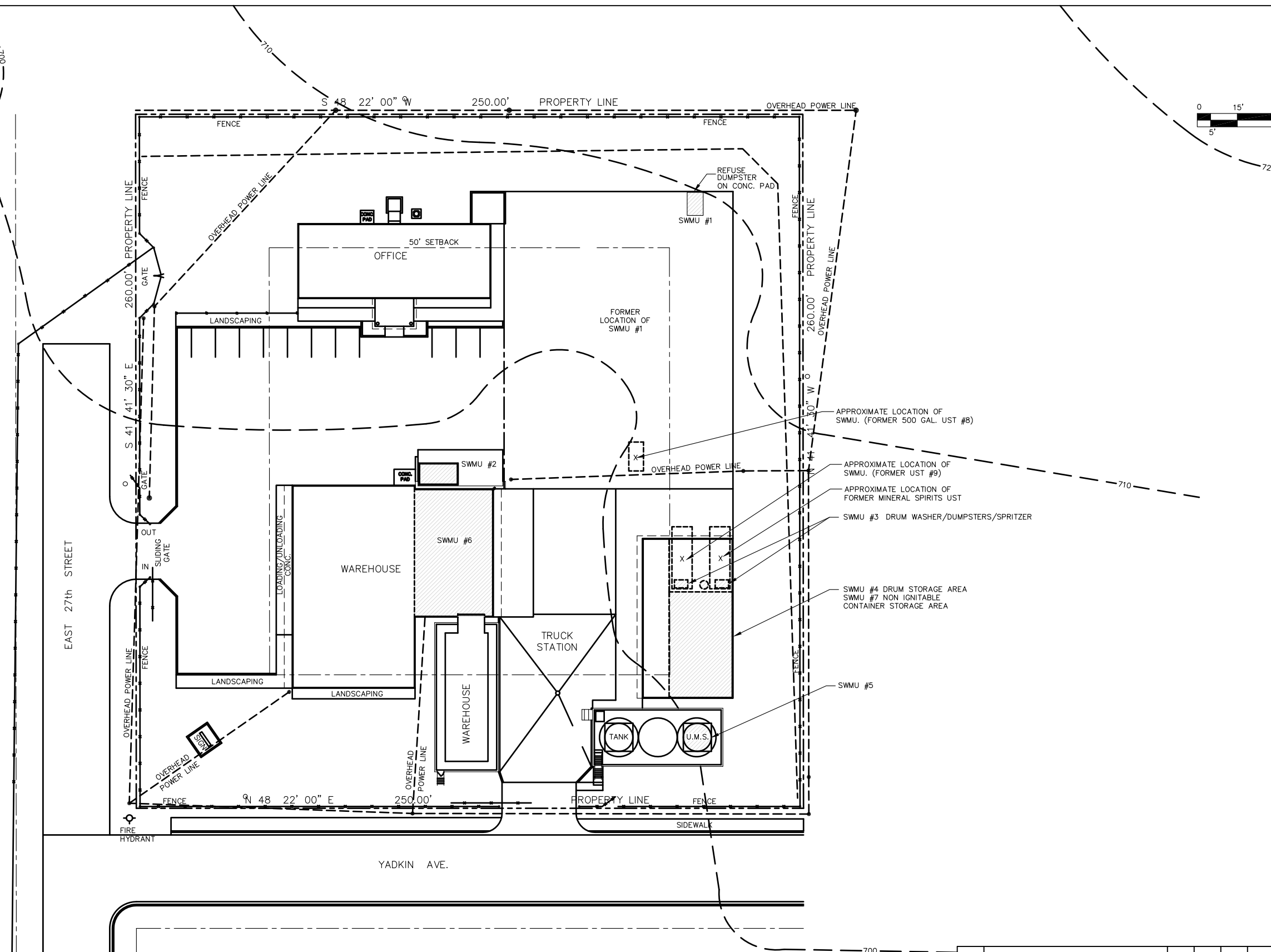
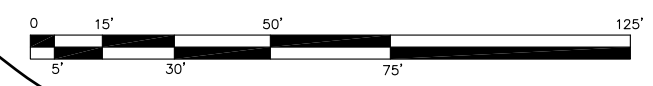
- No further action is required for this SWMU.
- SWMU No. 8 – Former 500 Gallon Steel Waste Mineral Spirits UST (Interim Status)
 - Unit previously utilized for the collection of used mineral spirits solvents from the wet dumpster units. This unit was used as an in-line settling tank for the waste mineral spirits prior to storage and accumulation in waste mineral spirits 10,000 gallon UST. This unit was located directly south-southeast of SWMU No. 3. The UST was removed in August 1985.
 - Operated from 1980 – 1985 (Closed August 1985).
 - Managed waste mineral spirits.
 - The EPA Region IV was notified about the UST and a SWMU assessment report was submitted to the agency in January 1992. In June 1992, the agency requested the submission of an RFI work plan for the SWMU. The RFI work plan was submitted to the agency on September 24, 1992, and implementation of the RFI commenced in 1997.
 - Evidence of release was detected and investigation and proposed remedial actions are described in L-1 above and the May 6, 2011 CMS.
- SWMU No. 9 – Former 10,000 Gallon Waste Mineral Spirits USTs (Interim Status)
 - One RCRA regulated (interim status) storage. The USTs was located directly south-southeast of SWMU No. 3 and adjacent to a 10,000 gallon product mineral spirits UST.
 - Operated from 1980-1985 (closed in August 1985).
 - The unit was used to store waste mineral spirits which it received via aboveground piping from the R&F (wet) dumpsters located at return and fill station.
 - The EPA Region IV was notified about these USTs and a SWMU assessment report was submitted to the agency in January 1992. In June 1992, the agency requested the submission of an RFI work plan for these SWMUs.

The RFI work plan was submitted to the agency on September 24, 1992, and implementation of the RFI commenced in 1997.

- Evidence of release was detected and investigation and proposed remedial actions are described in L-1 above and the May 6, 2011 CMS.

FIGURE L-1

SWMU LOCATION MAP



SWMU- SOLID WASTE MANAGEMENT UNIT

GENERAL NOTES

1. NON-PERMITTED AREAS MAY CHANGE
2. CHARLOTTE NC BRANCH FACILITY US E.P.A. No. NCD079060059

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

2005 West Broadway - Suite 210 - Columbia - MO 65203
 Phone: (573) 443-7100 • Fax: (573) 443-7181

SWMU LOCATION MAP

2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
 PHONE 800-669-5740

NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB	TB	031114
A	ISSUED FOR PERMIT	JEK	TB	TB	062711
REVISIONS					

SCALE 1"=20'-0"	BY JEK	CHKD TB	APPR TB	OP. APPR TB	DATE 06/27/11
SERVICE CENTER LOCATION CHARLOTTE, NC			SC-DWG NUMBER 7055-SP00-010		REV. NO. B

SECTION M

CLOSURE EQUIVALENCY DETERMINATION (Land-based treatment, storage and disposal units)

The Facility does not operate a surface impoundment, waste pile, land treatment unit or landfill. Therefore, any requirements under this section are not applicable to the closure of this facility's hazardous waste storage units. See Section I for details regarding closure of the Facility.

SECTION N
SUBSTANTIAL COMPLIANCE AND FINANCIAL QUALIFICATION
TABLE OF CONTENTS

SECTION	PAGE
N-1 General Information	1
N-2 Substantial Compliance	2
N-3 Financial Qualification	2
N-4 Justification of Need	2

LIST OF APPENDICES

N-1 Substantial Compliance and Financial Qualification Information
--

SECTION N

SUBSTANTIAL COMPLIANCE AND FINANCIAL QUALIFICATION

N-1 General Information

The Safety-Kleen Charlotte Facility, located within the City of Charlotte (Mecklenburg County), North Carolina (hereinafter referred to as the Facility), occupies an approximate 1.5-acre site. The Facility is owned and operated by the Safety-Kleen Systems, Incorporated, a subsidiary of Clean Harbors, Inc., and has been in operation at this site since July 15, 1980.

Safety-Kleen Systems, Incorporated is an international service-oriented company whose customers are primarily engaged in aftermarket automotive repair, industrial maintenance, manufacturing and dry cleaning. The company has been operating since 1968, offering solvent and reclamation services for its customers. The business activities conducted at the Facility relate to the leasing and servicing of parts cleaning equipment, the collection and distribution of solvents, the collection of paint-related wastes, and the collection and management of industrial wastes. The solvents are distributed from and returned to the service center, where separate aboveground storage tanks are utilized for the storage of clean and used parts washer solvent, and waste oil. Additional space is designated for the storage of drums containing both clean and spent immersion cleaner, dry cleaner wastes, photographic processing wastes, and paint-related wastes. The stored materials are periodically removed from the Facility and transported to other facilities for reclamation. No reclamation activities are performed at this Facility. All land and buildings currently associated with the Facility are owned by Safety-Kleen Systems, Incorporated.

Facility operations include the accumulation and storage of various waste streams, including used solvents, dry cleaner wastes, paint-related wastes, photographic

processing wastes, and spent immersion cleaner. The facility functions as a hazardous waste storage facility pursuant to 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities. The Facility also meets the definition of a transfer facility under 40 CFR 263 and Rule 15A NCAC 13A.0118, Standards Applicable to Transporters of Hazardous Waste. As such, the facility may hold hazardous wastes in containers for a period of ten (10) days or less during the normal course of transportation. Transfer wastes are not subject to regulation under 40 CFR 264 but may be held in the same areas used for permitted waste storage. The Facility currently provides services for customers in portions of the south-central region of North Carolina and portions of eastern South Carolina. Occasionally, household hazardous wastes may be temporarily stored at this facility.

The Facility location address and U.S. EPA identification number are as follows:

Safety-Kleen Systems, Incorporated
2320 Yadkin Avenue
Charlotte, North Carolina 28205
U.S. EPA ID Number: NCD 079 060 059

See Appendix N-1, Exhibits A and B for additional information.

N-2 Substantial Compliance

See Appendix N-1, Exhibit C. No Safety-Kleen Systems, Inc. Facility located within or outside the State of North Carolina has ever been denied an environmental permit.

N-3 Financial Qualification

See Appendix N-1, Exhibit D.

N-4 Justification of Need

Not applicable. This permit application is for the renewal of a RCRA Hazardous Waste Facility Operating Permit for an existing facility. This application for the renewal of this permit does not seek modification of the Facility for which justification must be demonstrated.

APPENDIX N-1

SUBSTANTIAL COMPLIANCE
AND
FINANCIAL QUALIFICATION INFORMATION

EXHIBIT A

(1) A brief description of the form of business (e.g., partnership corporation, other).
Safety-Kleen Systems, Inc. is a corporation established in the State of Wisconsin.

(2) The names, addresses and titles of all officers, directors, or partners of the applicant and of any parent or subsidiary corporation if the applicant is a corporation.

Applicant:

Safety-Kleen Systems, Inc. Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

Safety-Kleen Systems, Inc. Directors:

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Parent Corporation:

Safety-Kleen Systems, Inc. is a wholly-owned subsidiary of SK Holding Company, Inc.
SK Holding Company, Inc. Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

SK Holding Company, Inc. Directors:

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Subsidiaries:

Safety-Kleen Systems, Inc. is the parent Corporation to the following wholly-owned subsidiaries:

1. The Solvents Recovery Service of New Jersey, Inc.
2. Active Oil, Inc.
3. Rosemead Oil Products, Inc.
4. Safety-Kleen Envirosystems Company
5. Safety-Kleen Envirosystems Company of Puerto Rico, Inc. (wholly-owned subsidiary of Safety-Kleen Envirosystems Company)

6. Safety-Kleen International, Inc.
7. SK Servicios Ambientales Administrativos, S. de R.L. de C.V. (subsidiary of Safety-Kleen International, Inc. – 99% ownership)
8. Safety-Kleen de Mexico, S. de R.L. de C.V. (subsidiary of Safety-Kleen International, Inc. – 99% ownership)
9. Safety-Kleen Canada, Inc.
10. Environnement Services Et Machinerie E.S.M. Inc. (wholly-owned subsidiary of Safety-Kleen Canada, Inc.)
11. Vulsay Industries Ltd. (wholly-owned subsidiary of Safety-Kleen Canada, Inc.)
12. Clean Harbors Wichita, LLC
13. RS Used Oil Services, Inc. (wholly-owned subsidiary of Clean Harbors Wichita, LLC)
14. Safety-Kleen of California, Inc.
15. Industrial Service Oil Company, Inc.

The Solvents Recovery Service of New Jersey, Inc. Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

The Solvents Recovery Service of New Jersey, Inc. Directors:

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Active Oil, Inc. Officers

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
8. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

Active Oil, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Rosemead Oil Products, Inc. Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
6. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
7. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
8. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
9. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

Rosemead Oil Products, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Safety-Kleen Envirosystems Company Officers

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Eric Dugas, 42 Longwater Drive, Norwell, MA, 02061, Vice President
5. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
6. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
7. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
8. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
9. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

Safety-Kleen Envirosystems Company Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Safety-Kleen Envirosystems Company of Puerto Rico, Inc. (wholly-owned subsidiary of Safety-Kleen Envirosystems Company) Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President

5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

Safety-Kleen Envirosystems Company of Puerto Rico, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Safety-Kleen International, Inc. Officers

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

Safety-Kleen International, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

SK Servicios Ambientales Administrativos, S. de R.L. de C.V. (subsidiary of Safety-Kleen International, Inc. – 99% ownership) Officers: None

SK Servicios Ambientales Administrativos, S. de R.L. de C.V. (subsidiary of Safety-Kleen International, Inc. – 99% ownership) Directors:

1. Safety-Kleen Envirosystems Company, Partner
2. Safety-Kleen International, Inc., Partner

Safety-Kleen de Mexico, S. de R.L. de C.V. (subsidiary of Safety-Kleen International, Inc. – 99% ownership) Officers: None.

Safety-Kleen de Mexico, S. de R.L. de C.V. (subsidiary of Safety-Kleen International, Inc. – 99% ownership) Directors:

1. Safety-Kleen International, Inc., Partner

Safety-Kleen Canada, Inc. Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. David Parry, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President

5. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
6. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
7. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
8. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
9. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

Safety-Kleen Canada, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Dino Giudice, 1829 Allanport Road, Thorold, ON, L2V 3Y9, Canada, Director

Environnement Services Et Machinerie E.S.M. Inc. (wholly-owned subsidiary of Safety-Kleen Canada, Inc.) Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
8. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

Environnement Services Et Machinerie E.S.M. Inc. (wholly-owned subsidiary of Safety-Kleen Canada, Inc.) Directors:

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Dino Giudice, 1829 Allanport Road, Thorold, ON, L2V 3Y9, Canada, Director

Vulsay Industries Ltd. (wholly-owned subsidiary of Safety-Kleen Canada, Inc.) Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. David Parry, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

Vulsay Industries Ltd. Directors:

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Dino Giudice, 1829 Allanport Road, Thorold, ON, L2V 3Y9, Canada, Director

Clean Harbors Wichita, LLC Officers:

1. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
8. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

Clean Harbors Wichita, LLC Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

RS Used Oil Services, Inc. (wholly-owned subsidiary of Clean Harbors Wichita, LLC) Officers:

1. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
8. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

RS Used Oil Services, Inc. (wholly-owned subsidiary of Clean Harbors Wichita, LLC) Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Safety-Kleen of California, Inc. Officers:

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Paul Hibbert, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
6. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
7. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary

8. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary

Safety-Kleen of California, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

Industrial Service Oil Company, Inc. Officers

1. David Vergo, 2600 North Central Expressway 400, Richardson, TX 75080, President
2. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Executive Vice President
3. Mark Bouldin, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
4. Kevin Hayden, 2600 North Central Expressway 400, Richardson, TX 75080, Executive Vice President
5. Greg Malerbi, 42 Longwater Drive, Norwell, MA, 02061, Senior Vice President and Treasurer
6. C. Michael Malm, One Boston Place, Boston, MA 02108, Secretary
7. Michael McDonald, 42 Longwater Drive, Norwell, MA, 02061, Vice President and Assistant Secretary
8. Brad Carl, 2600 North Central Expressway 400, Richardson, TX 75080, Assistant General Counsel and Assistant Secretary

Industrial Service Oil Company, Inc. Directors

1. Michael Battles, 42 Longwater Drive, Norwell, MA, 02061, Director
2. Eric Gerstenberg, 42 Longwater Drive, Norwell, MA, 02061, Director

- (5) A financial statement, auditor's report, or other document that addresses the applicant's financial qualification to operate the subject facility.

Safety-Kleen Systems, Inc. is a wholly-owned subsidiary of SK Holding Company, Inc. SK Holding Company, Inc. is a wholly-owned subsidiary of Safety-Kleen, Inc. Safety-Kleen, Inc. is a wholly-owned subsidiary of Clean Harbors, Inc., a publically traded company on the New York stock exchange. Clean Harbors, Inc. and its subsidiaries are a leading provider of environmental, energy and industrial services throughout North America. They are also the largest re-refiner and recycler of used oil in the world and the largest provider of parts cleaning and related environmental services to commercial, industrial and automotive customers in North America. Please refer to the attached Securities and Exchange Commission Form 10-K for Clean Harbors, Inc. and subsidiaries documentation of Safety-Kleen's financial qualifications to operate the facility.

EXHIBIT B

Safety-Kleen Facilities - NC

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
ARC	Safety-Kleen Systems, Inc.	Archdale, NC (Greesbor/Highpt)	NCD077840148	6182 Old Mendenhall Road		Archdale	NC	27263
CHO	Safety-Kleen Systems, Inc.	Charlotte, NC (1st Rcvy)	NCR000006775	12040 Goodrich Drive		Charlotte	NC	28273
CHB	Safety-Kleen Systems, Inc.	Charlotte, NC	NCD079060059	2320 Yadkin Avenue		Charlotte	NC	28205
RAL	Safety-Kleen Systems, Inc.	Raleigh, NC	NCD000776740	125 Somerville Park Road		Raleigh	NC	27603
STP	Safety-Kleen Systems, Inc.	St. Pauls, NC	NCD980846935	934 North Fifth Street		Saint Pauls	NC	28384

Safety-Kleen Facilities - Non NC

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
CAL	Safety-Kleen Canada, Inc.	Calgary, AB	FCCANADA	3816 7th Street, SE		Calgary	AB	T2G 2Y8
FMK	Safety-Kleen Canada, Inc.	Fort McKay, AB	NONEREQUIRED	Lot 79, Caribou Energy Park		Fort Mackay	AB	TOP 1C0
GNP	Safety-Kleen Canada, Inc.	Grande Prairie AB	FCCANADA	14020 97th Street		Grande Prairie	AB	T8V 7B7
NIS	Safety-Kleen Canada, Inc.	Nisku, AB	ABR1098	500 13th Avenue		Nisku	AB	T9E 7P6
DSN	Safety-Kleen Canada, Inc.	Dolton Solvent Nisku	NONEREQUIRED	500-13th Avenue		Nisku	AB	T9E 7P6
DAL	Safety-Kleen Systems, Inc.	Dolomite, AL (Birmingham)	ALD983191537	7206 Larkin Street		Dolomite	AL	35061
HUN	Safety-Kleen Systems, Inc.	Huntsville, AL	ALD981028798	2221 Highway 72 East		Huntsville	AL	35811
WHA	Safety-Kleen Systems, Inc.	Whistler, AL (Mobile)	ALD071951628	3023 Dial Street		Mobile	AL	36612
LRO	Safety-Kleen Systems, Inc.	Port of Little Rock, AR	ARD981585318	8401 Linsey Road		Little Rock	AR	72206
LRB	Safety-Kleen Systems, Inc.	Little Rock, AR	ARD054575238	11727 Arch Street Pike		Little Rock	AR	72206
ULR	RS Used Oil Services, Inc.	LITTLE ROCK AR - FAC	ARR000023010	1302 East 8th Street		North Little Rock	AR	72114
SAR	Safety-Kleen Systems, Inc.	Springdale, AR	ARR000018283	1887 Fed-X Drive		Springdale	AR	72764
CAZ	Safety-Kleen Systems, Inc.	Chandler, AZ (Phoenix)	AZD981969504	6625 West Frye Road		Chandler	AZ	85226
DSP	Safety-Kleen Systems, Inc.	Dolton Solvent Phoenix	PENDING1014	1027 North 21st Avenue		Phoenix	AZ	85009
TPA	Thermo Fluids, Inc.	TFI - Phoenix, AZ	AZR000003681	4301 West Jefferson Street		Phoenix	AZ	85043
RSU	Thermo Fluids, Inc.	TFI - SCR RFO Sales	PENDING	8925 E Pima Center Parkway		Scottsdale	AZ	85258
TTA	Thermo Fluids, Inc.	TFI - Tucson, AZ	AZ0000878744	3401 East Pennsylvania Street		Tucson	AZ	85714
TUC	Safety-Kleen Systems, Inc.	Tucson, AZ	AZD980892897	4161 E. Tennessee		Tucson	AZ	85714
DTB	Safety-Kleen Canada, Inc.	Delta, BC	BCG14138	7803 Progress Way		Delta	BC	V4G 1A3
DTR	Safety-Kleen Canada, Inc.	Delta, BC - RC	FCCANADA	7803 Progress Way		Delta	BC	V4G 1A3
DUN	Safety-Kleen Canada, Inc.	DUNCAN, BC--BRANCH-OPS	FCCANADA	3014 Boys Road		Duncan	BC	V9L 6W4
ECN	Safety-Kleen of California, Inc.	Carson TSDF, Carson, CA	CAD981696420	16604 South San Pedro Street		Carson	CA	90746
TCN	Thermo Fluids, Inc	TFI Carson, CA FAC	CAD981696420	16602 South San Pedro		Carson	CA	90746
EDS	Safety-Kleen of California, Inc.	Davis Domicile Spoke, Davis CA	CAD982446874	44561 County Road 30B		Davis	CA	95616
ELC	Safety-Kleen Systems, Inc.	El Cajon, CA (San Diego)	CAD981989122	197 Vernon Way		El Cajon	CA	92020
ELM	Safety-Kleen Systems, Inc.	El Monte, CA - AC	CAT000613893	10625 Hickson Street	Unit A-E	El Monte	CA	91731
FRE	Safety-Kleen Systems, Inc.	Fresno, CA	CAD066113465	3561 S. Maple Avenue		Fresno	CA	93725
EFO	Safety-Kleen of California, Inc.	Fresno Tank Farm, Fresno, CA	CAD982446882	4139 North Valentine Avenue		Fresno	CA	93722
HIG	Safety-Kleen Systems, Inc.	Highland, CA (San Bernardino)	CAT000613927	7979 Palm Avenue	Unit E	Highland	CA	92346
ISF	Industrial Services Oil Company Inc	ISOC Terminal FAC	CAD099452708	1700 South Soto Street		Los Angeles	CA	90023
LOS	Safety-Kleen Systems, Inc.	Los Angeles, CA - Worthen Ave.	CAT000613935	2918 Worthen Avenue		Los Angeles	CA	90039
EVG	Safety-Kleen of California, Inc.	Newark Re-refinery, Newark, CA	CAD980887418	6880 Smith Avenue		Newark	CA	94560
ONT	Safety-Kleen Systems, Inc.	Ontario, CA - DC (Pomona)	CAR000203984	1620 Proforma Avenue		Ontario	CA	91761
ROP	Safety-Kleen Systems, Inc.	Richmond Pkg & Blending Ops	CAD028980050	801 Wharf Street		Richmond	CA	94804
ROH	Safety-Kleen Systems, Inc.	Rohnert Park, CA (San Fran)	CAT000613943	5750 Commerce Boulevard		Rohnert Park	CA	94928
SCA	Safety-Kleen Systems, Inc.	Sacramento, CA - AC	CA0000084517	6000 88th Street		Sacramento	CA	95828
SCB	Safety-Kleen Systems, Inc.	Sacramento, CA	CA0000084517	6000 88th Street		Sacramento	CA	95828
SAL	Safety-Kleen Systems, Inc.	Salida, CA (Stockton)	CAT000613968	5050 Salida Boulevard		Salida	CA	95368
SJC	Safety-Kleen Systems, Inc.	San Jose, CA - N. 10th St.	CAD980817159	1147 N. 10th Street		San Jose	CA	95112
SAA	Safety-Kleen Systems, Inc.	Santa Ana, CA (Los Angeles)	CAT000613976	2120 South Yale Street		Santa Ana	CA	92704
SAC	Safety-Kleen Systems, Inc.	Santa Ana, CA (Los Angeles)	CAT000613976	2150 South Yale Street	(Branch and Training)	Santa Ana	CA	92704
TOC	Thermo Fluids, Inc.	TFI - Orange County	CAL000381082	910 E 4th Street		Santa Ana	CA	92701
SBC	Safety-Kleen Systems, Inc.	Santa Barbara, CA (Goleta)	CAD981374077	5310 Overpass Road		Santa Barbara	CA	93111
RMO	Rosemead Oil Products, Inc.	Rosemead Blended Operations	CAL000353258	12402 Los Nietos Rd		Santa Fe Springs	CA	90670
STF	Safety-Kleen of California, Inc.	Santa Maria Tank Farm, Santa M	CAD982446858	745 A West Betteravia Road		Santa Maria	CA	93454
SYL	Safety-Kleen Systems, Inc.	Sylmar, CA (Los Angeles)	CAT000613992	13024-13028 Bradley Avenue		Sylmar	CA	91342
TDC	Thermo Fluids, Inc.	TFI - Denver, CO	COR000008524	4845 Forest Street		Denver	CO	80216
UDC	RS Used Oil Services, Inc.	DENVER CO - FAC	COR000240887	4647 National Western Dr		Denver	CO	80216
ECO	Safety-Kleen Systems, Inc.	Englewood, CO (Denver) -Miller	COD000716621	2801 S. Tejon Street		Englewood	CO	80110
TGJ	Thermo Fluids, Inc.	TFI - Grand Jct, CO	COT000644450	725 S 5th Street		Grand Junction	CO	81501
GJC	Safety-Kleen Systems, Inc.	Grand Junction, CO	COT090010851	368 Bonny Street		Grand Junction	CO	81501

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
TCS	Thermo Fluids, Inc.	TFI - CO Springs, CO	COD982599516	1810 L Street		Penrose	CO	81240
PUE	Safety-Kleen Systems, Inc.	Pueblo, CO	COD000716639	2841 E. Fourth Street		Pueblo	CO	81001
DSH	Safety-Kleen Systems, Inc.	Dolton Solvent Henderson	PENDING1014	21207 County Road 32-2		Sterling	CO	80751
BDO	Safety-Kleen Systems, Inc.	Bridgeport, CT (ALR)	CTD981203888	24-40 Seaview Avenue		Bridgeport	CT	06607
BDB	Safety-Kleen Systems, Inc.	Bridgeport, CT	PENDING	24-40 Seaview Avenue		Bridgeport	CT	06607
POO	Safety-Kleen Systems, Inc.	Portland, CT (ALR)	CTD001446962	56 Brownstone Avenue		Portland	CT	06480
POB	Safety-Kleen Systems, Inc.	Portland, CT (ALR)	CTD001446962	56 Brownstone Avenue		Portland	CT	06480
BOY	Safety-Kleen Systems, Inc.	Boynton Beach, FL (Palm Beach)	FLD984167791	5610 Alpha Drive		Boynton Beach	FL	33426
MFL	Safety-Kleen Systems, Inc.	Medley, FL (Miami)	FLD984171694	8755 NW 95th Street		Miami	FL	33178
OCA	Safety-Kleen Systems, Inc.	Ocala, FL (Atlantic)	FLR000060301	359 Cypress Road		Ocala	FL	34472
OPF	Safety-Kleen Systems, Inc.	Orange Park, FL (Jacksonville)	FLD980847214	161 Industrial Loop South		Orange Park	FL	32073
POM	Safety-Kleen Systems, Inc.	Pompano Beach, FL	FLD984247882	1400 North West 13th Avenue		Pompano Beach	FL	33069
SAN	Safety-Kleen Systems, Inc.	Sanford, FL (Orlando)	FLD984171165	600 Central Park Drive		Sanford	FL	32771
TAL	Safety-Kleen Systems, Inc.	Tallahassee, FL	FLD982133159	4426 Entrepot Boulevard		Tallahassee	FL	32310
TAM	Safety-Kleen Systems, Inc.	Tampa, FL	FLD980847271	5309 24th Avenue South		Tampa	FL	33619
GAR	Safety-Kleen Systems, Inc.	Garden City, GA (Savannah)	GAD000776781	5217 Augusta Road, Highway 21		Garden City	GA	31408
MNG	Safety-Kleen Systems, Inc.	Macon, GA	GAD980709257	6580 Hawkinsville Road		Macon	GA	31216
MOR	Safety-Kleen Systems, Inc.	Morrow, GA (S. Atlanta)	GAD981265424	7027 Commercial Drive		Morrow	GA	30260
NGA	Safety-Kleen Systems, Inc.	Norcross, GA (N. Atlanta)	GAD980842777	4800 S. Old Peachtree Road		Norcross	GA	30071
WHG	Safety-Kleen Systems, Inc.	Whigham, GA	GAR000022517	244 PR Anders Lane		Whigham	GA	39897
DAV	Safety-Kleen Systems, Inc.	Davenport, IA	IAD098027592	3035 West 73rd Street		Davenport	IA	52806
DES	Safety-Kleen Systems, Inc.	Des Moines, IA	IAD981718000	4704 NE 22nd Street		Des Moines	IA	50313
UDM	RS Used Oil Services, Inc.	DES MOINES NE - FAC	IAR000509885	4784 NE 22nd St.		Des Moines	IA	50313
BOI	Safety-Kleen Systems, Inc.	Boise, ID	IDD981770498	6334 Supply Way		Boise	ID	83716
TTF	Thermo Fluids, Inc.	TFI - Twin Falls, ID	IDR000201426	1017 South 1150 East		Eden	ID	83325
TBI	Thermo Fluids, Inc.	TFI - Boise, ID	ID0000084970	2801 Brandt Avenue		Nampa	ID	83687
TNI	Thermo Fluids, Inc.	TFI - Boise, ID	IDD984667071	2518 Brandt Avenue		Nampa	ID	83687
EID	Emerald Services, Inc	EMR Pocatello - FAC	IDR000203679	2055 Garrett Way		Pocatello	ID	83201
CHU	Safety-Kleen Systems, Inc.	Chubbuck, ID	IDR000204701	5795 Industry Way	Units A-1/A-2	Pocatello	ID	83202
UAL	RS Used Oil Services, Inc.	UL ALTON IL - FAC	NONEREQUIRED	#5 Cut Street		Alton	IL	62002
OFB	Oil Filter Recyclers	OFR Facility	ILR000005900	3330 E. Woodland Road		Browning	IL	62624
CAS	Safety-Kleen Systems, Inc.	Caseyville, IL (St. Louis)	ILD981097819	20 Tucker Drive		Caseyville	IL	62232
DOB	Safety-Kleen Systems, Inc.	Dolton, IL	ILD980613913	615 E. 138th Street		Dolton	IL	60419
DOR	Safety-Kleen Systems, Inc.	Dolton, IL - RC	ILD980613913	633 East 138th Street		Dolton	IL	60419
DOP	Safety-Kleen Systems, Inc.	Dolton Packaging FAC	PENDING	633 East 138th Street		Dolton	IL	60419
DOO	Safety-Kleen Systems, Inc.	DC Dolton Oil	ILD980613913	13925 Center Avenue		Dolton	IL	60419
DOD	Safety-Kleen Systems, Inc.	Dolton, IL - DC	ILD980613913	13925 Center Avenue (Whse bldg @ 468 Catalpa Lane)		Dolton	IL	60419
EPI	Safety-Kleen Systems, Inc.	WC E Peoria-Champaign	ILR000058933	1990 E Washington - B		East Peoria	IL	61611
ESL	Safety-Kleen Systems, Inc.	East St. Louis, IL	ILD092358548	3000 Missouri Avenue - Rear		East Saint Louis	IL	62205
ELG	Safety-Kleen Systems, Inc.	Elgin, IL	ILD000805911	1500 East Villa Street		Elgin	IL	60120
GOO	Safety-Kleen Systems, Inc.	Goodfield, IL	ILR000157065	170 East Martin Drive		Goodfield	IL	61742
URI	RS Used Oil Services, Inc.	ROXANA IL - FAC	ILR000144931	4559 Wagon Wheel Road		Roxana	IL	62084
URB	Safety-Kleen Systems, Inc.	Urbana, IL (Champaign)	ILD981088388	500 West Anthony Drive		Urbana	IL	61802
SMY	Safety-Kleen Systems, Inc.	Virtual terminal - Smyrna	GAD984317875	601 Riley Road		East Chicago	IN	46312
EAS	Safety-Kleen Systems, Inc.	East Chicago, IN	IND077042034	601 Riley Road		East Chicago	IN	46312
EVA	Safety-Kleen Systems, Inc.	Evansville, IN	IND000815894	4417 N. Saint Joseph Avenue		Evansville	IN	47720
FWI	Safety-Kleen Systems, Inc.	Fort Wayne, IN	IND000715466	2112 Production Road		Fort Wayne	IN	46808
GRE	Safety-Kleen Systems, Inc.	Greenwood, IN (Indianapolis)	IND984874776	475 Park 800 Industrial Drive		Greenwood	IN	46143
SBI	Safety-Kleen Systems, Inc.	South Bend, IN	IND000715474	2217 Western Avenue		South Bend	IN	46619
DKS	Safety-Kleen Systems, Inc.	Dodge City, KS	KSD980686844	600 East Trail		Dodge City	KS	67801
DDG	Safety-Kleen Systems, Inc.	Dodge City, KS	KSR145864678	11554 South Highway 283		Dodge City	KS	67801
UHK	RS Used Oil Services, Inc.	HAYES KS - FAC	NONEREQUIRED	3010 East 8th St		Hays	KS	67601

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
UKC	RS Used Oil Services, Inc.	UL KANSAS CITY KS - FAC	KSR000507954	601 S. 66th Terrace		Kansas City	KS	66111
ULK	RS Used Oil Services, Inc.	LEAVENWORTH KS - FAC	KSR000504878	1535 S. 2nd Street, Tank #4(B)		Leavenworth	KS	66048
OLK	Safety-Kleen Systems, Inc.	Olathe, KS Rail Spur	KS0000462598	215 W. Dennis		Olathe	KS	66061
TAK	Thermo Fluids, Inc.	TFI - Salina, KS	KSR000509315	337 North College		Salina	KS	67401
WIO	Safety-Kleen Systems, Inc.	Wichita, KS	KSD000690081	400 E. 53rd Street North		Wichita	KS	67219
WIB	Safety-Kleen Systems, Inc.	Wichita, KS	KSD000809723	4801 West Irving Street & 1311 S. Anna		Wichita	KS	67209
UWK	RS Used Oil Services, Inc.	WICHITA KS - FAC	KSR431716695	2808 N Ohio St		Wichita	KS	67219
LEK	Safety-Kleen Systems, Inc.	Lexington, KY	KYD981027469	550 Bluesky Parkway		Lexington	KY	40509
LOU	Safety-Kleen Systems, Inc.	Louisville, KY	KYD985072610	261 Eiler Avenue		Louisville	KY	40214
SMR	Safety-Kleen Systems, Inc.	Smithfield, KY - RC	KYD053348108	3700 LaGrange Road		Smithfield	KY	40068
BRG	Safety-Kleen Systems, Inc.	Baton Rouge	LAR000084608	13351 Scenic Highway		Baton Rouge	LA	70807
KEN	Safety-Kleen Systems, Inc.	Kenner, LA (New Orleans)	LAD985171024	2423 Tyler Street		Kenner	LA	70062
MPO	Safety-Kleen Systems, Inc.	Metairie Pkg Fac, Metairie, LA	LAD008176364	3000 Airline Drive		Metairie	LA	70001
PIN	Safety-Kleen Systems, Inc.	Pineville, LA (Alexandria)	LAD981057441	518 Ryder Drive		Pineville	LA	71360
RPO	Safety-Kleen Systems, Inc.	St. Rose, LA Pkg & Blending Op	PENDING	10352 River Road		Saint Rose	LA	70087
SHR	Safety-Kleen Systems, Inc.	Shreveport, LA	LAR000068239	7425 Trammel Drive		Shreveport	LA	71108
BRN	Safety-Kleen US	Braintree, MA DC	PENDING	1 Hill Avenue		Braintree	MA	02184
MRB	Safety-Kleen Systems, Inc.	Marlborough, MA	MAD088978143	50 A Brigham Street		Marlborough	MA	01752
SMA	Safety-Kleen Systems, Inc.	Salisbury, MA	MAD060095569	90 Rabbit Road		Salisbury	MA	01952
WBM	Safety-Kleen Systems, Inc.	West Brookfield, MA	MAD096287354	224 E. Main Street		West Brookfield	MA	01585
BAL	Safety-Kleen Systems, Inc.	Baltimore, MD	MDD981034291	1448 DeSoto Road		Baltimore	MD	21230
POT	SK Environmental Services	SK Williams Terminal	PENDING	17 Main Street		South Portland	ME	04106
GRM	Safety-Kleen Systems, Inc.	Grand Rapids, MI	MID981000615	2700 Mullins NW		Grand Rapids	MI	49534
MMB	Safety-Kleen Systems, Inc.	Mason, MI (Lansing)	MID981000359	700 Zimmerman Drive		Mason	MI	48854
MMA	Safety-Kleen Systems, Inc.	Mason, MI (Lansing) - AC	MID981000359	700 Zimmerman Drive		Mason	MI	48854
ROM	Safety-Kleen Systems, Inc.	Romulus, MI (Detroit)	MID985663251	10480 Harrison Road		Romulus	MI	48174
SAG	Safety-Kleen Systems, Inc.	Saginaw, MI	MID981000607	3899 Wolf Road		Saginaw	MI	48601
BLA	Safety-Kleen Systems, Inc.	Blaine, MN (St. Paul)	MND981953045	9261 Isanti Street NE		Blaine	MN	55449
CLO	Safety-Kleen Systems, Inc.	Cloquet, MN (Duluth)	MND000686170	1302 18th Street		Cloquet	MN	55720
EAA	Safety-Kleen Systems, Inc.	Eagan, MN - AC	MND981097884	3227 Terminal Drive		Eagan	MN	55121
EAB	Safety-Kleen Systems, Inc.	Eagan, MN (Minneapolis)	MND981097884	3227 Terminal Drive		Eagan	MN	55121
CAP	Safety-Kleen Systems, Inc.	Cape Girardeau, MO (SE MO)	MOD000669051	201 LaSalle Street		Cape Girardeau	MO	63701
UCM	RS Used Oil Services, Inc.	UL CARTHAGE MO - FAC	MOR000518621	2182 N. Garrison		Carthage	MO	64836
COL	Safety-Kleen Systems, Inc.	Columbia, MO	MOD980971626	2400 Big Bear Boulevard		Columbia	MO	65202
IND	Safety-Kleen Systems, Inc.	Independence, MO (Kansas City)	MOD980973564	901 South Yuma Avenue		Independence	MO	64056
UJM	RS Used Oil Services, Inc.	JACKSON MO - FAC	MOR000521039	1439 Dogwood Avenue		Jackson	MO	63755
SCM	Safety-Kleen Systems, Inc.	St. Charles, MO (St. Louis)	MOD095486312	4526 Towne Court		Saint Charles	MO	63304
SMO	Safety-Kleen Systems, Inc.	Springfield, MO	MOD000669069	734 Northwest Bypass 66		Springfield	MO	65802
JAR	Safety-Kleen Systems, Inc.	Jackson, MS (Atlantic) - RC	MSD985969690	990 Commerce Street		Jackson	MS	39201
JAB	Safety-Kleen Systems, Inc.	Jackson, MS	MSD000776765	120 Richardson Drive		Jackson	MS	39209
UMS	RS Used Oil Services, Inc.	OLIVE BRANCH MS - FAC	MSR000102087	8281 B. Frontage Road		Olive Branch	MS	38654
EBM	Emerald Services, Inc	EMR Billings MT - FAC	MTR000003574	1560 Coulson Road		Billings	MT	59101
EGM	Emerald Services, Inc	EMR Great Falls MT - FAC	MTD982590739	172 N Manchester Road		Great Falls	MT	59404
ELF	Emerald Services, Inc	EMR - Great Falls MT -Landfarm	MTD982590739	geo code 02-3137-10-1-01-01-0000		Great Falls	MT	59404
EHM	Emerald Services, Inc	EMR Helena MT - FAC	MTR000005454	2222 Boulder Avenue		Helena	MT	59604
EMA	Emerald Services, Inc	EMR Missoula MT - FAC	MTD982590440	900 Phillips Street		Missoula	MT	59802
BIS	Safety-Kleen Systems, Inc.	Bismarck, ND (Fargo)	NDD980957070	3704 Saratoga Avenue		Bismarck	ND	58503
FGO	Safety-Kleen Systems, Inc.	Fargo, ND Rail Site	NDR000001560	350 36th Street South		Fargo	ND	58103
FAR	Safety-Kleen Systems, Inc.	Fargo, ND	NDD000716738	1537 1st Avenue, South		Fargo	ND	58103
GIN	Safety-Kleen Systems, Inc.	Grand Island, NE	NED053316535	2700 West 2nd Street		Grand Island	NE	68803

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
OMA	Safety-Kleen Systems, Inc.	Omaha, NE	NED981495724	13915 A Plaza		Omaha	NE	68144
UHA	RS Used Oil Services, Inc.	OMAHA NE - FAC	NER000507269	14809 Custer Red		Omaha	NE	68138
NEW	Safety-Kleen Systems, Inc.	Newington, NH	NHD510196637	398 Shattuck Way		Portsmouth	NH	03801
BNJ	Safety-Kleen Systems, Inc.	DC Burlington	NJD986604510	109 Connecticut Drive		Burlington	NJ	08016
LIO	Safety-Kleen Systems, Inc.	Linden, NJ - OT	NJD002182897	1200 Sylvan Street		Linden	NJ	07036
SPY	Safety-Kleen Systems, Inc.	Linden, NJ (Fac/branch)	NJD002182897	1200 Sylvan Street		Linden	NJ	07036
LIN	Safety-Kleen Systems, Inc.	Linden, NJ - RC	NJD002182897	1200 Sylvan Street		Linden	NJ	07036
SPN	Safety-Kleen Systems, Inc.	South Plainfield, NJ FAC	NJD982270506	116 Skyline Drive		South Plainfield	NJ	07080
VIN	Safety-Kleen Systems, Inc.	Vincentown, NJ (Southampton)	NJD000768101	123 Red Lion Road		Vincentown	NJ	08088
TAN	Thermo Fluids, Inc.	TFI - Albuquerque, N	NMD986674141	9010 Bates Road SE		Albuquerque	NM	87105
ALB	Safety-Kleen Systems, Inc.	Albuquerque, NM	NMD000804294	2720 Girard Boulevard NE		Albuquerque	NM	87107
FNM	Safety-Kleen Systems, Inc.	Farmington, NM	NMD980698849	4210 A Hawkins Road		Farmington	NM	87401
DBF	Safety-Kleen Canada, Inc.	Debert NS	FCCANADA	640 McElmon Road		Debert	NS	B0M 1G0
STL	Safety-Kleen Canada, Inc.	Stellarton Rail Spur	FCCANADA	121 King Street		Stellarton	NS	B0K 1S0
TBN	Thermo Fluids, Inc.	TFI - Beowawe, NV	NVR000079699	1 Mile East of State Rte 306		Crescent Valley	NV	89821
FAL	Safety-Kleen Systems Inc.	Fallon Re-refinery	NVR000080655	22211 Bango Road		Fallon	NV	89406
FAD	Safety-Kleen Systems Inc.	Refinery Economics - Nevada	PENDING	22221 Bango Road		Fallon	NV	89406
FAC	Safety-Kleen Systems Inc.	Fallon Used Oil Supply Chain	PENDING	22221 Bango Road		Fallon	NV	89406
LVN	Safety-Kleen Systems, Inc.	North Las Vegas, NV	NVR000066837	4582 Donovan Way		North Las Vegas	NV	89081
TLN	Thermo Fluids, Inc.	TFI - Las Vegas AF	NVR000001925	4000 & 4020 Arcata Way		North Las Vegas	NV	89030
TVO	Thermo Fluids, Inc.	TFI - Las Vegas Oil	NVR000001032	9 West Delhi		North Las Vegas	NV	89030
SNV	Safety-Kleen Systems, Inc.	Sparks Branch	NVD986766137	1200 Marietta Way		Sparks	NV	89431
SPA	Safety-Kleen Systems, Inc.	Sparks, NV (Reno)	NVR000081299	1355 Greg Street	Suite 106	Sparks	NV	89431
TRN	Thermo Fluids, Inc.	TFI - Reno, NV	NVD982510711	655 S Stanford Way		Sparks	NV	89431
ANY	Safety-Kleen Systems, Inc.	North Amityville, NY	NYD000708198	80 Seabro Avenue		Amityville	NY	11701
AVO	Safety-Kleen Systems, Inc.	Avon, NY (Rochester)	NYD980753784	1525 W. Henrietta Road		Avon	NY	14414
BUF	Safety-Kleen Systems, Inc.	Buffalo, NY	NYD980593842	60 Katherine Street		Buffalo	NY	14210
COH	Safety-Kleen Systems, Inc.	Cohoes, NY (Albany/Colonie)	NYD986872869	17 Green Mountain Drive		Cohoes	NY	12047
LAC	Safety-Kleen Systems, Inc.	Lackawanna, NY (Buffalo)	NYD981556541	41 N. Gates Avenue		Lackawanna	NY	14218
SYR	Safety-Kleen Systems, Inc.	Syracuse, NY (Dewitt/Mattydale)	NYD982743312	6741 VIP Parkway		Syracuse	NY	13211
WNN	Safety-Kleen Systems, Inc.	West Nyack, NY (New York)	NY0000962076	50 Snake Hill Road		West Nyack	NY	10994
BRU	Safety-Kleen Systems, Inc.	Brunswick, OH (Cleveland)	OHD000720987	1169 Industrial Parkway North		Brunswick	OH	44212
FAI	Safety-Kleen Systems, Inc.	Fairfield, OH (Fairfield)	OHR000165753	4120 Thunderbird Lane		Fairfield	OH	45014
GRO	Safety-Kleen Systems, Inc.	Groveport, OH (Columbus)	OHD981000664	4465 Marketing Place		Groveport	OH	43125
KOH	Safety-Kleen Systems, Inc.	Kent, OH (Akron)	OHD981099401	354 Portage Boulevard		Kent	OH	44240
AKR	Safety-Kleen Systems, Inc.	Akron, OH (Kent) - AC	OHD981099401	354 Portage Boulevard		Kent	OH	44240
TOL	Safety-Kleen Systems, Inc.	Toledo, OH	OHD981097876	5148 Tractor Road		Toledo	OH	43612
TOO	Thermo Fluids, Inc.	TFI - OK City, OK	OKR000008250	14440 W 122nd Street		Calumet	OK	73014
POR	Safety-Kleen Systems, Inc.	Port of Catoosa, OK	OKD982558207	5550 E. Channel Road		Catoosa	OK	74015
DST	Safety-Kleen Systems, Inc.	Dolton Solvent Tulsa	PENDING1014	5550 E Channel Road		Catoosa	OK	74015
OOK	Safety-Kleen Systems, Inc.	OK City, OK branch tank farm	OKD987086774	8800 NW 8th Street		Oklahoma City	OK	73128
OKL	Safety-Kleen Systems, Inc.	Oklahoma City, OK (Wheatland)	OKD980878474	7528 New Castle Road		Oklahoma City	OK	73169
UOO	RS Used Oil Services, Inc.	OKLAHOMA CITY OK - FAC	OKR000023614	400 S Markwell		Oklahoma City	OK	73128
TUL	Safety-Kleen Systems, Inc.	Tulsa, OK	OKD000763821	16319 E. Marshall Street		Tulsa	OK	74116
UBT	Safety-Kleen Canada, Inc	UMO Hub Brampton, ONT FAC	FCCANADA	25 Regan Road		Brampton	ON	L7A 1B2
BRA	Safety-Kleen Canada, Inc.	Brampton, ON - AC	FCCANADA	25 Regan Road		Brampton	ON	L7A 1B2
BRB	Safety-Kleen Canada, Inc.	Brampton, ON	FCCANADA	25 Regan Road		Brampton	ON	L7A 1B2
BPO	Vulsay Industries, LTD	Vulsay Pkg Fac, Brampton, ON	FCCANADA	35 Regan Road		Brampton	ON	L7A 1B2
ANC	Safety-Kleen Canada, Inc.	Brantford	FCCANADA	60 Bury Court		Brantford	ON	n3s 0a9
UNT	Safety-Kleen Canada, Inc	UMO Hub Brantford, ONT FAC	FCCANADA	60 Bury Court		Brantford	ON	N3S 0A9
BRE	Safety-Kleen Canada, Inc.	Breslau, ON	A140704	300 Woolwich Street South		Breslau	ON	N0B 1M0
TON	Safety-Kleen Canada, Inc.	Trenton, ON branch tank farm	FCCANADA	22222 Loyalist Parkway Carrying Place		Carrying Place	ON	K0K 1L0

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
CON	Safety-Kleen Canada, Inc.	Chelmsford, ON (Sudbury)	FCCANADA	4633 Regional Road 15		Chelmsford	ON	POM 1L0
LSG	Safety-Kleen Canada, Inc	Linden Solvent Guelph	FCCANADA	256 Victoria Rd South	PO Box 450	Guelph	ON	N1E 5R1
LON	Safety-Kleen Canada, Inc.	London, ON	ON0154006	1040 Hargrieve Road		London	ON	N6E 1P5
ULO	Safety-Kleen Canada, Inc	UMO Hub London, ONT FAC	FCCANADA	1040 Hargrieve Road		London	ON	N6E 1P5
NEP	Safety-Kleen Canada, Inc.	Nepean, ON	FCCANADA	89 Bentley Avenue		Nepean	ON	K2E 6T7
OSH	Safety-Kleen Canada, Inc.	Oshawa, ON	FCCANADA	1220 Skae Drive		Oshawa	ON	L1J 7A1
UOW	Safety-Kleen Canada, Inc	UMO Hub Oshawa, ONT FAC	FCCANADA	1220 Skae Drive		Oshawa	ON	L1J 7A1
WON	Safety-Kleen Canada, Inc.	WC Windsor-London	FCCANADA	200 Grand Marais Road		Windsor	ON	N9A 2M1
CLB	Safety-Kleen Systems, Inc.	Clackamas, OR (Portland)	ORD981766124	16540 SE 130th Street		Clackamas	OR	97015
CLA	Safety-Kleen Systems, Inc.	Clackamas, OR - AC	ORD981766124	16540 SE 130th Street	Building B	Clackamas	OR	97015
TPO	Thermo Fluids, Inc.	TFI - Portland, OR	ORQ000025197	12533 SE Carpenter Drive		Clackamas	OR	97015
EGO	Safety-Kleen Systems, Inc.	Eugene Branch	ORQ000034965	2730 Roosevelt Boulevard	Building S	Eugene	OR	97402
TEO	Thermo Fluids, Inc.	TFI - Eugene, OR	ORR000000844	90520 Coburg Road		Eugene	OR	97408
MED	Safety-Kleen Systems, Inc.	Medford, OR (SW Oregon)	OR0000940718	4013 Crater Lake Highway		Medford	OR	97504
TBO	Thermo Fluids, Inc.	TFI - Bend, OR	ORQ000005389	327 SE Evergreen		Redmond	OR	97756
SOR	Safety-Kleen Systems, Inc.	Springfield, OR (Eugene)	ORD000712067	550 Shelley Street		Springfield	OR	97477
TMO	Thermo Fluids, Inc.	TFI - Medford, OR	ORQ000007781	535 Industrial Circle		White City	OR	97503
ERI	Safety-Kleen Systems, Inc.	Erie, PA	PAD086673407	1606 Pittsburgh Avenue		Erie	PA	16505
FHP	Safety-Kleen Systems, Inc.	Fairless Hills, PA (Tullytown)	PAD987266715	77 Towpath Road		Fairless Hills	PA	19030
JOH	Safety-Kleen Systems, Inc.	Johnstown, PA	PAD981736143	150 Allenbill Drive		Johnstown	PA	15904
NKP	Safety-Kleen Systems, Inc.	New Kingstown, PA (Harrisburg)	PAD000738823	10 Eleanor Drive	PO Box 279	New Kingstown	PA	17072
WCP	Safety-Kleen Systems, Inc.	West Chester, PA (Malvern)	PAD000738849	1138 40 Green Hill Road		West Chester	PA	19380
WMP	Safety-Kleen Systems, Inc.	West Mifflin, PA (Pittsburgh)	PAD982576258	650 Noble Drive		West Mifflin	PA	15122
WBP	Safety-Kleen Systems, Inc.	Wilkes-Barre, PA (Scranton)	PAD981737109	600 Stewart Road		Wilkes Barre	PA	18706
PRA	SK Envirosystems Co of PR, Inc.	Manati PR	PENDING	closed facility		Manati	PR	00674
PRB	Safety-Kleen Envirosystems Co of Puerto Rico, Inc	Manati, PR	PRD090399718	KM 51.0, Highway 2	PO Box 31098	Manati	PR	00674
PRM	Safety-Kleen Env Puerto Rico	Manati, PR Facility	PENDING	KM 51.0, State Road 2	PO BOX 31098	Manati	PR	00674
CBR	Safety-Kleen Canada, Inc.	Chambly, QC -RC	FCCANADA	2730 Industrial Boulevard		Chambly	QC	J3L 4V2
CBB	Safety-Kleen Canada, Inc.	Chambly, QC	FCCANADA	2730 Industrial Boulevard		Chambly	QC	J3L 4V2
STA	Safety-Kleen Canada, Inc.	St. Augustin, QC	FCCANADA	85 de Hambourg		Saint-Augustin-de-Desmaures	QC	G3A 1S6
CRR	Safety-Kleen Systems, Inc.	Cranston, RI - RC	RID084802842	167 Mill Street		Cranston	RI	02905
CRB	Safety-Kleen Systems, Inc.	Sk Cranston, RI	RID084802842	167 Mill Street		Cranston	RI	02905
GSC	Safety-Kleen Systems, Inc.	Greer, SC (Greenville)	SCD981031040	2818 Old Woodruff Road		Greer	SC	29651
LEB	Safety-Kleen Systems, Inc.	Lexington, SC (Columbia)	SCD077995488	164 Frontage Road		Lexington	SC	29073
LER	Safety-Kleen Systems, Inc.	Lexington, SC - RC	SCD077995488	130-A Frontage Road		Lexington	SC	29073
LED	Safety-Kleen Systems, Inc.	Lexington, SC - DC	SCD077995488	128 Frontage Road		Lexington	SC	29073
CSC	Safety-Kleen Systems, Inc.	North Charleston, SC	SCD987595303	7230 Peppermill Parkway		North Charleston	SC	29418
SIO	Safety-Kleen Systems, Inc.	Sioux Falls, SD	SDD000716696	2000 North Westport Avenue		Sioux Falls	SD	57107
CTN	Safety-Kleen Systems, Inc.	Chattanooga, TN	TND982086274	4130 South Creek Road		Chattanooga	TN	37406
KNO	Safety-Kleen Systems, Inc.	Knoxville, TN	TND98777695	6617 Pleasant Ridge Road		Knoxville	TN	37921
MIL	Safety-Kleen Systems, Inc.	Millington, TN	TND000614321	3536 Fite Road		Millington	TN	38053
NAS	Safety-Kleen Systems, Inc.	Nashville, TN	TND981474125	215 Whitsett Road		Nashville	TN	37210
PLT	Safety-Kleen Systems, Inc.	Piney Flats, TN (N. East TN)	TN0000317289	317 Industrial Park Drive		Piney Flats	TN	37686
ABI	Safety-Kleen Systems, Inc.	Abilene, TX	TXD062287883	4234 Oil Belt Lane		Abilene	TX	79605
TAT	Thermo Fluids, Inc.	TFI - Abilene, TX	TXR000041301	1546 CR 314		Abilene	TX	79604
TFA	Thermo Fluids, Inc.	TFI - Amarillo, TX	TXR000023960	2740 West 45th Street		Amarillo	TX	79110
AMA	Safety-Kleen Systems, Inc.	Amarillo, TX	TXR000031799	1750 West Loop 335 South		Amarillo	TX	79118
TLT	Thermo Fluids, Inc.	TFI - Lubbock, TX	TXD982756868	2302 Lubbock Road		Brownfield	TX	79316
COR	Safety-Kleen Systems, Inc.	Corpus Christi, TX	TXD000747402	3820 Bratton Road		Corpus Christi	TX	78413
TFT	Thermo Fluids, Inc.	TFI - Fort Worth, TX	TXR000028837	9900 North Crowley Road	PO Box 723	Crowley	TX	76036
DSD	Safety-Kleen Systems Inc.	Dolton Solvent Denton	TXD077603371	1722 Cooper Creek Road		Denton	TX	76208
DNR	Safety-Kleen Systems, Inc.	Denton, TX - RC	TXD077603371	1722 Cooper Creek Road		Denton	TX	76208

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
DND	Safety-Kleen Systems, Inc.	Denton, TX - DC	TXR000053959	2269 North Masch Ranch Road		Denton	TX	76207
DNO	Safety-Kleen Systems, Inc.	DC Denton Oil	PENDING	2269 North Masch Ranch Road	Building 3	Denton	TX	76207
TET	Thermo Fluids, Inc.	TFI - El Paso, TX	TXR000043679	140 S Prado Road		El Paso	TX	79907
ELP	Safety-Kleen Systems, Inc.	El Paso, TX	TXR000077693	4050 Flager Road		El Paso	TX	79938
FWO	Safety-Kleen Systems, Inc.	Fort Worth, TX (Saginaw)	TXR000001933	10233 Hicks Field Road		Fort Worth	TX	76179
FWB	Safety-Kleen Systems, Inc.	Fort Worth, TX	TXD981053416	6529 Midway Road		Haltom City	TX	76117
THO	Thermo Fluids, Inc.	TFI - Houston, TX	TXR000080467	2005 McCarty Drive		Houston	TX	77029
HOU	Safety-Kleen Systems, Inc.	Houston, TX (Atlantic)	TXR000059303	11953 FM 529		Houston	TX	77041
IRV	Safety-Kleen Systems, Inc.	Irving, TX - (Dallas)	TXD981052061	2130 E. Grauwlyer Road		Irving	TX	75061
DSG	Safety-Kleen Systems, Inc.	Dolton Solvent LaPorte (Gulf)	PENDING1014	500 Independence Parkway South		La Porte	TX	77571
LRE	Safety-Kleen Systems, Inc.	Laredo	TXR000082136	186 Ranch Road 6086D		Laredo	TX	78046
LTX	Safety-Kleen Systems, Inc.	Longview, TX (East Texas)	TXD000747378	202 Michael Place		Longview	TX	75603
MCT	Safety-Kleen Systems, Inc.	McAllen, TX	TXD083145656	1311 East Tamarack Avenue		McAllen	TX	78501
MID	Safety-Kleen Systems, Inc.	Midland, TX	TXD981056690	10607 West County Road 127		Midland	TX	79711
MIS	Safety-Kleen Systems, Inc.	Missouri City, TX	TXD010803203	1580 Industrial Drive		Missouri City	TX	77489
TOD	Thermo Fluids, Inc.	TFI - Odessa, TX	TXR000041293	1501 Walther Road		Odessa	TX	79763
ORT	Safety-Kleen Systems, Inc.	Orange, TX (Beaumont)	TXD0061290276	3454 Womack Road		Orange	TX	77632
REE	Safety-Kleen Systems, Inc.	REEDLEY-RC-OPS	PENDING	2600 North Central Expressway		Richardson	TX	75080
SAO	Safety-Kleen Systems, Inc.	San Antonio, TX (Atlantic)	TXD988066668	434 A Riverside Drive		San Antonio	TX	78210
SAB	Safety-Kleen Systems, Inc.	San Antonio, TX	TXD000729400	5243 Sinclair Road		San Antonio	TX	78222
TSA	Thermo Fluids, Inc.	TFI - San Antonio, T	TXR000081458	1435 Sherman Street		San Antonio	TX	78202
WAC	Safety-Kleen Systems, Inc.	Waco, TX	TXD980876015	22006 Woodway Drive		Waco	TX	76712
TST	Thermo Fluids, Inc.	TFI - Shreveport, TX	TXR000021006	9814 Highway 59 N		Woodlawn	TX	75694
SLC	Safety-Kleen Systems, Inc.	Salt Lake City, UT	UTD980957088	1066 South Pioneer Road		Salt Lake City	UT	84104
SLR	Safety Kleen, Inc.	SK SLC Rail Spur	UTR000006502	300 South 2650 West		Salt Lake City	UT	84104
TFU	Thermo Fluids, Inc.	TFI - SLC, UT	UTR000008458	3545 West 500 South		Salt Lake City	UT	84104
ESU	Emerald Services, Inc	EMR SLC UT - FAC	UTR000008201	2450 South 800 West		Salt Lake City	UT	84119
DSC	Safety-Kleen Systems, Inc.	Clive Facility	UTD982595795	3.5 miles South of Mile Post 49 on I-80		Wendover	UT	84083
CPK	Safety-Kleen Systems, Inc.	Chesapeake, VA (Norfolk)	VAD000737346	4545 Bainbridge Boulevard		Chesapeake	VA	23320
CVA	Safety-Kleen Systems, Inc.	Chester, VA (Richmond)	VAD981043011	1200 W. 100 Road		Chester	VA	23836
MAN	Safety-Kleen Systems, Inc.	Manassas, VA	VAR000001255	11520 Balls Ford Road		Manassas	VA	20109
ROA	Safety-Kleen Systems, Inc.	Roanoke, VA (Vinton)	VAD000737361	16090 Stewartsville Road		Vinton	VA	24179
BVT	Safety-Kleen Systems, Inc.	Barre, VT (Montpelier)	VTD000791699	23 West Second Street		Barre	VT	05641
AUB	Safety-Kleen Systems, Inc.	Auburn, WA (Seattle)	WAD061665766	3102 B Street NW		Auburn	WA	98001
ECG	Emerald Services, Inc	EMR Everett WA - FAC	WAH000028919	3620 36th Place		Everett	WA	98201
TMV	Thermo Fluids, Inc.	TFI - Mt Vernon, WA	WAH000047407	15195 State Route 536		Mount Vernon	WA	98273
PAS	Safety-Kleen Systems, Inc.	Pasco, WA	WAH000042595	1202 SE Road 18 E		Pasco	WA	99301
EPW	Emerald Services, Inc	EMR Pasco WA - FAC	WAH000041824	1799 E Ainsworth		Pasco	WA	99301
EMW	Emerald Services, Inc	EMR - Seattle HQ	WAD058364647	7343 E Marginal Way South		Seattle	WA	98108
EBW	Emerald Services, Inc	EMR Brighton Seattle WA - FAC	WAD009492877	6851 E Marginal Way South		Seattle	WA	98108
ESW	Emerald Services, Inc	EMR - Airport Way Facility	WAD058367152	1500 Airport Way South		Seattle	WA	98134
TSV	Thermo Fluids, Inc.	TFI - Spokane, WA	WAH000046471	3808 North Sullivan Road		Spokane	WA	99216
SPO	Safety-Kleen Systems, Inc.	Spokane Valley, WA	WAH000025242	3808 North Sullivan Road	Building 12, Suite 1W	Spokane	WA	99216
ESK	Emerald Services, Inc	EMR Spokane WA - FAC	WAH000042987	6308 E Sharp Avenue		Spokane	WA	99212
TSR	Thermo Fluids, Inc.	TFI - Sumner, WA	WAH000029533	14221 29th Street E	#101	Sumner	WA	98390
TSW	Thermo Fluids, Inc.	TFI - Sumner, WA	WAD988475323	1517 Pease Avenue		Sumner	WA	98390
ETW	Emerald Services, Inc	EMR - Tacoma - RCRA Facility	WAD981769110	1825 Alexander Avenue		Tacoma	WA	98421
ETO	Emerald Services, Inc	EMR - Tacoma - Refinery	WAD981769110	1825 Alexander Avenue		Tacoma	WA	98421
ENU	Emerald Services, Inc	EMR - Tacoma TF - D Street	WAD000643262	250 East D Street		Tacoma	WA	98421
EPN	Emerald Services, Inc	EMR - Tacoma TF - Marine View	WAH000047370	1749 Marine View Drive		Tacoma	WA	98422
EVW	Emerald Services, Inc	EMR Vancouver WA - FAC	WAD068794387	1300 West 12th Street		Vancouver	WA	98660

WIN ID	Company Name	Division	EPA ID	Address 1	Address 2	City	State	Zip Code
KAU	Safety-Kleen Systems, Inc.	Kaukauna, WI	WID981187297	2100 Badger Road		Kaukauna	WI	54130
KIM	Safety-Kleen Systems, Inc.	Kimberly, WI	WID988579439	552 Carter Court		Kimberly	WI	54136
MWO	Safety-Kleen Systems, Inc.	Madison, WI	WID117520049	3715 Lexington Avenue		Madison	WI	53714
MWB	Safety-Kleen Systems, Inc.	Madison, WI	WID117520049	3715 Lexington Avenue		Madison	WI	53714
WAU	Safety-Kleen Systems, Inc.	Waukesha, WI (Milwaukee)	WID981097769	2200 South West Avenue		Waukesha	WI	53189
POC	Safety-Kleen Systems, Inc.	Poca, WV (Charleston/Nitro)	WVR000001446	111 Harris Drive		Poca	WV	25159
WHE	Safety-Kleen Systems, Inc.	Wheeling, WV	WVD981034101	10 Industrial Park Drive		Wheeling	WV	26003
CSR	Safety Kleen, Inc.	Casper - Mills WY FAC	WYR000217588	5231 Poison Spider Rd		Casper	WY	82604
CWY	Safety-Kleen Systems, Inc.	Casper, WY	WYR000200568	6628 Coal Road		Casper	WY	82601
TGW	Thermo Fluids, Inc.	TFI - Gillette, WY	WYR000203455	101 Enterprise Avenue		Gillette	WY	82717

Facility Permits - North Carolina Safety-Kleen Facilities

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
ARC	Archdale, NC	Safety-Kleen Systems, Inc. 6182 Old Mendenhall Road Archdale, NC 27263	Waste Receiver (TSD/Part B) Permit	NCDENR	NCD077840148R2	5/20/2013	5/19/2018
ARC	Archdale, NC	Safety-Kleen Systems, Inc. 6182 Old Mendenhall Road Archdale, NC 27263	NPDES Permit	NCDENR	NCG130027	6/1/2013	6/1/2018
CHB	Charlotte, NC	Safety-Kleen Systems, Inc. 2320 Yadkin Avenue Charlotte, NC 28205	Waste Receiver (TSD/Part B) Permit	NCDENR	NCD079060059R2	5/28/2013	5/27/2018
CHB	Charlotte, NC	Safety-Kleen Systems, Inc. 2320 Yadkin Avenue Charlotte, NC 28205	Air Quality Permit	Mecklenburg County North Carolina	10-221-854	9/2/2010	NA
CHB	Charlotte, NC	Safety-Kleen Systems, Inc. 2320 Yadkin Avenue Charlotte, NC 28205	NPDES Permit	NCDENR	NCG130000	6/1/2013	5/31/2018
CHO	Charlotte Oil	Safety-Kleen Systems, Inc. 12040 Goodrich Drive Charlotte, NC 28273	NPDES Permit	NCDENR	NCG130030	6/1/2013	5/31/2018
RAL	Raleigh, NC	Safety-Kleen Systems, Inc. 125 Sommerville Park Road Raleigh, NC 27603	Waste Receiver (TSD/Part B) Permit	NCDENR	NCD000776740R2	11/8/2013	11/7/2018
RAL	Raleigh, NC	Safety-Kleen Systems, Inc. 125 Sommerville Park Road Raleigh, NC 27603	Public Water Supply Permit	NCDENR-Public Water Supply	NC4392432	1/1/2016	12/31/2016
RAL	Raleigh, NC	Safety-Kleen Systems, Inc. 125 Sommerville Park Road Raleigh, NC 27603	NPDES Permit	NCDENR	NCG130000	6/1/2013	5/31/2018
STP	Saint Pauls, NC	Safety-Kleen Systems, Inc. 934 North Fifth Street Saint Pauls, NC 28384	USCG Over Water Mobile Transfer Approval	USCG	NA	8/28/2013	8/27/2018

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
STP	Saint Pauls, NC	Safety-Kleen Systems, Inc. 934 North Fifth Street Saint Pauls, NC 28384	NPDES Permit	NCDENR	NCG130000	6/1/2013	5/31/2018
STP	Saint Pauls, NC	Safety-Kleen Systems, Inc. 934 North Fifth Street Saint Pauls, NC 28384	Waste Receiver (TSD/Part B) Permit	NCDENR	NCD980846935R2	6/4/2013	6/3/2018

Facility Permits - Non North Carolina Safety-Kleen Facilities

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
CAL	Calgary, Alberta Canada	Safety-Kleen Canada, Inc. 3816 7th Street, SE Calgary, AB T2G 2Y8	Transfer Permit	Alberta Environment and Parks	10111-03-00	1/31/2026	1/31/2026
CAL	Calgary, Alberta Canada	Safety-Kleen Canada, Inc. 3816 7th Street, SE Calgary, AB T2G 2Y8	Waste Receiver (TSD/Part B) Permit	Alberta Environment and Parks		2/1/2016	1/31/2026
CAL	Calgary, Alberta Canada	Safety-Kleen Canada, Inc. 3816 7th Street, SE Calgary, AB T2G 2Y8	AST Permit	PTMAA		9/1/2015	
FMK	Ft. McKay BR	Safety-Kleen Canada, Inc. Lot 79, Caribou Energy Park Fort Mackay, AB T0P 1C0	AST Permit	Environment Canada	00034531	12/5/2014	
GNP	Grande Prairie	Safety-Kleen Canada, Inc. 14020 97th Street Grande Prairie, AB T8V 7B7	Transfer Permit	Alberta Environment and Parks	70990-01-00	2/28/2021	2/28/2021
GNP	Grande Prairie	Safety-Kleen Canada, Inc. 14020 97th Street Grande Prairie, AB T8V 7B7	Waste Receiver (TSD/Part B) Permit	Alberta Environment and Parks		3/23/2011	2/28/2021
NIS	Nisku Alberta Canada	Safety-Kleen Canada, Inc. 500 13th Avenue Nisku, AB T9E 7P6	AST Permit	PTMAA		9/1/2015	
NIS	Nisku Alberta Canada	Safety-Kleen Canada, Inc. 500 13th Avenue Nisku, AB T9E 7P6	Transfer Permit	Alberta Environment and Parks	140-03-00	10/30/2023	10/30/2023
LRO	Safety-Kleen Systems, Inc., Port of Little Rock, Little Rock, AR	Safety-Kleen Systems, Inc. 8401 Linsey Road Little Rock, AR 72206	NPDES Permit	Arkansas Department of Environmental Quality (ARDEQ)		7/1/2014	6/30/2019
LRO	Safety-Kleen Systems, Inc., Port of Little Rock, Little Rock, AR	Safety-Kleen Systems, Inc. 8401 Linsey Road Little Rock, AR 72206	Facility Response Plan (FRP)	USCG Sector Lower Mississippi River		6/4/2014	6/4/2019

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
CAZ	Chandler Branch, Chandler, AZ	Safety-Kleen Systems, Inc. 6625 West Frye Road Chandler, AZ 85226	Air Permit (Title V Permit)	Maricopa Co. Air Quality Dept.	000056	2/2/2016	3/31/2021
CAZ	Chandler Branch, Chandler, AZ	Safety-Kleen Systems, Inc. 6625 West Frye Road Chandler, AZ 85226	Transfer Permit				
CAZ	Chandler Branch, Chandler, AZ	Safety-Kleen Systems, Inc. 6625 West Frye Road Chandler, AZ 85226	Waste Receiver (TSD/Part B) Permit	AZ Dept of Env Quality	AZD981969504	3/20/2006	3/20/2016
CAZ	Chandler Branch, Chandler, AZ	Safety-Kleen Systems, Inc. 6625 West Frye Road Chandler, AZ 85226	Used Oil Permit	AZ Dept of Env Quality	AZD981969504	10/22/2014	12/31/8900
TPA	TFI- Phoenix Arizona	Thermo Fluids, Inc. 4301 West Jefferson Street Phoenix, AZ 85043	Air Permit (Title V Permit)	Maricopa County Air	000192		3/31/2021
TPA	TFI- Phoenix Arizona	Thermo Fluids, Inc. 4301 West Jefferson Street Phoenix, AZ 85043	NPDES Permit				
TPA	TFI- Phoenix Arizona	Thermo Fluids, Inc. 4301 West Jefferson Street Phoenix, AZ 85043	Facility Response Plan (FRP)				
TUC	Tucson Branch, Tucson AZ	Safety-Kleen Systems, Inc. 4161 E. Tennessee Tucson, AZ 85714	Used Oil Permit	AZ DEQ		11/4/2014	12/31/8900
TUC	Tucson Branch, Tucson AZ	Safety-Kleen Systems, Inc. 4161 E. Tennessee Tucson, AZ 85714	NPDES Permit				
TTA	TFI- Tucson, AZ	Thermo Fluids, Inc. 3401 East Pennsylvania Street Tucson, AZ 85714	Other Permits: Yes	AZ Department of Environmental Quality	320308	2/11/2015	12/31/8900
DTB	Delta BC Canada	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	Waste Receiver (TSD/Part B) Permit	BC Ministry of Environment			
DTB	Delta BC Canada	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	High Hazard Wastes Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
DTR	Delta RC RC	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	Transfer Permit	BC Ministry of Environment	RS15085		
DTB	Delta BC Canada	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	Transfer Permit	BC Ministry of Environment	RS15085		
DTR	Delta RC RC	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	Waste Receiver (TSD/Part B) Permit	BC Ministry of Environment			
DTR	Delta RC RC	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	High Hazard Wastes Permit				
DTR	Delta RC RC	Safety-Kleen Canada, Inc. 7803 Progress Way Delta, BC V4G 1A3	AST Permit	BC Ministry of Environment			
DUN	Duncan, BC BR	Safety-Kleen Canada, Inc. 3014 Boys Road Duncan, BC V9L 6W4	Transfer Permit	BC Ministry of Environment	RS-107417		
ECN	Evergreen - Carson	Safety-Kleen of California, Inc. 16604 South San Pedro Street Carson, CA 90746	Waste Receiver (TSD/Part B) Permit	DTSC	CAD981696420	8/5/2009	8/4/2019
EDS	Davis Tank Farm	Safety-Kleen of California, Inc. 44561 County Road 30B Davis, CA 95616	Used Oil Permit				
EDS	Davis Tank Farm	Safety-Kleen of California, Inc. 44561 County Road 30B Davis, CA 95616	Other Permits: Yes	Yolo County Environmental Health	CERSID: 10418158		
EDS	Davis Tank Farm	Safety-Kleen of California, Inc. 44561 County Road 30B Davis, CA 95616	Transfer Permit				
EDS	Davis Tank Farm	Safety-Kleen of California, Inc. 44561 County Road 30B Davis, CA 95616	Waste Receiver (TSD/Part B) Permit	CA Dept. of Toxic Substances Control	CAD982446874	11/6/2012	11/6/2022
FRE	Fresno, CA	Safety-Kleen Systems, Inc. 3561 S. Maple Avenue Fresno, CA 93725	NPDES Permit	State Water Resources Control Board (SWRCB)	GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)	7/1/2015	6/30/2020

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
FRE	Fresno, CA	Safety-Kleen Systems, Inc. 3561 S. Maple Avenue Fresno, CA 93725	UST Permit				4/21/2017
FRE	Fresno, CA	Safety-Kleen Systems, Inc. 3561 S. Maple Avenue Fresno, CA 93725	Waste Receiver (TSD/Part B) Permit	DTSC	CAD066113465	7/23/2007	7/23/2017
HIG	Highland Branch, Highland, CA	Safety-Kleen Systems, Inc. 7979 Palm Avenue Unit E Highland, CA 92346	NPDES Permit	SWRCB	GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)	7/1/2020	7/1/2020
HIG	Highland Branch, Highland, CA	Safety-Kleen Systems, Inc. 7979 Palm Avenue Unit E Highland, CA 92346	Waste Receiver (TSD/Part B) Permit	DTSC	CAT0000613927	6/23/2007	6/23/2017
HIG	Highland Branch, Highland, CA	Safety-Kleen Systems, Inc. 7979 Palm Avenue Unit E Highland, CA 92346	UST Permit	San Bernardino County CUPA	PT0011518 and PT0011519	10/31/2016	10/31/2017
LOS	Los Angeles Branch, Los Angeles, CA	Safety-Kleen Systems, Inc. 2918 Worthen Avenue Los Angeles, CA 90039	Waste Receiver (TSD/Part B) Permit	DTSC	CAT000613935	3/17/2009	3/17/2019
LOS	Los Angeles Branch, Los Angeles, CA	Safety-Kleen Systems, Inc. 2918 Worthen Avenue Los Angeles, CA 90039	UST Permit	Los Angeles City Fire Department		9/30/2016	9/30/2017
LOS	Los Angeles Branch, Los Angeles, CA	Safety-Kleen Systems, Inc. 2918 Worthen Avenue Los Angeles, CA 90039	NPDES Permit	SWRCB	GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)	7/1/2015	6/30/2020
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	Facility Response Plan (FRP)				
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	Other Permits: Yes				
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	Transfer Permit			6/30/2016	
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	Used Oil Permit				1/5/2015

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	Waste Receiver (TSD/Part B) Permit				1/5/2015
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	Radioactive Handling Permit				1/16/2024
EVG	Safety-Kleen, Newark, CA	Safety-Kleen of California, Inc. 6880 Smith Avenue Newark, CA 94560	AST Permit				7/31/2015
ROH	Rohnert Park Branch, RP, CA	Safety-Kleen Systems, Inc. 5750 Commerce Boulevard Rohnert Park, CA 94928	Other Permits: CUPA Permit	County of Sonoma Emergency Services		2/3/2016	2/3/2017
SCA	Sacramento AC	Safety-Kleen Systems, Inc. 6000 88th Street Sacramento, CA 95828	Transfer Permit	Department of Toxic Substances Control	CA0000084517	6/28/2006	6/28/2016
SCB	Sacramento Branch, Sacramento, CA	Safety-Kleen Systems, Inc. 6000 88th Street Sacramento, CA 95828	Waste Receiver (TSD/Part B) Permit				
SCA	Sacramento AC	Safety-Kleen Systems, Inc. 6000 88th Street Sacramento, CA 95828	UST Permit	County of Sacramento, Environmental Management Department	34-000-063075-001, -002, -002	8/20/2014	9/19/2015
SCA	Sacramento AC	Safety-Kleen Systems, Inc. 6000 88th Street Sacramento, CA 95828	Waste Receiver (TSD/Part B) Permit	Department of Toxic Substances Control	CA0000084517	6/28/2006	6/28/2016
SCB	Sacramento Branch, Sacramento, CA	Safety-Kleen Systems, Inc. 6000 88th Street Sacramento, CA 95828	Used Oil Permit	Dept. of Toxic Substances Control	CA0000084517		
SAL	Salida Branch, Salida,	Safety-Kleen Systems, Inc. 5050 Salida Boulevard Salida, CA 95368	Transfer Permit	Stanislaus County Environmental Resources	CERSID: 10145857	12/31/8900	
SAL	Salida Branch, Salida,	Safety-Kleen Systems, Inc. 5050 Salida Boulevard Salida, CA 95368	Used Oil Permit				12/31/8900
SJC	San Jose BR	Safety-Kleen Systems, Inc. 1147 N. 10th Street San Jose, CA 95112	Transfer Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
SJC	San Jose BR	Safety-Kleen Systems, Inc. 1147 N. 10th Street San Jose, CA 95112	Other Permits: Yes				
SAA	Santa Ana AC	Safety-Kleen Systems, Inc. 2120 South Yale Street Santa Ana, CA 92704	Transfer Permit				
SAA	Santa Ana AC	Safety-Kleen Systems, Inc. 2120 South Yale Street Santa Ana, CA 92704	NPDES Permit				
SAC	Santa Ana BR	Safety-Kleen Systems, Inc. 2150 South Yale Street (Branch and Training) Santa Ana, CA 92704	Other Permits: Yes				
SAA	Santa Ana AC	Safety-Kleen Systems, Inc. 2120 South Yale Street Santa Ana, CA 92704	UST Permit				
SAA	Santa Ana AC	Safety-Kleen Systems, Inc. 2120 South Yale Street Santa Ana, CA 92704	Waste Receiver (TSDF/Part B) Permit	DTSC		5/23/2007	5/23/2017
SAA	Santa Ana AC	Safety-Kleen Systems, Inc. 2120 South Yale Street Santa Ana, CA 92704	Facility Response Plan (FRP)				
SAC	Santa Ana BR	Safety-Kleen Systems, Inc. 2150 South Yale Street (Branch and Training) Santa Ana, CA 92704	Transfer Permit	DTSC	Transporter Registration NO. 1406	1/31/2017	
STF	Santa Maria, CA	Safety-Kleen of California, Inc. 745 A West Betteravia Road Santa Maria, CA 93454	Waste Receiver (TSDF/Part B) Permit	CA DTSC	CAD984446858	1/15/2009	1/14/2019
STF	Santa Maria, CA	Safety-Kleen of California, Inc. 745 A West Betteravia Road Santa Maria, CA 93454	Used Oil Permit				
TDC	Denver (258)	Thermo Fluids, Inc. 4845 Forest Street Denver, CO 80216	NPDES Permit	CO DPHE	COR 900000	3/7/2012	6/30/2017

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
TDC	Denver (258)	Thermo Fluids, Inc. 4845 Forest Street Denver, CO 80216	Used Oil Permit	CO DPHE			
ECO	Englewood,CO (Denver) BR	Safety-Kleen Systems, Inc. 2801 S. Tejon Street Englewood, CO 80110	Waste Receiver (TSDf/Part B) Permit	CDPHE	CO-13-09-26-01	9/26/2013	9/26/2023
ECO	Englewood,CO (Denver) BR	Safety-Kleen Systems, Inc. 2801 S. Tejon Street Englewood, CO 80110	NPDES Permit	CDPHE	COR900971	10/1/2012	6/30/2017
ECO	Englewood,CO (Denver) BR	Safety-Kleen Systems, Inc. 2801 S. Tejon Street Englewood, CO 80110	Transfer Permit	CDPHE			
TGJ	TFI - Grand Junction, CO	Thermo Fluids, Inc. 725 S 5th Street Grand Junction, CO 81501	NPDES Permit				
GJC	Grand Junction, CO	Safety-Kleen Systems, Inc. 368 Bonny Street Grand Junction, CO 81501	NPDES Permit	CDPHE	COR900970	7/1/2012	3/30/2017
TGJ	TFI - Grand Junction, CO	Thermo Fluids, Inc. 725 S 5th Street Grand Junction, CO 81501	Pharmacy Waste or Equivalent Permit				
TCS	TCS, Colorado Springs, Colorado	Thermo Fluids, Inc. 1810 L Street Penrose, CO 81240	Facility Response Plan (FRP)				
TCS	TCS, Colorado Springs, Colorado	Thermo Fluids, Inc. 1810 L Street Penrose, CO 81240	NPDES Permit	Colorado Department of Public Health and Environment	COR900947	7/1/2012	6/30/2017
TCS	TCS, Colorado Springs, Colorado	Thermo Fluids, Inc. 1810 L Street Penrose, CO 81240	Used Oil Permit		14-LWH-076		10/1/2017
PUE	Pueblo, CO	Safety-Kleen Systems, Inc. 2841 E. Fourth Street Pueblo, CO 81001	Other Permits: Yes	Colorado Springs Utilities	17-LWH-062	6/18/2014	6/18/2017
PUE	Pueblo, CO	Safety-Kleen Systems, Inc. 2841 E. Fourth Street Pueblo, CO 81001	Waste Receiver (TSDf/Part B) Permit	CDPHE		10/30/2006	10/29/2016

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
BDO	Bridgeport Oil	Safety-Kleen Systems, Inc. 24-40 Seaview Avenue Bridgeport, CT 06607	Facility Response Plan (FRP)	EPA		10/28/2016	10/28/2021
BDO	Bridgeport Oil	Safety-Kleen Systems, Inc. 24-40 Seaview Avenue Bridgeport, CT 06607	NPDES Permit	CT DEEP	GSI 002062	10/1/2016	9/30/2018
BDO	Bridgeport Oil	Safety-Kleen Systems, Inc. 24-40 Seaview Avenue Bridgeport, CT 06607	Waste Receiver (TSD/Part B) Permit	CTDEEP	201204808		
POO	Portland Oil	Safety-Kleen Systems, Inc. 56 Brownstone Avenue Portland, CT 06480	Facility Response Plan (FRP)				
POO	Portland Oil	Safety-Kleen Systems, Inc. 56 Brownstone Avenue Portland, CT 06480	NPDES Permit	CT DEEP	GSI 002045	10/1/2016	9/30/2018
BOY	Boynton Beach, FL	Safety-Kleen Systems, Inc. 5610 Alpha Drive Boynton Beach, FL 33426	AST Permit	FDEP	9300099	6/30/2016	6/30/2017
BOY	Boynton Beach, FL	Safety-Kleen Systems, Inc. 5610 Alpha Drive Boynton Beach, FL 33426	Waste Receiver (TSD/Part B) Permit	FDEP	49625-HO-007	11/16/2012	11/19/2017
MFL	Medley, FL	Safety-Kleen Systems, Inc. 8755 NW 95th Street Miami, FL 33178	Waste Receiver (TSD/Part B) Permit	FDEP	56019-HO-010	4/5/2013	3/19/2018
MFL	Medley, FL	Safety-Kleen Systems, Inc. 8755 NW 95th Street Miami, FL 33178	AST Permit	FDEP	9300106	6/1/2016	6/30/2017
OCA	Safety-Kleen Systems, Inc., Ocala, FL	Safety-Kleen Systems, Inc. 359 Cypress Road Ocala, FL 34472	Solid Waste Permit	FL DEP	0161967-SO-008	8/17/2012	4/22/2017
OCA	Safety-Kleen Systems, Inc., Ocala, FL	Safety-Kleen Systems, Inc. 359 Cypress Road Ocala, FL 34472	Used Oil Permit	FL DEP	161967-HO-006	8/17/2012	4/22/2017
OCA	Safety-Kleen Systems, Inc., Ocala, FL	Safety-Kleen Systems, Inc. 359 Cypress Road Ocala, FL 34472	Air Permit (Title V Permit)	FL DEP	0830138-007-AO	12/7/2012	12/30/2017

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
OPF	Orange Park, FL	Safety-Kleen Systems, Inc. 161 Industrial Loop South Orange Park, FL 32073	AST Permit	FDEP	9300101	6/1/2016	6/30/2017
OPF	Orange Park, FL	Safety-Kleen Systems, Inc. 161 Industrial Loop South Orange Park, FL 32073	Waste Receiver (TSD/Part B) Permit	FDEP	0077130-HO-009	1/8/2014	12/20/2018
POM	Safety-Kleen Systems, Inc., Pompano Beach, FL	Safety-Kleen Systems, Inc. 1400 North West 13th Avenue Pompano Beach, FL 33069	AST Permit	Broward County Florida Department of Environmental Protection	ST-05304-13	7/1/2013	6/30/2015
POM	Safety-Kleen Systems, Inc., Pompano Beach, FL	Safety-Kleen Systems, Inc. 1400 North West 13th Avenue Pompano Beach, FL 33069	Other Permits: Yes	Broward County Florida Department of Environmental Protection	HTS-05304-14	6/30/2017	12/31/2019
SAN	Sanford, FL	Safety-Kleen Systems, Inc. 600 Central Park Drive Sanford, FL 32771	AST Permit	FDEP	9300105	6/1/2016	6/30/2017
SAN	Sanford, FL	Safety-Kleen Systems, Inc. 600 Central Park Drive Sanford, FL 32771	Waste Receiver (TSD/Part B) Permit	FDEP	22198-HO-007	5/13/2014	5/10/2019
TAL	Tallahassee, FL	Safety-Kleen Systems, Inc. 4426 Entrepot Boulevard Tallahassee, FL 32310	AST Permit	FDEP	9300103	6/1/2016	6/30/2017
TAL	Tallahassee, FL	Safety-Kleen Systems, Inc. 4426 Entrepot Boulevard Tallahassee, FL 32310	Waste Receiver (TSD/Part B) Permit	FDEP	009207-HO-010	3/4/2015	3/14/2020
TAM	Tampa, FL	Safety-Kleen Systems, Inc. 5309 24th Avenue South Tampa, FL 33619	AST Permit	FDEP	9300101	6/1/2016	6/30/2017
TAM	Tampa, FL	Safety-Kleen Systems, Inc. 5309 24th Avenue South Tampa, FL 33619	Waste Receiver (TSD/Part B) Permit	FDEP	34744-HO-007	2/21/2012	11/23/2016
GAR	Garden City BR	Safety-Kleen Systems, Inc. 5217 Augusta Road, Highway 21 Garden City, GA 31408	NPDES Permit	GA EPD	GAR050000	4/16/2012	5/31/2017

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
MNG	Macon BR	Safety-Kleen Systems, Inc. 6580 Hawkinsville Road Macon, GA 31216	NPDES Permit	GA EPD	GAR050000	4/12/2012	5/31/2017
MOR	Morrow BR	Safety-Kleen Systems, Inc. 7027 Commercial Drive Morrow, GA 30260	NPDES Permit	GA EPD	GAR050000	4/16/2012	5/31/2017
NGA	Norcross BR	Safety-Kleen Systems, Inc. 4800 S. Old Peachtree Road Norcross, GA 30071	POTW or Waste Water Discharge Permit	Gwinnett County	520-GW	10/1/2012	10/1/2016
NGA	Norcross BR	Safety-Kleen Systems, Inc. 4800 S. Old Peachtree Road Norcross, GA 30071	NPDES Permit	GAEPD	GAR050000	4/16/2012	5/31/2017
DAV	Davenport, IA	Safety-Kleen Systems, Inc. 3035 West 73rd Street Davenport, IA 52806	Waste Receiver (TSD/Part B) Permit	US EPA Region 7	IAD098027592	11/1/2011	11/1/2021
DAV	Davenport, IA	Safety-Kleen Systems, Inc. 3035 West 73rd Street Davenport, IA 52806	NPDES Permit	Iowa DNR	5303-5131	2/22/2016	2/22/2021
DES	Des Moines, IA	Safety-Kleen Systems, Inc. 4704 NE 22nd Street Des Moines, IA 50313	Other Permits: Yes	Polk County	00506	1/1/2016	1/1/2017
DES	Des Moines, IA	Safety-Kleen Systems, Inc. 4704 NE 22nd Street Des Moines, IA 50313	Waste Receiver (TSD/Part B) Permit	US EPA Region 7	IAD981718000	11/3/2010	11/3/2020
DES	Des Moines, IA	Safety-Kleen Systems, Inc. 4704 NE 22nd Street Des Moines, IA 50313	NPDES Permit	Iowa DNR			5/6/2021
BOI	Boise Branch, Boise, ID	Safety-Kleen Systems, Inc. 6334 Supply Way Boise, ID 83716	Used Oil Permit	Idaho Department of Environmental Quality	IDD984770498	4/11/2014	12/31/8900
BOI	Boise Branch, Boise, ID	Safety-Kleen Systems, Inc. 6334 Supply Way Boise, ID 83716	Waste Receiver (TSD/Part B) Permit	State of Idaho Department of Environmental Quality	IDD981770498	7/29/2015	7/29/2025
BOI	Boise Branch, Boise, ID	Safety-Kleen Systems, Inc. 6334 Supply Way Boise, ID 83716	Air Permit (Title V Permit)	DEQ	0001-0098	7/13/1992	

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
TBI	Boise(156)	Thermo Fluids, Inc. 2801 Brandt Avenue Nampa, ID 83687	NPDES Permit				
TBI	Boise(156)	Thermo Fluids, Inc. 2801 Brandt Avenue Nampa, ID 83687	Used Oil Permit	Idaho Department of Environmental Quality		3/23/2005	12/31/8900
CHU	Chubbuck Satellite, Chubbuck, ID	Safety-Kleen Systems, Inc. 5795 Industry Way Units A-1/A-2 Pocatello, ID 83202	Used Oil Permit	IDEQ		10/24/2011	12/31/8900
OBF	Bluff City	Oil Filter Recyclers 3330 E. Woodland Road Browning, IL 62624	NPDES Permit				
CAS	Caseyville, IL	Safety-Kleen Systems, Inc. 20 Tucker Drive Caseyville, IL 62232	Solid Waste Permit	Illinois Environmental Protection Agency	1991-019-DE/OP, Supplemental Permit 1998-044	5/4/1998	12/31/8900
CAS	Caseyville, IL	Safety-Kleen Systems, Inc. 20 Tucker Drive Caseyville, IL 62232	Biohazard/Medical Waste Permit	Illinois Environmental Protection Agency	Part B Log #87R-M-5	2/11/2014	11/12/2018
CAS	Caseyville, IL	Safety-Kleen Systems, Inc. 20 Tucker Drive Caseyville, IL 62232	Waste Receiver (TSD/Part B) Permit	Illinois Environmental Protection Agency/USEPA	Log# B87R-M-5	11/12/2008	11/12/2018
DOR	Safety-Kleen Systems, Inc., Dolton, IL	Safety-Kleen Systems, Inc. 633 East 138th Street Dolton, IL 60419	Biohazard/Medical Waste Permit	Illinois Environmental Protection Agency		11/26/2013	4/21/2016
DOR	Safety-Kleen Systems, Inc., Dolton, IL	Safety-Kleen Systems, Inc. 633 East 138th Street Dolton, IL 60419	Air Permit (Title V Permit)	Illinois Environmental Protection Agency	95120114	10/15/2008	10/15/2013
DOR	Safety-Kleen Systems, Inc., Dolton, IL	Safety-Kleen Systems, Inc. 633 East 138th Street Dolton, IL 60419	Solid Waste Permit	Illinois Environmental Protection Agency	1981-37-OP	6/3/1905	12/31/8900
DOR	Safety-Kleen Systems, Inc., Dolton, IL	Safety-Kleen Systems, Inc. 633 East 138th Street Dolton, IL 60419	Other Permits: Yes	Metropolitan Water Reclamation District of Greater Chicago	13429	1/16/2015	1/15/2020
DOR	Safety-Kleen Systems, Inc., Dolton, IL	Safety-Kleen Systems, Inc. 633 East 138th Street Dolton, IL 60419	Waste Receiver (TSD/Part B) Permit	Illinois Environmental Protection Agency/USEPA	Log# B120R	4/21/2006	4/21/2016

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
ESL	Safety-Kleen Systems, Inc., East St. Louis, IL	Safety-Kleen Systems, Inc. 3000 Missouri Avenue - Rear East Saint Louis, IL 62205	Facility Response Plan (FRP)	USEPA			
ESL	Safety-Kleen Systems, Inc., East St. Louis, IL	Safety-Kleen Systems, Inc. 3000 Missouri Avenue - Rear East Saint Louis, IL 62205	Other Permits: Yes	American Bottoms Regional Wastewater Treatment Facility	15B-128		10/1/2020
ELG	Elgin, IL	Safety-Kleen Systems, Inc. 1500 East Villa Street Elgin, IL 60120	Transfer Permit	IEPA			
ELG	Elgin, IL	Safety-Kleen Systems, Inc. 1500 East Villa Street Elgin, IL 60120	Other Permits: Yes	Illinois EPA	03148AAK	6/4/2012	
ELG	Elgin, IL	Safety-Kleen Systems, Inc. 1500 East Villa Street Elgin, IL 60120	Waste Receiver (TSD/Part B) Permit	Illinois EPA, USEPA Region 5	RCRA Log B-89R2	4/30/2014	4/30/2024
ELG	Elgin, IL	Safety-Kleen Systems, Inc. 1500 East Villa Street Elgin, IL 60120	NPDES Permit	Illinois EPA	IL0072010	10/1/2012	9/30/2017
GOO	Goodfield, IL	Safety-Kleen Systems, Inc. 170 East Martin Drive Goodfield, IL 61742	Transfer Permit	Illinois EPA	2008-489-OP		
URI	UNIV - RS - Roxana	RS Used Oil Services, Inc. 4559 Wagon Wheel Road Roxana, IL 62084	Other Permits: IL Special Waste Haulers Permit	IL EPA	1469	11/25/2014	2/28/2017
URI	UNIV - RS - Roxana	RS Used Oil Services, Inc. 4559 Wagon Wheel Road Roxana, IL 62084	NPDES Permit	IL EPA	ILR006760	7/1/2016	6/30/2017
URB	Urbana, IL	Safety-Kleen Systems, Inc. 500 West Anthony Drive Urbana, IL 61802	Waste Receiver (TSD/Part B) Permit	Illinois EPA, USEPA Region 5	RCRA Log B-88R	6/30/2009	6/30/2019
URB	Urbana, IL	Safety-Kleen Systems, Inc. 500 West Anthony Drive Urbana, IL 61802	Other Permits: Yes	Illinois EPA	019105ADL	6/4/2012	
URB	Urbana, IL	Safety-Kleen Systems, Inc. 500 West Anthony Drive Urbana, IL 61802	NPDES Permit	Illinois EPA	IL0072052	10/26/2012	10/31/2017

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
URB	Urbana, IL	Safety-Kleen Systems, Inc. 500 West Anthony Drive Urbana, IL 61802	Transfer Permit	Illinois EPA			
EAS	Safety-Kleen Systems, Inc., East Chicago, IN	Safety-Kleen Systems, Inc. 601 Riley Road East Chicago, IN 46312	Air Permit (Title V Permit)	Indiana Department of Environmental Management	T089-33919-00301	7/8/2014	7/8/2019
EAS	Safety-Kleen Systems, Inc., East Chicago, IN	Safety-Kleen Systems, Inc. 601 Riley Road East Chicago, IN 46312	NPDES Permit	East Chicago Sanitary District	901	8/22/2013	8/21/2018
EAS	Safety-Kleen Systems, Inc., East Chicago, IN	Safety-Kleen Systems, Inc. 601 Riley Road East Chicago, IN 46312	Facility Response Plan (FRP)	US Coast Guard		11/7/2016	1/2/2016
EAS	Safety-Kleen Systems, Inc., East Chicago, IN	Safety-Kleen Systems, Inc. 601 Riley Road East Chicago, IN 46312	TSCA Permit	USEPA/IDEM	N/A	4/1/2013	3/31/2018
UKC	UNIV- RS Kansas City	RS Used Oil Services, Inc. 601 S. 66th Terrace Kansas City, KS 66111	AST Permit	Kansas Dept of Health and Env.	Facility ID 46018	8/1/2016	7/31/2017
UWK	UNIV - RS - Wichita	RS Used Oil Services, Inc. 2808 N Ohio St Wichita, KS 67219	AST Permit	KDHE	44772 and 44672	8/1/2016	7/31/2017
UWK	UNIV - RS - Wichita	RS Used Oil Services, Inc. 2808 N Ohio St Wichita, KS 67219	NPDES Permit	KDHE	G-KS27-0035	7/18/2016	3/1/2017
UWK	UNIV - RS - Wichita	RS Used Oil Services, Inc. 2808 N Ohio St Wichita, KS 67219	Used Oil Permit	KDHE	KSR179114602	1/1/2016	12/31/2016
WIB	Wichita, KS	Safety-Kleen Systems, Inc. 4801 West Irving Street & 1311 S. Anna Wichita, KS 67209	Waste Receiver (TSD/Part B) Permit	Kansas Department of Health and Environment	KSD000809723	10/8/2007	10/8/2017
UWK	UNIV - RS - Wichita	RS Used Oil Services, Inc. 2808 N Ohio St Wichita, KS 67219	Facility Response Plan (FRP)			7/18/2016	

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
LEK	Lexington, KY BR	Safety-Kleen Systems, Inc. 550 Bluesky Parkway Lexington, KY 40509	NPDES Permit	KY DEP	KY0093921	11/1/2012	10/31/2017
LEK	Lexington, KY BR	Safety-Kleen Systems, Inc. 550 Bluesky Parkway Lexington, KY 40509	Waste Receiver (TSD/Part B) Permit	KY DEP	KYD981027469	10/30/2002	10/30/2012
SMR	Smithfield RC	Safety-Kleen Systems, Inc. 3700 LaGrange Road Smithfield, KY 40068	NPDES Permit	Kentucky Department for Environmental Protection, Division of Water	KY0098345	6/17/2014	7/31/2019
SMR	Smithfield RC	Safety-Kleen Systems, Inc. 3700 LaGrange Road Smithfield, KY 40068	Air Permit (Title V Permit)	Kentucky Department for Environmental Protection, Division for Air Quality	V-12-008	3/15/2013	3/15/2018
SMR	Smithfield RC	Safety-Kleen Systems, Inc. 3700 LaGrange Road Smithfield, KY 40068	TSCA Permit	US Environmental Protection Agency, Region 4	TSCA Approval 02-10-04, KYD-053-348-108	3/4/2004	3/4/2014
KEN	Kenner, LA	Safety-Kleen Systems, Inc. 2423 Tyler Street Kenner, LA 70062	Transfer Permit	LDEQ	PER20160001	6/29/2016	6/29/2018
MPO	Metairie Pkg Fac, Metairie, LA	Safety-Kleen Systems, Inc. 3000 Airline Drive Metairie, LA 70001	NPDES Permit	LDEQ	LAR050000	5/9/2016	5/19/2021
PIN	Pineville, LA	Safety-Kleen Systems, Inc. 518 Ryder Drive Pineville, LA 71360	Transfer Permit	LDEQ	LAD981057441/PER 20150001	7/27/2015	7/27/2017
RPO	St. Rose, LA Pkg & Blending Op	Safety-Kleen Systems, Inc. 10352 River Road Saint Rose, LA 70087	NPDES Permit		LAR05000 / LAG480000	5/9/2016	5/9/2021
RPO	St. Rose, LA Pkg & Blending Op	Safety-Kleen Systems, Inc. 10352 River Road Saint Rose, LA 70087	POTW or Waste Water Discharge Permit		LAG480000	12/1/2015	12/1/2020
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	TSCA Permit				
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	Air Permit (Title V Permit)		0500-00158-00		

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	POTW or Waste Water Discharge Permit	City of Shreveport	NIU-039	7/18/2015	7/18/2020
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	Facility Response Plan (FRP)				
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	Solid Waste Permit		163574 Oily/Water Waste from Vacuum Services		
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	NPDES Permit		NIU-039		
SHR	Shreveport Oil	Safety-Kleen Systems, Inc. 7425 Trammel Drive Shreveport, LA 71108	Used Oil Permit		LAD000068239		
MRB	Marlborough BR	Safety-Kleen Systems, Inc. 50 A Brigham Street Marlborough, MA 01752	Waste Receiver (TSDF/Part B) Permit	MADEP	30B/09	7/21/2009	7/21/2014
MRB	Marlborough BR	Safety-Kleen Systems, Inc. 50 A Brigham Street Marlborough, MA 01752	Transfer Permit	MA DEP	30B/09	6/29/2009	6/29/2014
MRB	Marlborough BR	Safety-Kleen Systems, Inc. 50 A Brigham Street Marlborough, MA 01752	AST Permit	Marlborough FD			
MRB	Marlborough BR	Safety-Kleen Systems, Inc. 50 A Brigham Street Marlborough, MA 01752	NPDES Permit	US EPA	MAR05D170	9/29/2008	9/29/2013
SMA	Salisbury BR	Safety-Kleen Systems, Inc. 90 Rabbit Road Salisbury, MA 01952	NPDES Permit	US EPA	MAR05D154	9/29/2008	9/29/2013
SMA	Salisbury BR	Safety-Kleen Systems, Inc. 90 Rabbit Road Salisbury, MA 01952	UST Permit	MA Dept of Fire Services	NA	4/30/2015	4/30/2016
SMA	Salisbury BR	Safety-Kleen Systems, Inc. 90 Rabbit Road Salisbury, MA 01952	Waste Receiver (TSDF/Part B) Permit	MA DEP	21B10	9/20/2010	9/20/2015

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
SMA	Salisbury BR	Safety-Kleen Systems, Inc. 90 Rabbit Road Salisbury, MA 01952	Transfer Permit	MA DEP	21B10	9/20/2015	
WBM	W Brookfield BR	Safety-Kleen Systems, Inc. 224 E. Main Street West Brookfield, MA 01585	AST Permit	MA Dept of Fire Services	NA	8/23/2014	8/23/2015
WBM	W Brookfield BR	Safety-Kleen Systems, Inc. 224 E. Main Street West Brookfield, MA 01585	Waste Receiver (TSD/Part B) Permit	MA DEP	29B/10	6/10/2010	6/10/2015
WBM	W Brookfield BR	Safety-Kleen Systems, Inc. 224 E. Main Street West Brookfield, MA 01585	Transfer Permit	MA DEP	29B/10	6/10/2015	6/10/2015
WBM	W Brookfield BR	Safety-Kleen Systems, Inc. 224 E. Main Street West Brookfield, MA 01585	NPDES Permit	US EPA	MAR05D169	2/27/2009	2/27/2014
BAL	Baltimore, MD	Safety-Kleen Systems, Inc. 1448 DeSoto Road Baltimore, MD 21230	Facility Response Plan (FRP)	U.S. Coast Guard		9/27/2010	9/27/2015
BAL	Baltimore, MD	Safety-Kleen Systems, Inc. 1448 DeSoto Road Baltimore, MD 21230	Waste Receiver (TSD/Part B) Permit	Maryland Department of Environment	A-300	6/6/2008	6/5/2018
BAL	Baltimore, MD	Safety-Kleen Systems, Inc. 1448 DeSoto Road Baltimore, MD 21230	Used Oil Permit	Maryland Department of Environment	2010-OT-409	7/1/2010	6/30/2015
BAL	Baltimore, MD	Safety-Kleen Systems, Inc. 1448 DeSoto Road Baltimore, MD 21230	AST Permit	Maryland Department of Environment	2012-OPT-3580	9/20/2011	9/20/2016
BAL	Baltimore, MD	Safety-Kleen Systems, Inc. 1448 DeSoto Road Baltimore, MD 21230	Other Permits: Yes	Maryland Department of Environment - Air Quality	510-9-0837 M	8/28/2003	
BAL	Baltimore, MD	Safety-Kleen Systems, Inc. 1448 DeSoto Road Baltimore, MD 21230	NPDES Permit	Maryland Department of Environment	MDR000779	9/18/2014	9/18/2019
GRM	Grand Rapids, MI	Safety-Kleen Systems, Inc. 2700 Mullins NW Grand Rapids, MI 49534	High Hazard Wastes Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
MMB	Mason, MI	Safety-Kleen Systems, Inc. 700 Zimmerman Drive Mason, MI 48854	High Hazard Wastes Permit				
MMB	Mason, MI	Safety-Kleen Systems, Inc. 700 Zimmerman Drive Mason, MI 48854	Biohazard/Medical Waste Permit	MDEQ	MW0048289	5/14/2015	5/31/2018
MMA	Mason AC, Mason Michigan	Safety-Kleen Systems, Inc. 700 Zimmerman Drive Mason, MI 48854	High Hazard Wastes Permit				
MMA	Mason AC, Mason Michigan	Safety-Kleen Systems, Inc. 700 Zimmerman Drive Mason, MI 48854	Biohazard/Medical Waste Permit	MDEQ	MW0048289	5/14/2015	5/31/2018
MMB	Mason, MI	Safety-Kleen Systems, Inc. 700 Zimmerman Drive Mason, MI 48854	POTW or Waste Water Discharge Permit	City of Mason	#002	7/27/2015	7/27/2018
ROM	Romulus, MI	Safety-Kleen Systems, Inc. 10480 Harrison Road Romulus, MI 48174	High Hazard Wastes Permit				
SAG	Saginaw, MI	Safety-Kleen Systems, Inc. 3899 Wolf Road Saginaw, MI 48601	High Hazard Wastes Permit				
BLA	Blaine BR	Safety-Kleen Systems, Inc. 9261 Isanti Street NE Blaine, MN 55449	Waste Receiver (TSD/Part B) Permit	MINNESOTA POLLUTION CONTROL AGENCY	MND981953045	8/30/2016	8/30/2021
CLO	Cloquet, MN (Duluth) BR	Safety-Kleen Systems, Inc. 1302 18th Street Cloquet, MN 55720	Waste Receiver (TSD/Part B) Permit	Minnesota Pollution Control Agency		4/4/2012	4/4/2017
EAA	Safety-Kleen Systems, Inc., Eagan, MN	Safety-Kleen Systems, Inc. 3227 Terminal Drive Eagan, MN 55121	Waste Receiver (TSD/Part B) Permit	Minnesota Pollution Control Agency/USEPA	MND981097884	9/26/2016	9/26/2016
EAB	Eagan BR	Safety-Kleen Systems, Inc. 3227 Terminal Drive Eagan, MN 55121	Waste Receiver (TSD/Part B) Permit	MINNESOTA POLLUTION CONTROL AGENCY	MND981097884	9/26/2016	9/26/2021
CAP	Cape Girardeau, MO	Safety-Kleen Systems, Inc. 201 LaSalle Street Cape Girardeau, MO 63701	Waste Receiver (TSD/Part B) Permit	MDNR		9/27/2007	9/27/2017

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
CAP	Cape Girardeau, MO	Safety-Kleen Systems, Inc. 201 LaSalle Street Cape Girardeau, MO 63701	NPDES Permit	MDNR	MOG350174	7/11/2012	7/10/2017
COL	Columbia, MO	Safety-Kleen Systems, Inc. 2400 Big Bear Boulevard Columbia, MO 65202	Waste Receiver (TSD/Part B) Permit	MDNR	MOD980971626	9/27/2007	9/27/2017
COL	Columbia, MO	Safety-Kleen Systems, Inc. 2400 Big Bear Boulevard Columbia, MO 65202	NPDES Permit	MDNR	MOG350167	9/14/2012	7/10/2017
IND	Independence, MO	Safety-Kleen Systems, Inc. 901 South Yuma Avenue Independence, MO 64056	Waste Receiver (TSD/Part B) Permit	MDNR	MOD980973564	9/27/2007	9/27/2017
IND	Independence, MO	Safety-Kleen Systems, Inc. 901 South Yuma Avenue Independence, MO 64056	NPDES Permit	MDNR	MOG350175	9/4/2012	7/10/2017
SCM	St. Charles, MO	Safety-Kleen Systems, Inc. 4526 Towne Court Saint Charles, MO 63304	NPDES Permit	MDNR	MOG350180	7/27/2012	7/10/2017
SCM	St. Charles, MO	Safety-Kleen Systems, Inc. 4526 Towne Court Saint Charles, MO 63304	Waste Receiver (TSD/Part B) Permit	MDNR		9/27/2007	9/27/2017
SMO	Springfield, MO	Safety-Kleen Systems, Inc. 734 Northwest Bypass 66 Springfield, MO 65802	NPDES Permit	MDNR	MOG350168	7/25/2012	7/10/2017
SMO	Springfield, MO	Safety-Kleen Systems, Inc. 734 Northwest Bypass 66 Springfield, MO 65802	Waste Receiver (TSD/Part B) Permit	MDNR		9/27/2007	9/27/2017
JAB	Jackson, MS	Safety-Kleen Systems, Inc. 120 Richardson Drive Jackson, MS 39209	Waste Receiver (TSD/Part B) Permit	MDEQ	MSD000776765	8/31/2012	8/30/2022
EBM	EMR Billings MT - FAC	Emerald Services, Inc 1560 Coulson Road Billings, MT 59101	Solid Waste Permit	Montana Department of Environmental Quality			
EBM	EMR Billings MT - FAC	Emerald Services, Inc 1560 Coulson Road Billings, MT 59101	Transfer Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
ELF	EMR - Great Falls MT -Landfarm	Emerald Services, Inc geo code 02-3137-10-1-01-01-0000 Great Falls, MT 59404	Solid Waste Permit	Montana Department of Environmental Quality	404	7/1/2016	6/30/2017
EGM	EMR Great Falls MT - FAC	Emerald Services, Inc 172 N Manchester Road Great Falls, MT 59404	Transfer Permit				
EMA	EMR Missoula MT - FAC	Emerald Services, Inc 900 Phillips Street Missoula, MT 59802	Other Permits: Missoula Water Quality Permit	Missoula Valley Water Quality District	None		6/30/2017
BIS	Bismarck BR	Safety-Kleen Systems, Inc. 3704 Saratoga Avenue Bismarck, ND 58503	Waste Receiver (TSD/Part B) Permit	NORTH DAKOTA DEPT OF HEALTH-ENVIRONMENTAL HEALTH SECTION	HW-057	5/1/2013	5/1/2018
FAR	Fargo BR	Safety-Kleen Systems, Inc. 1537 1st Avenue, South Fargo, ND 58103	Waste Receiver (TSD/Part B) Permit	NORTH DAKOTA DEPT OF HEALTH-ENVIRONMENTAL HEALTH SECTION	HW-058	5/1/2013	5/1/2018
GIN	Grand Island, NE	Safety-Kleen Systems, Inc. 2700 West 2nd Street Grand Island, NE 68803	Waste Receiver (TSD/Part B) Permit	NDEQ	NED053316535	4/9/2007	4/9/2017
OMA	Omaha, NE	Safety-Kleen Systems, Inc. 13915 A Plaza Omaha, NE 68144	Waste Receiver (TSD/Part B) Permit	NDEQ	NED981495724	9/28/2006	9/28/2016
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylvan Street Linden, NJ 07036	NPDES Permit	NJDEP	NJG0122718		1/31/2018
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylvan Street Linden, NJ 07036	Air Permit (Title V Permit)	NJDEP			
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylvan Street Linden, NJ 07036	Waste Receiver (TSD/Part B) Permit	NJDEP	HWP140001		1/31/2018
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylvan Street Linden, NJ 07036	POTW or Waste Water Discharge Permit	LRSA	036		11/30/2019

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylan Street Linden, NJ 07036	Solid Waste Permit	NJDEP	HWP140001		1/31/2018
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylan Street Linden, NJ 07036	High Hazard Wastes Permit				
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylan Street Linden, NJ 07036	ATF or equivalent permit		SDS-NJ-15022		12/31/8900
LIN	Linden RC	Safety-Kleen Systems, Inc. 1200 Sylan Street Linden, NJ 07036	Other Permits: Yes	NJDEP	PCP100001, PCP110004, PCP150001, PCP120001, PCP140001, PCP130004, PCP120005, PCP130001, PCP130002, PCP960041, PCP960044, PCP960045		
SPN	South Plainfield, NJ	Safety-Kleen Systems, Inc. 116 Skyline Drive South Plainfield, NJ 07080	NPDES Permit	NJDEP	NJG0125431	12/27/2013	1/31/2018
SPN	South Plainfield, NJ	Safety-Kleen Systems, Inc. 116 Skyline Drive South Plainfield, NJ 07080	AST Permit	NJDEP	PCP970003	6/30/1997	6/29/2017
SPN	South Plainfield, NJ	Safety-Kleen Systems, Inc. 116 Skyline Drive South Plainfield, NJ 07080	High Hazard Wastes Permit				
SPN	South Plainfield, NJ	Safety-Kleen Systems, Inc. 116 Skyline Drive South Plainfield, NJ 07080	Waste Receiver (TSD/Part B) Permit	NJDEP		12/13/2016	1/13/2027
SPN	South Plainfield, NJ	Safety-Kleen Systems, Inc. 116 Skyline Drive South Plainfield, NJ 07080	Transfer Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
VIN	Vincentown, NJ	Safety-Kleen Systems, Inc. 123 Red Lion Road Vincentown, NJ 08088	Waste Receiver (TSD/Part B) Permit	NJDEP	HWP050001	12/8/2008	12/8/2018
VIN	Vincentown, NJ	Safety-Kleen Systems, Inc. 123 Red Lion Road Vincentown, NJ 08088	Transfer Permit	NJDEP	HWP050001	12/8/2018	12/8/2018
VIN	Vincentown, NJ	Safety-Kleen Systems, Inc. 123 Red Lion Road Vincentown, NJ 08088	NPDES Permit	NJDEP	NJG0112496	12/27/2012	1/31/2018
TAN	Thermo Fluids - Albuquerque, Albuquerque, New Mexico	Thermo Fluids, Inc. 9010 Bates Road SE Albuquerque, NM 87105	Other Permits: Yes	NMED	DP-1801	1/11/2013	1/11/2018
ALB	Albuquerque Branch, Albuquerque, New Mexico	Safety-Kleen Systems, Inc. 2720 Girard Boulevard NE Albuquerque, NM 87107	UST Permit	NMED	1280	6/10/2016	6/30/2017
ALB	Albuquerque Branch, Albuquerque, New Mexico	Safety-Kleen Systems, Inc. 2720 Girard Boulevard NE Albuquerque, NM 87107	NPDES Permit	NMED		10/1/2015	10/1/2020
TAN	Thermo Fluids - Albuquerque, Albuquerque, New Mexico	Thermo Fluids, Inc. 9010 Bates Road SE Albuquerque, NM 87105	AST Permit	New Mexico Environmental Department	1007	7/1/2014	6/30/2017
ALB	Albuquerque Branch, Albuquerque, New Mexico	Safety-Kleen Systems, Inc. 2720 Girard Boulevard NE Albuquerque, NM 87107	Waste Receiver (TSD/Part B) Permit	New Mexico Environment Department (NMED)	NMD000804294	9/1/2003	9/1/2013
FNM	Farmington, New Mexico	Safety-Kleen Systems, Inc. 4210 A Hawkins Road Farmington, NM 87401	NPDES Permit	NMED	NMR053080	10/1/2015	10/1/2020
FNM	Farmington, New Mexico	Safety-Kleen Systems, Inc. 4210 A Hawkins Road Farmington, NM 87401	AST Permit				
FNM	Farmington, New Mexico	Safety-Kleen Systems, Inc. 4210 A Hawkins Road Farmington, NM 87401	Waste Receiver (TSD/Part B) Permit	NMED		9/1/2003	9/1/2013

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
STL	Stellarton Rail	Safety-Kleen Canada, Inc. 121 King Street Stellarton, NS B0K 1S0	Transfer Permit	Nova Scotia Environment	2014-0905535	12/31/2024	
TBN	TFI - Beowawe Nevada	Thermo Fluids, Inc. 1 Mile East of State Rte 306 Crescent Valley, NV 89821	Other Permits: Yes	Nevada State Fire Marshal	48760	7/8/1905	2/28/2017
FAL	Safety-Kleen Systems, Inc., Fallon, NV	Safety-Kleen Systems Inc. 22211 Bango Road Fallon, NV 89406	AST Permit	State Fire Marshal	58954	2/28/2016	2/28/2017
FAL	Safety-Kleen Systems, Inc., Fallon, NV	Safety-Kleen Systems Inc. 22211 Bango Road Fallon, NV 89406	Used Oil Permit	State Fire Marshal	58954	2/1/2016	2/28/2017
FAL	Safety-Kleen Systems, Inc., Fallon, NV	Safety-Kleen Systems Inc. 22211 Bango Road Fallon, NV 89406	Facility Response Plan (FRP)				
FAL	Safety-Kleen Systems, Inc., Fallon, NV	Safety-Kleen Systems Inc. 22211 Bango Road Fallon, NV 89406	Other Permits: Yes	Water Wells- NDEP/DWR			
LVN	Las Vegas Branch, North las Vegas, NV	Safety-Kleen Systems, Inc. 4582 Donovan Way North Las Vegas, NV 89081	Other Permits: Yes	North Las Vegas Fire Dept	A201105-016		
LVN	Las Vegas Branch, North las Vegas, NV	Safety-Kleen Systems, Inc. 4582 Donovan Way North Las Vegas, NV 89081	Waste Receiver (TSD/Part B) Permit	NV Div. of Environmental Protection	NVR000066837	5/24/2012	5/24/2017
LVN	Las Vegas Branch, North las Vegas, NV	Safety-Kleen Systems, Inc. 4582 Donovan Way North Las Vegas, NV 89081	NPDES Permit	Bureau of Water Pollution Control		9/22/2008	9/21/2013
LVN	Las Vegas Branch, North las Vegas, NV	Safety-Kleen Systems, Inc. 4582 Donovan Way North Las Vegas, NV 89081	Used Oil Permit	NV DNR	NVR000066837	4/21/2014	12/31/8900
TLN	Thermo Fluids - Las Vegas ASD, Las Vegas, Nevada	Thermo Fluids, Inc. 4000 & 4020 Arcata Way North Las Vegas, NV 89030	Other Permits: Yes	Department of Air Quality and Environmental Management, North Las Vegas Fire Department	637, A0559		
TLN	Thermo Fluids - Las Vegas ASD, Las Vegas, Nevada	Thermo Fluids, Inc. 4000 & 4020 Arcata Way North Las Vegas, NV 89030	Solid Waste Permit	Southern Nevada Health District	PR0027096	1/1/2015	12/31/2015

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
LVN	Las Vegas Branch, North Las Vegas, NV	Safety-Kleen Systems, Inc. 4582 Donovan Way North Las Vegas, NV 89081	Transfer Permit	Division of Environmental Protection		5/24/2012	5/24/2017
SPA	Sparks Branch, Sparks, NV	Safety-Kleen Systems, Inc. 1355 Greg Street Suite 106 Sparks, NV 89431	Used Oil Permit	NV Div of Environmental Protection	NVR000081299		
SNV	Sparks BR	Safety-Kleen Systems, Inc. 1200 Marietta Way Sparks, NV 89431	High Hazard Wastes Permit				
SNV	Sparks BR	Safety-Kleen Systems, Inc. 1200 Marietta Way Sparks, NV 89431	Other Permits: Yes		9013128-000		
SPA	Sparks Branch, Sparks, NV	Safety-Kleen Systems, Inc. 1355 Greg Street Suite 106 Sparks, NV 89431	Other Permits: Yes	City of Sparks Environmental Control Section	9013086-000		
TRN	Thermo Fluids Reno, Sparks, Nevada	Thermo Fluids, Inc. 655 S Stanford Way Sparks, NV 89431	Solid Waste Permit	Washoe County Health District	WM150068	7/1/2014	12/31/2017
ANY	Amityville, NY	Safety-Kleen Systems, Inc. 80 Seabro Avenue Amityville, NY 11701	Solid Waste Permit	New York State DEC	1-4720-00328/00007	1/6/2010	
ANY	Amityville, NY	Safety-Kleen Systems, Inc. 80 Seabro Avenue Amityville, NY 11701	AST Permit	Suffolk County Department of Health Services	1-0273	7/1/2014	6/30/2019
ANY	Amityville, NY	Safety-Kleen Systems, Inc. 80 Seabro Avenue Amityville, NY 11701	Used Oil Permit	New York State DEC	1-4720-00328/00007	1/6/2010	
AVO	Avon, NY	Safety-Kleen Systems, Inc. 1525 W. Henrietta Road Avon, NY 14414	Used Oil Permit	NYSDEC	8-2420-00020/00010	2/1/2015	1/31/2025
AVO	Avon, NY	Safety-Kleen Systems, Inc. 1525 W. Henrietta Road Avon, NY 14414	Waste Receiver (TSD/Part B) Permit	NYSDEC	8-2420-00020	4/28/2014	4/22/2024
BUF	Buffalo Oil	Safety-Kleen Systems, Inc. 60 Katherine Street Buffalo, NY 14210	AST Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
BUF	Buffalo Oil	Safety-Kleen Systems, Inc. 60 Katherine Street Buffalo, NY 14210	Solid Waste Permit				
COH	Cohoes, NY	Safety-Kleen Systems, Inc. 17 Green Mountain Drive Cohoes, NY 12047	NPDES Permit	NYSDEC	NY0212130	2/25/2015	9/30/2020
COH	Cohoes, NY	Safety-Kleen Systems, Inc. 17 Green Mountain Drive Cohoes, NY 12047	Waste Receiver (TSD/Part B) Permit	NYSDEC	4-0126-00167/00001	12/30/2010	12/30/2015
COH	Cohoes, NY	Safety-Kleen Systems, Inc. 17 Green Mountain Drive Cohoes, NY 12047	Used Oil Permit	NYSDEC	4-0126-00167/000016	10/22/2013	10/21/2018
LAC	Lackawanna, NY (Buffalo) BR	Safety-Kleen Systems, Inc. 41 N. Gates Avenue Lackawanna, NY 14218	Waste Receiver (TSD/Part B) Permit	NYS DEC	NYD981556541	3/29/2013	3/28/2023
LAC	Lackawanna, NY (Buffalo) BR	Safety-Kleen Systems, Inc. 41 N. Gates Avenue Lackawanna, NY 14218	AST Permit	NYS DEC	001 and 003	11/25/2014	9/22/2019
SYR	Syracuse, NY	Safety-Kleen Systems, Inc. 6741 VIP Parkway Syracuse, NY 13211	Waste Receiver (TSD/Part B) Permit	NYSDEC		9/12/2012	9/13/2022
SYR	Syracuse, NY	Safety-Kleen Systems, Inc. 6741 VIP Parkway Syracuse, NY 13211	Used Oil Permit	NYSDEC	34-O-02	2/18/2010	2/17/2020
WNN	West Nyack, NY	Safety-Kleen Systems, Inc. 50 Snake Hill Road West Nyack, NY 10994	High Hazard Wastes Permit				
BRU	Brunswick, OH	Safety-Kleen Systems, Inc. 1169 Industrial Parkway North Brunswick, OH 44212	Other Permits: Yes	Medina County Sanitary Engineers		11/1/2013	
BRU	Brunswick, OH	Safety-Kleen Systems, Inc. 1169 Industrial Parkway North Brunswick, OH 44212	High Hazard Wastes Permit				
GRO	Groveport, OH	Safety-Kleen Systems, Inc. 4465 Marketing Place Groveport, OH 43125	High Hazard Wastes Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
KOH	Kent, OH	Safety-Kleen Systems, Inc. 354 Portage Boulevard Kent, OH 44240	High Hazard Wastes Permit				
AKR	Kent AC	Safety-Kleen Systems, Inc. 354 Portage Boulevard Kent, OH 44240	High Hazard Wastes Permit				
TOL	Toledo, OH	Safety-Kleen Systems, Inc. 5148 Tractor Road Toledo, OH 43612	High Hazard Wastes Permit				
POR	Port of Catoosa Oil	Safety-Kleen Systems, Inc. 5550 E. Channel Road Catoosa, OK 74015	Air Permit (Title V Permit)	ODEQ	2109	3/22/2016	
POR	Port of Catoosa Oil	Safety-Kleen Systems, Inc. 5550 E. Channel Road Catoosa, OK 74015	Used Oil Permit	ODEQ			
POR	Port of Catoosa Oil	Safety-Kleen Systems, Inc. 5550 E. Channel Road Catoosa, OK 74015	Facility Response Plan (FRP)	USEPA		8/1/2015	8/1/2020
POR	Port of Catoosa Oil	Safety-Kleen Systems, Inc. 5550 E. Channel Road Catoosa, OK 74015	Other Permits: OPA90	US COast Guard		3/1/2010	
POR	Port of Catoosa Oil	Safety-Kleen Systems, Inc. 5550 E. Channel Road Catoosa, OK 74015	NPDES Permit	USEPA	OKR05CEOF	2/21/2012	
OKL	Oklahoma City, OK	Safety-Kleen Systems, Inc. 7528 New Castle Road Oklahoma City, OK 73169	Waste Receiver (TSD/Part B) Permit	Oklahoma Department of Environmental Quality	980878474-R1	6/20/2014	6/19/2024
TUL	Tulsa, OK	Safety-Kleen Systems, Inc. 16319 E. Marshall Street Tulsa, OK 74116	Waste Receiver (TSD/Part B) Permit	Oklahoma Department of Environmental Quality	000763821-R1	11/20/2014	11/19/2024
BRA	Brampton AC	Safety-Kleen Canada, Inc. 25 Regan Road Brampton, ON L7A 1B2	Transfer Permit	Ministry of the Environment	A220249		
BRA	Brampton AC	Safety-Kleen Canada, Inc. 25 Regan Road Brampton, ON L7A 1B2	High Hazard Wastes Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
ANC	Brantford, ON	Safety-Kleen Canada, Inc. 60 Bury Court Brantford, ON n3s 0a9	Used Oil Permit	MOE	4751-8X6HHZ	10/15/2012	
ANC	Brantford, ON	Safety-Kleen Canada, Inc. 60 Bury Court Brantford, ON n3s 0a9	Transfer Permit	MOE	4751-8X6HHZ	12/12/2012	12/31/8900
BRE	Breslau Oil	Safety-Kleen Canada, Inc. 300 Woolwich Street South Breslau, ON N0B 1M0	Air Permit (Title V Permit)	Ontario Ministry of Environment and Climate Change	8697-9DMSH5	12/12/2013	
BRE	Breslau Oil	Safety-Kleen Canada, Inc. 300 Woolwich Street South Breslau, ON N0B 1M0	POTW or Waste Water Discharge Permit	Ontario Ministry of Environment and Climate Change	3-1038-91-006	6/9/1991	
BRE	Breslau Oil	Safety-Kleen Canada, Inc. 300 Woolwich Street South Breslau, ON N0B 1M0	Waste Receiver (TSD/Part B) Permit	Ontario Ministry of Environment and Climate Change	A140704	12/8/1995	
BRE	Breslau Oil	Safety-Kleen Canada, Inc. 300 Woolwich Street South Breslau, ON N0B 1M0	Transfer Permit	Ontario Ministry of Environment and Climate Change	A140323		
BRE	Breslau Oil	Safety-Kleen Canada, Inc. 300 Woolwich Street South Breslau, ON N0B 1M0	Other Permits: Permit to Take Water	Ontario Ministry of Environment and Climate Change	3676-9QXQLU	11/18/2014	11/30/2024
TON	Trenton, ON	Safety-Kleen Canada, Inc. 22222 Loyalist Parkway Carrying Place Carrying Place, ON K0K 1L0	Facility Response Plan (FRP)				
TON	Trenton, ON	Safety-Kleen Canada, Inc. 22222 Loyalist Parkway Carrying Place Carrying Place, ON K0K 1L0	Transfer Permit	MOE	A363005	9/24/1991	12/31/8900
TON	Trenton, ON	Safety-Kleen Canada, Inc. 22222 Loyalist Parkway Carrying Place Carrying Place, ON K0K 1L0	Used Oil Permit	MOE	A363005	9/1/1991	
CON	Chelmsford BR	Safety-Kleen Canada, Inc. 4633 Regional Road 15 Chelmsford, ON P0M 1L0	Transfer Permit	MOE	A540804	9/23/1991	12/31/8900

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
CON	Chelmsford BR	Safety-Kleen Canada, Inc. 4633 Regional Road 15 Chelmsford, ON P0M 1L0	Air Permit (Title V Permit)	MOE	7475-7SVRTQ	6/19/2009	
LON	London, ON	Safety-Kleen Canada, Inc. 1040 Hargrieve Road London, ON N6E 1P5	Facility Response Plan (FRP)				
LON	London, ON	Safety-Kleen Canada, Inc. 1040 Hargrieve Road London, ON N6E 1P5	Used Oil Permit	MOE	A040116	1/13/2011	
LON	London, ON	Safety-Kleen Canada, Inc. 1040 Hargrieve Road London, ON N6E 1P5	Transfer Permit	MOE	A040116	1/13/2011	12/31/8900
NEP	Nepean BR	Safety-Kleen Canada, Inc. 89 Bentley Avenue Nepean, ON K2E 6T7	Transfer Permit	MOE	A710119	2/4/1997	12/31/8900
NEP	Nepean BR	Safety-Kleen Canada, Inc. 89 Bentley Avenue Nepean, ON K2E 6T7	Air Permit (Title V Permit)	MOE	7848-8HWL33	10/25/2011	
OSH	Oshawa, ON	Safety-Kleen Canada, Inc. 1220 Skae Drive Oshawa, ON L1J 7A1	Used Oil Permit	MOE	A680121	6/1/1996	
OSH	Oshawa, ON	Safety-Kleen Canada, Inc. 1220 Skae Drive Oshawa, ON L1J 7A1	Facility Response Plan (FRP)				
OSH	Oshawa, ON	Safety-Kleen Canada, Inc. 1220 Skae Drive Oshawa, ON L1J 7A1	Transfer Permit	MOE	A680121	6/7/1996	12/31/8900
WON	Windsor, ON	Safety-Kleen Canada, Inc. 200 Grand Marais Road Windsor, ON N9A 2M1	Used Oil Permit	MOE	A010107	6/1/1999	
WON	Windsor, ON	Safety-Kleen Canada, Inc. 200 Grand Marais Road Windsor, ON N9A 2M1	Transfer Permit	MOE	A010107	3/8/1991	12/31/8900
WON	Windsor, ON	Safety-Kleen Canada, Inc. 200 Grand Marais Road Windsor, ON N9A 2M1	Facility Response Plan (FRP)				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
TPO	Thermo Fluids Portland, Clackamas, Oregon	Thermo Fluids, Inc. 12533 SE Carpenter Drive Clackamas, OR 97015	Other Permits: Yes	Clackamas County, Oregon Department of Enviornmental Quality	01K-062-D		
CLA	Clackamas AC	Safety-Kleen Systems, Inc. 16540 SE 130th Street Building B Clackamas, OR 97015	Waste Receiver (TSDF/Part B) Permit	OR Dept of Env Quality			
CLA	Clackamas AC	Safety-Kleen Systems, Inc. 16540 SE 130th Street Building B Clackamas, OR 97015	UST Permit				
CLA	Clackamas AC	Safety-Kleen Systems, Inc. 16540 SE 130th Street Building B Clackamas, OR 97015	AST Permit	ODEQ part of Part B			
TPO	Thermo Fluids Portland, Clackamas, Oregon	Thermo Fluids, Inc. 12533 SE Carpenter Drive Clackamas, OR 97015	NPDES Permit	Oregon Department of Enviornmental Quality	115053	7/1/2012	6/30/2017
CLB	Clackamas Branch, Clackamas, OR	Safety-Kleen Systems, Inc. 16540 SE 130th Street Clackamas, OR 97015	Used Oil Permit	OR Dept. of Environmental Quality	ORD981766124		
CLA	Clackamas AC	Safety-Kleen Systems, Inc. 16540 SE 130th Street Building B Clackamas, OR 97015	NPDES Permit				
TPO	Thermo Fluids Portland, Clackamas, Oregon	Thermo Fluids, Inc. 12533 SE Carpenter Drive Clackamas, OR 97015	Solid Waste Permit	Oregon Metro Solid Waste	L-121-15	5/28/2015	6/30/2020
CLA	Clackamas AC	Safety-Kleen Systems, Inc. 16540 SE 130th Street Building B Clackamas, OR 97015	Facility Response Plan (FRP)				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
EGO	Eugene BR	Safety-Kleen Systems, Inc. 2730 Roosevelt Boulevard Building S Eugene, OR 97402	Used Oil Permit	Oregon Department of Environmental Quality		3/18/2015	12/31/8900
SOR	Springfield Branch, Springfield, OR	Safety-Kleen Systems, Inc. 550 Shelley Street Springfield, OR 97477	Used Oil Permit		ORD000712067		
FHP	Fairless Hills, PA	Safety-Kleen Systems, Inc. 77 Towpath Road Fairless Hills, PA 19030	Waste Receiver (TSD/Part B) Permit	PADEP	PAD987266715	12/18/2006	12/18/2016
FHP	Fairless Hills, PA	Safety-Kleen Systems, Inc. 77 Towpath Road Fairless Hills, PA 19030	Used Oil Permit	PADEP	WMGR029	12/5/2008	12/5/2018
FHP	Fairless Hills, PA	Safety-Kleen Systems, Inc. 77 Towpath Road Fairless Hills, PA 19030	Transfer Permit	PADEP	PAD987266715	12/18/2006	12/18/2016
FHP	Fairless Hills, PA	Safety-Kleen Systems, Inc. 77 Towpath Road Fairless Hills, PA 19030	NPDES Permit	PADEP	PAG-3	12/1/2011	12/1/2016
JOH	Johnstown, PA	Safety-Kleen Systems, Inc. 150 Allenbill Drive Johnstown, PA 15904	NPDES Permit	PADEP	PAR406101	1/15/2014	1/15/2019
JOH	Johnstown, PA	Safety-Kleen Systems, Inc. 150 Allenbill Drive Johnstown, PA 15904	Transfer Permit	PADEP	PAD981736143	4/29/2015	4/29/2025
JOH	Johnstown, PA	Safety-Kleen Systems, Inc. 150 Allenbill Drive Johnstown, PA 15904	Used Oil Permit	PADEP	WMGR029	12/5/2008	12/5/2018
JOH	Johnstown, PA	Safety-Kleen Systems, Inc. 150 Allenbill Drive Johnstown, PA 15904	Waste Receiver (TSD/Part B) Permit	PADEP	PAD981736143	4/29/2015	4/29/2025
NKP	New Kingstown, PA	Safety-Kleen Systems, Inc. 10 Eleanor Drive PO Box 279 New Kingstown, PA 17072	Other Permits: Yes	PADEP	21-03046	10/1/2008	9/30/2013
NKP	New Kingstown, PA	Safety-Kleen Systems, Inc. 10 Eleanor Drive PO Box 279 New Kingstown, PA 17072	NPDES Permit	PADEP	PAR603576	6/1/2015	5/31/2020

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
NKP	New Kingstown, PA	Safety-Kleen Systems, Inc. 10 Eleanor Drive PO Box 279 New Kingstown, PA 17072	Transfer Permit	PADEP	PAD000738823	7/13/2007	7/12/2017
NKP	New Kingstown, PA	Safety-Kleen Systems, Inc. 10 Eleanor Drive PO Box 279 New Kingstown, PA 17072	Used Oil Permit	PADEP	WMGR029	12/5/2008	12/5/2018
NKP	New Kingstown, PA	Safety-Kleen Systems, Inc. 10 Eleanor Drive PO Box 279 New Kingstown, PA 17072	Waste Receiver (TSD/Part B) Permit	PADEP	PAD000738823	7/13/2007	7/13/2017
WCP	West Chester, PA	Safety-Kleen Systems, Inc. 1138 40 Green Hill Road West Chester, PA 19380	NPDES Permit				
WCP	West Chester, PA	Safety-Kleen Systems, Inc. 1138 40 Green Hill Road West Chester, PA 19380	Waste Receiver (TSD/Part B) Permit	PADEP	PAD000738849	12/18/2006	12/18/2016
WCP	West Chester, PA	Safety-Kleen Systems, Inc. 1138 40 Green Hill Road West Chester, PA 19380	Transfer Permit	PADEP	PAD000738849	12/18/2006	12/18/2016
WCP	West Chester, PA	Safety-Kleen Systems, Inc. 1138 40 Green Hill Road West Chester, PA 19380	Used Oil Permit	PADEP	WMGR029	12/5/2008	12/8/2018
WMP	West Mifflin, West Mifflin, PA	Safety-Kleen Systems, Inc. 650 Noble Drive West Mifflin, PA 15122	Transfer Permit	PADEP	PAD982576258	10/3/2014	10/3/2024
WMP	West Mifflin, West Mifflin, PA	Safety-Kleen Systems, Inc. 650 Noble Drive West Mifflin, PA 15122	Waste Receiver (TSD/Part B) Permit	PADEP	PAD982576258	10/3/2014	10/3/2024
WMP	West Mifflin, West Mifflin, PA	Safety-Kleen Systems, Inc. 650 Noble Drive West Mifflin, PA 15122	Used Oil Permit	PADEP	WMGR029	12/5/2008	12/5/2018
WBP	Wilkes-Barre, PA	Safety-Kleen Systems, Inc. 600 Stewart Road Wilkes Barre, PA 18706	Used Oil Permit	PADEP	WMGR029	12/5/2008	12/5/2018
WBP	Wilkes-Barre, PA	Safety-Kleen Systems, Inc. 600 Stewart Road Wilkes Barre, PA 18706	Transfer Permit	PADEP	PAD981737109	2/5/2015	2/5/2025

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
WBP	Wilkes-Barre, PA	Safety-Kleen Systems, Inc. 600 Stewart Road Wilkes Barre, PA 18706	Waste Receiver (TSD/Part B) Permit	padep	PAD981737109	2/5/2015	2/5/2025
PRB	Manati BR	Safety-Kleen Envirosystems Co of Puerto Rico, Inc KM 51.0, Highway 2 PO Box 31098 Manati, PR 00674	Air Permit (Title V Permit)	PR EQB			
PRB	Manati BR	Safety-Kleen Envirosystems Co of Puerto Rico, Inc KM 51.0, Highway 2 PO Box 31098 Manati, PR 00674	Solid Waste Permit				
PRB	Manati BR	Safety-Kleen Envirosystems Co of Puerto Rico, Inc KM 51.0, Highway 2 PO Box 31098 Manati, PR 00674	Used Oil Permit				
PRB	Manati BR	Safety-Kleen Envirosystems Co of Puerto Rico, Inc KM 51.0, Highway 2 PO Box 31098 Manati, PR 00674	NPDES Permit				
CBR	Chambly RC	Safety-Kleen Canada, Inc. 2730 Industrial Boulevard Chambly, QC J3L 4V2	Waste Receiver (TSD/Part B) Permit	MDDELCC			12/14/2016
CBR	Chambly RC	Safety-Kleen Canada, Inc. 2730 Industrial Boulevard Chambly, QC J3L 4V2	Pharmacy Waste or Equivalent Permit				12/14/2016
CBR	Chambly RC	Safety-Kleen Canada, Inc. 2730 Industrial Boulevard Chambly, QC J3L 4V2	Transfer Permit	MDDELCC	7610-16-010990304-400881517	12/8/2011	12/14/2016
STA	St-Augustin, Québec	Safety-Kleen Canada, Inc. 85 de Hambourg Saint-Augustin-de-Desmaures, QC G3A 1S6	Transfer Permit	MDDELLC	7610-03-00784-12	4/30/2018	
STA	St-Augustin, Québec	Safety-Kleen Canada, Inc. 85 de Hambourg Saint-Augustin-de-Desmaures, QC G3A 1S6	Other Permits: Yes	MDDELLC	7610-03-01-01514-01	10/15/1999	

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
CRR	Cranston RC RC	Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905	NPDES Permit	RIDEM	RIR500000	8/15/2013	8/14/2018
CRR	Cranston RC RC	Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905	Waste Receiver (TSD/Part B) Permit	USEPA/RIDEM	RID040098352	1/1/2011	1/1/2016
GSC	Greer BR	Safety-Kleen Systems, Inc. 2818 Old Woodruff Road Greer, SC 29651	NPDES Permit	SCDHEC		11/12/2010	1/1/2016
GSC	Greer BR	Safety-Kleen Systems, Inc. 2818 Old Woodruff Road Greer, SC 29651	Waste Receiver (TSD/Part B) Permit	SCDHEC	SCD981031040	5/7/2013	5/22/2023
LED	DC Lexington	Safety-Kleen Systems, Inc. 128 Frontage Road Lexington, SC 29073	Waste Receiver (TSD/Part B) Permit	SC DHEC	SCD077955488	5/7/2012	2/28/2022
LER	Safety Kleen Systems, Inc; Lexington, SC	Safety-Kleen Systems, Inc. 130-A Frontage Road Lexington, SC 29073	Air Permit (Title V Permit)	SCDHEC			
LEB	Lexington, SC BR	Safety-Kleen Systems, Inc. 164 Frontage Road Lexington, SC 29073	Other Permits: Yes	SC DHEC	1560-0039	2/5/2009	1/31/2019
LER	Safety Kleen Systems, Inc; Lexington, SC	Safety-Kleen Systems, Inc. 130-A Frontage Road Lexington, SC 29073	Used Oil Permit				
LER	Safety Kleen Systems, Inc; Lexington, SC	Safety-Kleen Systems, Inc. 130-A Frontage Road Lexington, SC 29073	Other Permits: Yes	SC DHEC	1560-0039	2/5/2009	1/31/2019
LER	Safety Kleen Systems, Inc; Lexington, SC	Safety-Kleen Systems, Inc. 130-A Frontage Road Lexington, SC 29073	Waste Receiver (TSD/Part B) Permit	SC DHEC	SCD077955488	5/7/2012	2/28/2022
LER	Safety Kleen Systems, Inc; Lexington, SC	Safety-Kleen Systems, Inc. 130-A Frontage Road Lexington, SC 29073	Transfer Permit	SCDHEC			
LEB	Lexington, SC BR	Safety-Kleen Systems, Inc. 164 Frontage Road Lexington, SC 29073	Waste Receiver (TSD/Part B) Permit	SC DHEC	SCD077955488	5/7/2012	2/28/2022

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
LED	DC Lexington	Safety-Kleen Systems, Inc. 128 Frontage Road Lexington, SC 29073	Other Permits: Yes	SC DHEC	1560-0039	2/5/2009	1/31/2019
CSC	Charleston BR	Safety-Kleen Systems, Inc. 7230 Peppermill Parkway North Charleston, SC 29418	NPDES Permit	SCDHEC	SCR000000	11/12/2010	1/1/2016
SIO	Sioux Falls BR	Safety-Kleen Systems, Inc. 2000 North Westport Avenue Sioux Falls, SD 57107	Waste Receiver (TSD/Part B) Permit	SOUTH DAKOTA DEPT OF ENVIRONMENT AND NATURAL RESOURCES	SDD000716696-2012	10/30/2012	10/30/2017
KNO	Knoxville BR	Safety-Kleen Systems, Inc. 6617 Pleasant Ridge Road Knoxville, TN 37921	NPDES Permit	TDEC	TNR053226	4/14/2015	4/15/2020
KNO	Knoxville BR	Safety-Kleen Systems, Inc. 6617 Pleasant Ridge Road Knoxville, TN 37921	Waste Receiver (TSD/Part B) Permit	TDEC	TNHW-118	9/30/2004	9/30/2014
MIL	Millington, TN	Safety-Kleen Systems, Inc. 3536 Fite Road Millington, TN 38053	Waste Receiver (TSD/Part B) Permit	TDEC	TNHW-141	9/30/2009	9/30/2019
MIL	Millington, TN	Safety-Kleen Systems, Inc. 3536 Fite Road Millington, TN 38053	NPDES Permit	TDEC	TNR051594	6/17/2015	4/14/2020
MIL	Millington, TN	Safety-Kleen Systems, Inc. 3536 Fite Road Millington, TN 38053	Other Permits: Yes	City of Memphis	N-LN2-166	8/10/2012	9/9/2017
NAS	Nashville, TN	Safety-Kleen Systems, Inc. 215 Whitsett Road Nashville, TN 37210	Waste Receiver (TSD/Part B) Permit	TDEC		9/30/2014	9/30/2024
NAS	Nashville, TN	Safety-Kleen Systems, Inc. 215 Whitsett Road Nashville, TN 37210	NPDES Permit	TDEC	TNR050000 Sector K	4/14/2015	4/14/2020
NAS	Nashville, TN	Safety-Kleen Systems, Inc. 215 Whitsett Road Nashville, TN 37210	Other Permits: Yes	Metro Public Health Department Nashville/Davidson County	32-1	4/25/2014	5/31/2014
PLT	Piney Flats BR	Safety-Kleen Systems, Inc. 317 Industrial Park Drive Piney Flats, TN 37686	NPDES Permit	TDEC	TNR053642	4/14/2015	4/14/2020

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
TAT	TFI - Abilene Texas	Thermo Fluids, Inc. 1546 CR 314 Abilene, TX 79604	Used Oil Permit	TCEQ	A85698	1/20/2004	
ABI	Abilene BR	Safety-Kleen Systems, Inc. 4234 Oil Belt Lane Abilene, TX 79605	NPDES Permit				
ABI	Abilene BR	Safety-Kleen Systems, Inc. 4234 Oil Belt Lane Abilene, TX 79605	Used Oil Permit	TCEQ	A85168		
ABI	Abilene BR	Safety-Kleen Systems, Inc. 4234 Oil Belt Lane Abilene, TX 79605	Waste Receiver (TSD/Part B) Permit	Texas Commission on Environmental Quality	50237	10/31/2013	10/31/2023
TFA	TFI	Thermo Fluids, Inc. 2740 West 45th Street Amarillo, TX 79110	Used Oil Permit	TCEQ	A85481	1/20/2004	
AMA	Amarillo BR	Safety-Kleen Systems, Inc. 1750 West Loop 335 South Amarillo, TX 79118	Used Oil Permit	TCEQ			12/30/9999
AMA	Amarillo BR	Safety-Kleen Systems, Inc. 1750 West Loop 335 South Amarillo, TX 79118	NPDES Permit				
AMA	Amarillo BR	Safety-Kleen Systems, Inc. 1750 West Loop 335 South Amarillo, TX 79118	Transfer Permit	TCEQ	SWR 86125		
TLT	Lubbock (420)	Thermo Fluids, Inc. 2302 Lubbock Road Brownfield, TX 79316	Used Oil Permit		Texas A85129 - TXD982756868		
TLT	Lubbock (420)	Thermo Fluids, Inc. 2302 Lubbock Road Brownfield, TX 79316	Other Permits: Sludge Transportation	TCEQ	23477		
TLT	Lubbock (420)	Thermo Fluids, Inc. 2302 Lubbock Road Brownfield, TX 79316	Solid Waste Permit	TCEQ			
TLT	Lubbock (420)	Thermo Fluids, Inc. 2302 Lubbock Road Brownfield, TX 79316	NPDES Permit				
COR	Corpus Christi BR	Safety-Kleen Systems, Inc. 3820 Bratton Road Corpus Christi, TX 78413	Waste Receiver (TSD/Part B) Permit	Texas Commission on Environmental Quality	50233	4/14/2014	4/14/2024

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
COR	Corpus Christi BR	Safety-Kleen Systems, Inc. 3820 Bratton Road Corpus Christi, TX 78413	Used Oil Permit	TCEQ			
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	High Hazard Wastes Permit				
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	Air Permit (Title V Permit)	TCEQ			
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	TSCA Permit	USEPA			
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	Waste Receiver (TSDF/Part B) Permit	TCEQ			
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	Used Oil Permit				
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	Transfer Permit	TCEQ			
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	POTW or Waste Water Discharge Permit	City of Denton			
DNR	Denton RC	Safety-Kleen Systems, Inc. 1722 Cooper Creek Road Denton, TX 76208	NPDES Permit	TCEQ			
ELP	El Paso BR	Safety-Kleen Systems, Inc. 4050 Flager Road El Paso, TX 79938	Transfer Permit	TCEQ	SWR 88130		
ELP	El Paso BR	Safety-Kleen Systems, Inc. 4050 Flager Road El Paso, TX 79938	NPDES Permit				
TET	TFI - El Paso, Texas	Thermo Fluids, Inc. 140 S Prado Road El Paso, TX 79907	Used Oil Permit	TCEQ	A85528	2/10/2014	

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
ELP	El Paso BR	Safety-Kleen Systems, Inc. 4050 Flager Road El Paso, TX 79938	Used Oil Permit	TCEQ			12/30/9999
FWO	Ft. Worth Terminal	Safety-Kleen Systems, Inc. 10233 Hicks Field Road Fort Worth, TX 76179	NPDES Permit		TXR05AW16		
FWO	Ft. Worth Terminal	Safety-Kleen Systems, Inc. 10233 Hicks Field Road Fort Worth, TX 76179	Solid Waste Permit	TCEQ	Texas Solid Waste Registration 83150		
FWO	Ft. Worth Terminal	Safety-Kleen Systems, Inc. 10233 Hicks Field Road Fort Worth, TX 76179	Used Oil Permit		A85080 - TXD077603371		12/31/2017
FWB	Haltom City, Fort Worth, TX	Safety-Kleen Systems, Inc. 6529 Midway Road Haltom City, TX 76117	Other Permits: Yes	TCEQ	22459	8/29/2014	8/31/2018
FWB	Haltom City, Fort Worth, TX	Safety-Kleen Systems, Inc. 6529 Midway Road Haltom City, TX 76117	Waste Receiver (TSD/Part B) Permit	Texas Commission on Environmental Quality	50228	10/9/2013	10/9/2023
FWB	Haltom City, Fort Worth, TX	Safety-Kleen Systems, Inc. 6529 Midway Road Haltom City, TX 76117	NPDES Permit	TCEQ	TXR05CV89	9/21/2016	8/14/2021
FWB	Haltom City, Fort Worth, TX	Safety-Kleen Systems, Inc. 6529 Midway Road Haltom City, TX 76117	Used Oil Permit	Texas Commission on Environmental Quality	A85174		
HOU	Houston Oil	Safety-Kleen Systems, Inc. 11953 FM 529 Houston, TX 77041	NPDES Permit		TXRNEW274	11/14/2016	
HOU	Houston Oil	Safety-Kleen Systems, Inc. 11953 FM 529 Houston, TX 77041	Used Oil Permit	TCEQ	Texas A85839 - TXR000059303		
HOU	Houston Oil	Safety-Kleen Systems, Inc. 11953 FM 529 Houston, TX 77041	Solid Waste Permit	TCEQ	Texas Solid Waste Registration 95255		
HOU	Houston Oil	Safety-Kleen Systems, Inc. 11953 FM 529 Houston, TX 77041	Air Permit (Title V Permit)				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
IRV	Irving, TX	Safety-Kleen Systems, Inc. 2130 E. Grauwylar Road Irving, TX 75061	Waste Receiver (TSDf/Part B) Permit	TCEQ	50218	6/25/2014	6/25/2024
IRV	Irving, TX	Safety-Kleen Systems, Inc. 2130 E. Grauwylar Road Irving, TX 75061	Other Permits: Yes	TCEDQ	22459	8/29/2014	8/31/2018
IRV	Irving, TX	Safety-Kleen Systems, Inc. 2130 E. Grauwylar Road Irving, TX 75061	NPDES Permit	TCEQ	TXR05AW26	11/10/2011	8/14/2021
IRV	Irving, TX	Safety-Kleen Systems, Inc. 2130 E. Grauwylar Road Irving, TX 75061	Used Oil Permit	TCEQ	A85171		
LRE	Laredo BR	Safety-Kleen Systems, Inc. 186 Ranch Road 6086D Laredo, TX 78046	Used Oil Permit	TCEQ	A86239	2/1/2015	12/30/9999
LTX	Longview BR	Safety-Kleen Systems, Inc. 202 Michael Place Longview, TX 75603	Used Oil Permit	TCEQ	A85233		
LTX	Longview BR	Safety-Kleen Systems, Inc. 202 Michael Place Longview, TX 75603	Waste Receiver (TSDf/Part B) Permit	Texas Commission on Environmental Quality		10/18/2013	10/18/2023
MCT	McAllen BR	Safety-Kleen Systems, Inc. 1311 East Tamarack Avenue McAllen, TX 78501	Waste Receiver (TSDf/Part B) Permit	Texas Commission on Environmental Quality	50234	7/11/2013	7/11/2023
MCT	McAllen BR	Safety-Kleen Systems, Inc. 1311 East Tamarack Avenue McAllen, TX 78501	Used Oil Permit				
MID	Midland, TX BR	Safety-Kleen Systems, Inc. 10607 West County Road 127 Midland, TX 79711	NPDES Permit				
MID	Midland, TX BR	Safety-Kleen Systems, Inc. 10607 West County Road 127 Midland, TX 79711	Waste Receiver (TSDf/Part B) Permit	Texas Commission on Environmental Quality	50215	7/30/2013	7/30/2023
MID	Midland, TX BR	Safety-Kleen Systems, Inc. 10607 West County Road 127 Midland, TX 79711	Used Oil Permit	TCEQ	A85244		

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
MIS	Missouri City BR	Safety-Kleen Systems, Inc. 1580 Industrial Drive Missouri City, TX 77489	Waste Receiver (TSD/Part B) Permit	Texas Commission on Environmental Quality	50236	5/13/2014	5/13/2024
MIS	Missouri City BR	Safety-Kleen Systems, Inc. 1580 Industrial Drive Missouri City, TX 77489	Used Oil Permit	TCEQ	A85239		
TOD	TFI - Odessa Texas	Thermo Fluids, Inc. 1501 Walther Road Odessa, TX 79763	Used Oil Permit	TCEQ	A85695	1/20/2004	
ORT	Orange BR	Safety-Kleen Systems, Inc. 3454 Womack Road Orange, TX 77632	Used Oil Permit	TCEQ	A85163		12/30/9999
ORT	Orange BR	Safety-Kleen Systems, Inc. 3454 Womack Road Orange, TX 77632	Transfer Permit	TCEQ	SWR No. 70026		
TSA	San Antonio (415)	Thermo Fluids, Inc. 1435 Sherman Street San Antonio, TX 78202	NPDES Permit	TCEQ	TXRNEEAF78	11/14/2016	
SAB	San Antonio BR	Safety-Kleen Systems, Inc. 5243 Sinclair Road San Antonio, TX 78222	Used Oil Permit	TCEQ	A85165		
SAB	San Antonio BR	Safety-Kleen Systems, Inc. 5243 Sinclair Road San Antonio, TX 78222	Waste Receiver (TSD/Part B) Permit	Texas Commission on Environmental Quality	50246	3/31/2014	3/31/2024
TSA	San Antonio (415)	Thermo Fluids, Inc. 1435 Sherman Street San Antonio, TX 78202	Used Oil Permit	TCEQ	Texas A86182 - TXR000081458		12/31/2017
TSA	San Antonio (415)	Thermo Fluids, Inc. 1435 Sherman Street San Antonio, TX 78202	Facility Response Plan (FRP)				
TSA	San Antonio (415)	Thermo Fluids, Inc. 1435 Sherman Street San Antonio, TX 78202	Solid Waste Permit	TCEQ	96063		
TSA	San Antonio (415)	Thermo Fluids, Inc. 1435 Sherman Street San Antonio, TX 78202	AST Permit	City of San Antonio	83380-465934	1/1/2017	12/31/2017

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
TSA	San Antonio (415)	Thermo Fluids, Inc. 1435 Sherman Street San Antonio, TX 78202	Other Permits: Yes	TCEQ	23477 TCEQ Sludge Trans permit to Landfill.		
SAB	San Antonio BR	Safety-Kleen Systems, Inc. 5243 Sinclair Road San Antonio, TX 78222	High Hazard Wastes Permit				
WAC	Waco BR	Safety-Kleen Systems, Inc. 22006 Woodway Drive Waco, TX 76712	Used Oil Permit	TCEQ	A85177		
WAC	Waco BR	Safety-Kleen Systems, Inc. 22006 Woodway Drive Waco, TX 76712	Waste Receiver (TSD/Part B) Permit	Texas Commision on Environmental Quality	50238	4/22/2014	4/22/2024
SLC	Salt Lake City BR	Safety-Kleen Systems, Inc. 1066 South Pioneer Road Salt Lake City, UT 84104	AST Permit	UDEQ			
SLC	Salt Lake City BR	Safety-Kleen Systems, Inc. 1066 South Pioneer Road Salt Lake City, UT 84104	NPDES Permit	Utah DEQ	UTR000000	12/31/2012	12/31/2017
ESU	EMR SLC UT - FAC	Emerald Services, Inc 2450 South 800 West Salt Lake City, UT 84119	Used Oil Permit	Utah Department of Environmental Quality	UOP-0084; UOP-0090; UOP-0087		
ESU	EMR SLC UT - FAC	Emerald Services, Inc 2450 South 800 West Salt Lake City, UT 84119	NPDES Permit	Utah Department of Environmental Quality	UTR265403	10/9/2013	12/31/2018
SLC	Salt Lake City BR	Safety-Kleen Systems, Inc. 1066 South Pioneer Road Salt Lake City, UT 84104	Used Oil Permit	UDEQ	UOP-0047	6/30/2014	
TFU	TFU Salt Lake City, Utah	Thermo Fluids, Inc. 3545 West 500 South Salt Lake City, UT 84104	Other Permits: Yes				
TFU	TFU Salt Lake City, Utah	Thermo Fluids, Inc. 3545 West 500 South Salt Lake City, UT 84104	Solid Waste Permit				
TFU	TFU Salt Lake City, Utah	Thermo Fluids, Inc. 3545 West 500 South Salt Lake City, UT 84104	Facility Response Plan (FRP)				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
TFU	TFU Salt Lake City, Utah	Thermo Fluids, Inc. 3545 West 500 South Salt Lake City, UT 84104	Used Oil Permit		HMP - 03156		
SLC	Salt Lake City BR	Safety-Kleen Systems, Inc. 1066 South Pioneer Road Salt Lake City, UT 84104	Waste Receiver (TSD/Part B) Permit	Utah DEQ	UTD980957008	9/29/2016	9/29/2026
CPK	Chesapeake, VA	Safety-Kleen Systems, Inc. 4545 Bainbridge Boulevard Chesapeake, VA 23320	Waste Receiver (TSD/Part B) Permit	VADEQ	VAD000737346	10/30/2008	10/30/2018
CPK	Chesapeake, VA	Safety-Kleen Systems, Inc. 4545 Bainbridge Boulevard Chesapeake, VA 23320	Facility Response Plan (FRP)	USCG		5/24/2013	5/24/2018
CPK	Chesapeake, VA	Safety-Kleen Systems, Inc. 4545 Bainbridge Boulevard Chesapeake, VA 23320	NPDES Permit	VA DEQ	VAR050493	7/1/2014	6/30/2019
CVA	Chester, VA	Safety-Kleen Systems, Inc. 1200 W. 100 Road Chester, VA 23836	Waste Receiver (TSD/Part B) Permit	VADEQ	VAD981043011	10/24/2007	10/24/2017
CVA	Chester, VA	Safety-Kleen Systems, Inc. 1200 W. 100 Road Chester, VA 23836	NPDES Permit	VADEQ	VAR051792	7/1/2014	6/30/2019
MAN	Manassas, VA	Safety-Kleen Systems, Inc. 11520 Balls Ford Road Manassas, VA 20109	Other Permits: Yes	Prince William County - Office of Fire Marshal			
ROA	Vinton, VA	Safety-Kleen Systems, Inc. 16090 Stewartsville Road Vinton, VA 24179	Waste Receiver (TSD/Part B) Permit	VADEQ	VAD000737361	8/18/2008	8/18/2018
ROA	Vinton, VA	Safety-Kleen Systems, Inc. 16090 Stewartsville Road Vinton, VA 24179	NPDES Permit	VADEQ	VAR051316	7/1/2014	6/30/2019
BVT	Barre, VT (Montpelier) BR	Safety-Kleen Systems, Inc. 23 West Second Street Barre, VT 05641	NPDES Permit	VT DEC	VTR050001	8/4/2011	8/4/2016
BVT	Barre, VT (Montpelier) BR	Safety-Kleen Systems, Inc. 23 West Second Street Barre, VT 05641	Waste Receiver (TSD/Part B) Permit	VT DEC	VTD000791699	9/26/2007	9/26/2012

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
BVT	Barre, VT (Montpelier) BR	Safety-Kleen Systems, Inc. 23 West Second Street Barre, VT 05641	Transfer Permit	VT DEC	VTD000791699	9/26/2007	9/26/2012
AUB	Auburn Branch, Auburn, WA	Safety-Kleen Systems, Inc. 3102 B Street NW Auburn, WA 98001	Used Oil Permit	WA Dept. of Ecology	WAD061665766		
AUB	Auburn Branch, Auburn, WA	Safety-Kleen Systems, Inc. 3102 B Street NW Auburn, WA 98001	NPDES Permit	Department of Ecology	WAR125340	1/2/2015	12/31/2019
ECG	EMR Everett WA - FAC	Emerald Services, Inc 3620 36th Place Everett, WA 98201	NPDES Permit				
ECG	EMR Everett WA - FAC	Emerald Services, Inc 3620 36th Place Everett, WA 98201	Transfer Permit	Washington State Department of Ecology			
ECG	EMR Everett WA - FAC	Emerald Services, Inc 3620 36th Place Everett, WA 98201	Other Permits: Site is operated by Cedar Grove Composting. Composting permits apply. Emerald manages used oil transfer operation (SPCC) only.				
PAS	Pasco Branch, Pasco, WA	Safety-Kleen Systems, Inc. 1202 SE Road 18 E Pasco, WA 99301	Used Oil Permit	WA Dept. of Ecology	WAH000042595		
ESW	EMR - Airport Way Facility	Emerald Services, Inc 1500 Airport Way South Seattle, WA 98134	POTW or Waste Water Discharge Permit	King County	7884-01	11/13/2012	11/19/2017
ESW	EMR - Airport Way Facility	Emerald Services, Inc 1500 Airport Way South Seattle, WA 98134	Solid Waste Permit	King County			
EBW	EMR Brighton Seattle WA - FAC	Emerald Services, Inc 6851 E Marginal Way South Seattle, WA 98108	Other Permits: various local Fire Dept. Permits	Seattle Fire Marshal's Office			
ESW	EMR - Airport Way Facility	Emerald Services, Inc 1500 Airport Way South Seattle, WA 98134	Other Permits: Fire Dept. HazMat Permits, Air Agency Permits for Emissions controls				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
EBW	EMR Brighton Seattle WA - FAC	Emerald Services, Inc 6851 E Marginal Way South Seattle, WA 98108	POTW or Waste Water Discharge Permit	King County Industrial Waste Program	4372-01	4/28/2016	4/27/2021
SPO	Spokane Branch, Spokane Valley, WA	Safety-Kleen Systems, Inc. 3808 North Sullivan Road Building 12, Suite 1W Spokane, WA 99216	Used Oil Permit	WA Dept. of Ecology	WAH000025242		12/31/8900
ESK	EMR Spokane WA - FAC	Emerald Services, Inc 6308 E Sharp Avenue Spokane, WA 99212	Other Permits: Yes	Spokane Regional Clean Air Agency		1/14/2016	1/14/2017
ESK	EMR Spokane WA - FAC	Emerald Services, Inc 6308 E Sharp Avenue Spokane, WA 99212	Solid Waste Permit				
TSW	TFI- Sumner, WA (Tank Farm)	Thermo Fluids, Inc. 1517 Pease Avenue Sumner, WA 98390	NPDES Permit				
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Solid Waste Permit	Washington State Department of Ecology	2015-001		
ETO	EMR - Tacoma - Refinery	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Used Oil Permit				
ETO	EMR - Tacoma - Refinery	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Other Permits: Mobile Fueling Permit, Emissions Controls Permits				
ETO	EMR - Tacoma - Refinery	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	POTW or Waste Water Discharge Permit				
ETO	EMR - Tacoma - Refinery	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Facility Response Plan (FRP)				
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Transfer Permit				
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	NPDES Permit				

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Other Permits: Boiler Permit				
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Facility Response Plan (FRP)	CH2MHILL			
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	POTW or Waste Water Discharge Permit	City of Tacoma	TAC-013-2013	12/31/2013	12/30/2018
ETW	EMR - Tacoma - RCRA Facility	Emerald Services, Inc 1825 Alexander Avenue Tacoma, WA 98421	Waste Receiver (TSD/Part B) Permit	Washington State Department of Ecology	WAD981769110	4/1/2010	4/1/2020
EPN	EMR - Tacoma TF - Marine View	Emerald Services, Inc 1749 Marine View Drive Tacoma, WA 98422	POTW or Waste Water Discharge Permit				
EPN	EMR - Tacoma TF - Marine View	Emerald Services, Inc 1749 Marine View Drive Tacoma, WA 98422	Transfer Permit				
EPN	EMR - Tacoma TF - Marine View	Emerald Services, Inc 1749 Marine View Drive Tacoma, WA 98422	Facility Response Plan (FRP)				
EVW	EMR Vancouver WA - FAC	Emerald Services, Inc 1300 West 12th Street Vancouver, WA 98660	Other Permits: Air Operating Permit		SWCAA 00-2285R1		
EVW	EMR Vancouver WA - FAC	Emerald Services, Inc 1300 West 12th Street Vancouver, WA 98660	POTW or Waste Water Discharge Permit	City of Vancouver	2013-05	7/1/2013	6/30/2018
KAU	Kaukauna BR	Safety-Kleen Systems, Inc. 2100 Badger Road Kaukauna, WI 54130	Waste Receiver (TSD/Part B) Permit	WISCONSIN DEPT OF NATURAL RESOURCES	HW TANK-3248; HW CONTAINER 6003	1/30/2014	1/30/2024
KAU	Kaukauna BR	Safety-Kleen Systems, Inc. 2100 Badger Road Kaukauna, WI 54130	Solid Waste Permit	WISCONSIN DEPT OF NATURAL RESOURCES	3764	10/1/2016	9/30/2017
KIM	Safety-Kleen Systems, Inc., Kimberly, WI	Safety-Kleen Systems, Inc. 552 Carter Court Kimberly, WI 54136	Used Oil Permit	Wisconsin Department of Natural Resources	WID988579439	10/6/2008	

WIN ID	Site Name, City, State	Address	Permit	Issuing Agency	Permit Number	Issue Date	Expiration Date
MWO	Safety-Kleen Systems, Inc., Madison, WI	Safety-Kleen Systems, Inc. 3715 Lexington Avenue Madison, WI 53714	Facility Response Plan (FRP)	USEPA		11/1/2012	12/31/8900
MWB	Madison BR	Safety-Kleen Systems, Inc. 3715 Lexington Avenue Madison, WI 53714	Solid Waste Permit	WISCONSIN DEPT OF NATURAL RESOURCES	4433	10/1/2016	9/30/2017
MWB	Madison BR	Safety-Kleen Systems, Inc. 3715 Lexington Avenue Madison, WI 53714	Facility Response Plan (FRP)	US EPA REGION 5		11/1/2012	12/31/8900
WAU	Waukesha, WI (Milwaukee) BR	Safety-Kleen Systems, Inc. 2200 South West Avenue Waukesha, WI 53189	Waste Receiver (TSD/Part B) Permit	WISCONSIN DEPT OF NATURAL RESOURCES	HW TANK-3246; HW CONTAINER 6004	1/30/2014	1/30/2024
WAU	Waukesha, WI (Milwaukee) BR	Safety-Kleen Systems, Inc. 2200 South West Avenue Waukesha, WI 53189	Solid Waste Permit	WISCONSIN DEPT OF NATURAL RESOURCES	3762	10/1/2016	9/30/2017
POC	Poca, WV (Charleston) BR	Safety-Kleen Systems, Inc. 111 Harris Drive Poca, WV 25159	NPDES Permit	WVDEP	WV0111457	3/3/2014	2/28/2019
WHE	Wheeling, WV	Safety-Kleen Systems, Inc. 10 Industrial Park Drive Wheeling, WV 26003	Waste Receiver (TSD/Part B) Permit	WVDEP	WVD981034101	9/24/2014	9/23/2024
WHE	Wheeling, WV	Safety-Kleen Systems, Inc. 10 Industrial Park Drive Wheeling, WV 26003	NPDES Permit	WVDEP	WVO111457	3/3/2014	2/28/2019
TGW	TFI- Gillette, WY	Thermo Fluids, Inc. 101 Enterprise Avenue Gillette, WY 82717	Solid Waste Permit				

EXHIBIT C

Safety-Kleen Compliance Statistics Summary - NC

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
ARC	Safety-Kleen Systems, Inc.	Archdale, NC (Greesbor/Highpt)	289	0	0	\$0.00
CHB	Safety-Kleen Systems, Inc.	Charlotte, NC	191	1	1	\$0.00
CHO	Safety-Kleen Systems, Inc.	Charlotte, NC (1st Rcvy)	5	1	1	\$0.00
RAL	Safety-Kleen Systems, Inc.	Raleigh, NC	240	3	3	\$150.00
STP	Safety-Kleen Systems, Inc.	St. Pauls, NC	205	2	2	\$0.00

Safety-Kleen Compliance Statistics Summary - Non NC

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
ABI	Safety-Kleen Systems, Inc.	Abilene, TX	11	0	0	\$0.00
AKR	Safety-Kleen Systems, Inc.	Akron, OH (Kent) - AC	0	0	0	\$0.00
ALB	Safety-Kleen Systems, Inc.	Albuquerque, NM	15	2	2	\$18,848.00
AMA	Safety-Kleen Systems, Inc.	Amarillo, TX	6	0	0	\$0.00
ANC	Safety-Kleen Canada, Inc.	Brantford	11	1	1	\$0.00
ANY	Safety-Kleen Systems, Inc.	North Amityville, NY	31	4	3	\$0.00
AUB	Safety-Kleen Systems, Inc.	Auburn, WA (Seattle)	13	2	1	\$0.00
AVO	Safety-Kleen Systems, Inc.	Avon, NY (Rochester)	32	3	3	\$0.00
BAL	Safety-Kleen Systems, Inc.	Baltimore, MD	29	2	1	\$1,500.00
BDB	Safety-Kleen Systems, Inc.	Bridgeport, CT	0	0	0	\$0.00
BDO	Safety-Kleen Systems, Inc.	Bridgeport, CT (ALR)	4	1	1	\$3,000.00
BIS	Safety-Kleen Systems, Inc.	Bismarck, ND (Fargo)	12	2	2	\$0.00
BLA	Safety-Kleen Systems, Inc.	Blaine , MN (St. Paul)	75	3	3	\$0.00
BNJ	Safety-Kleen Systems, Inc.	DC Burlington	41	5	5	\$51,800.00
BOI	Safety-Kleen Systems, Inc.	Boise, ID	17	3	3	\$47,801.00
BOY	Safety-Kleen Systems, Inc.	Boynton Beach, FL (Palm Beach)	31	1	1	\$0.00
BPO	Vulsay Industries, LTD	Vulsay Pkg Fac, Brampton, ON	0	0	0	\$0.00
BRA	Safety-Kleen Canada, Inc.	Brampton, ON - AC	11	0	0	\$0.00
BRB	Safety-Kleen Canada, Inc.	Brampton, ON	7	0	0	\$0.00
BRE	Safety-Kleen Canada, Inc.	Breslau, ON	23	15	15	\$0.00
BRG	Safety-Kleen Systems, Inc.	Baton Rouge	1	0	0	\$0.00
BRN	Safety-Kleen US	Braintree, MA DC	0	0	0	\$0.00
BRU	Safety-Kleen Systems, Inc.	Brunswick, OH (Cleveland)	22	1	1	\$0.00
BUF	Safety-Kleen Systems, Inc.	Buffalo, NY	14	1	0	\$0.00
BVT	Safety-Kleen Systems, Inc.	Barre, VT (Montpelier)	7	6	5	\$0.00
CAL	Safety-Kleen Canada, Inc.	Calgary, AB	10	2	1	\$0.00
CAP	Safety-Kleen Systems, Inc.	Cape Girardeau, MO (SE MO)	57	0	0	\$0.00
CAS	Safety-Kleen Systems, Inc.	Caseyville, IL (St. Louis)	8	0	0	\$0.00
CAZ	Safety-Kleen Systems, Inc.	Chandler, AZ (Phoenix)	51	1	1	\$0.00
CBB	Safety-Kleen Canada, Inc.	Chambly, QC	0	1	1	\$0.00
CBR	Safety-Kleen Canada, Inc.	Chambly, QC -RC	13	1	0	\$0.00
CHU	Safety-Kleen Systems, Inc.	Chubbuck, ID	0	0	0	\$0.00
CLA	Safety-Kleen Systems, Inc.	Clackamas, OR - AC	26	1	0	\$0.00
CLB	Safety-Kleen Systems, Inc.	Clackamas, OR (Portland)	2	3	3	\$19,200.00
CLO	Safety-Kleen Systems, Inc.	Cloquet, MN (Duluth)	12	0	0	\$0.00
COH	Safety-Kleen Systems, Inc.	Cohoes, NY (Albany/Colonie)	28	8	5	\$56,000.00
COL	Safety-Kleen Systems, Inc.	Columbia, MO	58	1	0	\$0.00
CON	Safety-Kleen Canada, Inc.	Chelmsford, ON (Sudbury)	7	1	1	\$0.00
COR	Safety-Kleen Systems, Inc.	Corpus Christi, TX	18	1	1	\$0.00
CPK	Safety-Kleen Systems, Inc.	Chesapeake, VA (Norfolk)	29	1	1	\$20,000.00
CRB	Safety-Kleen Systems, Inc.	Sk Cranston, RI	2	5	5	\$549,087.00
CRR	Safety-Kleen Systems, Inc.	Cranston, RI - RC	15	1	1	\$11,500.00
CSC	Safety-Kleen Systems, Inc.	North Charleston, SC	7	0	0	\$0.00
CSR	Safety Kleen, Inc.	Casper - Mills WY FAC	1	0	0	\$0.00
CTN	Safety-Kleen Systems, Inc.	Chattanooga, TN	1	0	0	\$0.00
CVA	Safety-Kleen Systems, Inc.	Chester, VA (Richmond)	11	0	0	\$0.00
CWY	Safety-Kleen Systems, Inc.	Casper, WY	5	0	0	\$0.00
DAL	Safety-Kleen Systems, Inc.	Dolomite, AL (Birmingham)	9	1	1	\$0.00
DAV	Safety-Kleen Systems, Inc.	Davenport, IA	7	1	0	\$0.00
DBF	Safety-Kleen Canada, Inc.	Debert NS	0	0	0	\$0.00
DDG	Safety-Kleen Systems, Inc.	Dodge City, KS	6	1	1	\$0.00
DES	Safety-Kleen Systems, Inc.	Des Moines, IA	14	3	2	\$0.00

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
DKS	Safety-Kleen Systems, Inc.	Dodge City, KS	5	0	0	\$0.00
DND	Safety-Kleen Systems, Inc.	Denton, TX - DC	0	0	0	\$0.00
DNO	Safety-Kleen Systems, Inc.	DC Denton Oil	0	0	0	\$0.00
DNR	Safety-Kleen Systems, Inc.	Denton, TX - RC	21	7	7	\$67,190.00
DOB	Safety-Kleen Systems, Inc.	Dolton, IL	0	0	0	\$0.00
DOD	Safety-Kleen Systems, Inc.	Dolton, IL - DC	0	0	0	\$0.00
DOO	Safety-Kleen Systems, Inc.	DC Dolton Oil	0	0	0	\$0.00
DOP	Safety-Kleen Systems, Inc.	Dolton Packaging FAC	0	0	0	\$0.00
DOR	Safety-Kleen Systems, Inc.	Dolton, IL - RC	61	8	7	\$0.00
DSC	Safety-Kleen Systems, Inc.	Clive Facility	0	0	0	\$0.00
DSD	Safety-Kleen Systems Inc.	Dolton Solvent Denton	0	0	0	\$0.00
DSG	Safety-Kleen Systems, Inc.	Dolton Solvent LaPorte (Gulf)	0	0	0	\$0.00
DSH	Safety-Kleen Systems, Inc.	Dolton Solvent Henderson	0	0	0	\$0.00
DSN	Safety-Kleen Canada, Inc.	Dolton Solvent Nisku	0	0	0	\$0.00
DSP	Safety-Kleen Systems, Inc.	Dolton Solvent Phoenix	0	0	0	\$0.00
DST	Safety-Kleen Systems, Inc.	Dolton Solvent Tulsa	0	0	0	\$0.00
DTB	Safety-Kleen Canada, Inc.	Delta, BC	7	1	0	\$0.00
DTR	Safety-Kleen Canada, Inc.	Delta, BC - RC	27	1	0	\$0.00
DUN	Safety-Kleen Canada, Inc.	DUNCAN, BC--BRANCH-OPS	0	0	0	\$0.00
EAA	Safety-Kleen Systems, Inc.	Eagan, MN - AC	3	0	0	\$0.00
EAB	Safety-Kleen Systems, Inc.	Eagan, MN (Minneapolis)	31	2	1	\$2,100.00
EAS	Safety-Kleen Systems, Inc.	East Chicago, IN	75	71	70	\$122,709.00
EBM	Emerald Services, Inc	EMR Billings MT - FAC	1	0	0	\$0.00
EBW	Emerald Services, Inc	EMR Brighton Seattle WA - FAC	3	1	1	\$0.00
ECG	Emerald Services, Inc	EMR Everett WA - FAC	0	1	0	\$0.00
ECN	Safety-Kleen of California, Inc.	Carson TSDF, Carson, CA	8	2	2	\$0.00
ECO	Safety-Kleen Systems, Inc.	Englewood, CO (Denver) -Miller	11	0	0	\$0.00
EDS	Safety-Kleen of California, Inc.	Davis Domicile Spoke, Davis CA	0	0	0	\$0.00
EFO	Safety-Kleen of California, Inc.	Fresno Tank Farm, Fresno, CA	1	0	0	\$0.00
EGM	Emerald Services, Inc	EMR Great Falls MT - FAC	0	0	0	\$0.00
EGO	Safety-Kleen Systems, Inc.	Eugene Branch	1	0	0	\$0.00
EHM	Emerald Services, Inc	EMR Helena MT - FAC	0	1	1	\$67,500.00
EID	Emerald Services, Inc	EMR Pocatello - FAC	0	2	1	\$12,800.00
ELC	Safety-Kleen Systems, Inc.	El Cajon, CA (San Diego)	25	1	1	\$400.00
ELF	Emerald Services, Inc	EMR - Great Falls MT -Landfarm	0	0	0	\$0.00
ELG	Safety-Kleen Systems, Inc.	Elgin, IL	24	1	1	\$0.00
ELM	Safety-Kleen Systems, Inc.	El Monte, CA - AC	30	2	1	\$0.00
ELP	Safety-Kleen Systems, Inc.	El Paso, TX	2	0	0	\$0.00
EMA	Emerald Services, Inc	EMR Missoula MT - FAC	0	2	0	\$0.00
EMW	Emerald Services, Inc	EMR - Seattle HQ	1	1	1	\$0.00
ENU	Emerald Services, Inc	EMR - Tacoma TF - D Street	0	0	0	\$0.00
EPI	Safety-Kleen Systems, Inc.	WC E Peoria-Champaign	0	0	0	\$0.00
EPN	Emerald Services, Inc	EMR - Tacoma TF - Marine View	0	2	1	\$2,000.00
EPW	Emerald Services, Inc	EMR Pasco WA - FAC	0	0	0	\$0.00
ERI	Safety-Kleen Systems, Inc.	Erie, PA	6	1	1	\$0.00
ESK	Emerald Services, Inc	EMR Spokane WA - FAC	0	1	1	\$12,000.00
ESL	Safety-Kleen Systems, Inc.	East St. Louis, IL	1	0	0	\$0.00
ESU	Emerald Services, Inc	EMR SLC UT - FAC	0	1	1	\$73,274.00
ESW	Emerald Services, Inc	EMR - Airport Way Facility	5	19	9	\$82,018.00
ETO	Emerald Services, Inc	EMR - Tacoma - Refinery	3	2	2	\$0.00
ETW	Emerald Services, Inc	EMR - Tacoma - RCRA Facility	9	15	8	\$179,200.00
EVA	Safety-Kleen Systems, Inc.	Evansville, IN	5	0	0	\$0.00
EVG	Safety-Kleen of California, Inc.	Newark Re-refinery, Newark, CA	36	11	10	\$90,000.00

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
EVW	Emerald Services, Inc	EMR Vancouver WA - FAC	3	2	2	\$500.00
FAC	Safety-Kleen Systems Inc.	Fallon Used Oil Supply Chain	0	0	0	\$0.00
FAD	Safety-Kleen Systems Inc.	Refinery Economics - Nevada	0	0	0	\$0.00
FAI	Safety-Kleen Systems, Inc.	Fairfield, OH (Fairfield)	5	0	0	\$0.00
FAL	Safety-Kleen Systems Inc.	Fallon Re-refinery	3	0	0	\$0.00
FAR	Safety-Kleen Systems, Inc.	Fargo, ND	27	1	1	\$0.00
FGO	Safety-Kleen Systems, Inc.	Fargo, ND Rail Site	0	0	0	\$0.00
FHP	Safety-Kleen Systems, Inc.	Fairless Hills, PA (Tullytown)	15	6	2	\$0.00
FMK	Safety-Kleen Canada, Inc.	Fort McKay, AB	0	0	0	\$0.00
FNM	Safety-Kleen Systems, Inc.	Farmington, NM	9	5	3	\$25,172.00
FRE	Safety-Kleen Systems, Inc.	Fresno, CA	19	2	2	\$0.00
FWB	Safety-Kleen Systems, Inc.	Fort Worth, TX	14	1	1	\$0.00
FWI	Safety-Kleen Systems, Inc.	Fort Wayne, IN	2	0	0	\$0.00
FWO	Safety-Kleen Systems, Inc.	Fort Worth, TX (Saginaw)	0	0	0	\$0.00
GAR	Safety-Kleen Systems, Inc.	Garden City, GA (Savannah)	7	0	0	\$0.00
GIN	Safety-Kleen Systems, Inc.	Grand Island, NE	9	0	0	\$0.00
GJC	Safety-Kleen Systems, Inc.	Grand Junction, CO	10	1	1	\$0.00
GNP	Safety-Kleen Canada, Inc.	Grande Prairie AB	0	0	0	\$0.00
GOO	Safety-Kleen Systems, Inc.	Goodfield, IL	27	1	1	\$0.00
GRE	Safety-Kleen Systems, Inc.	Greenwood, IN (Indianapolis)	5	0	0	\$0.00
GRM	Safety-Kleen Systems, Inc.	Grand Rapids, MI	14	0	0	\$0.00
GRO	Safety-Kleen Systems, Inc.	Groveport, OH (Columbus)	6	0	0	\$0.00
GSC	Safety-Kleen Systems, Inc.	Greer, SC (Greenville)	16	1	1	\$0.00
HIG	Safety-Kleen Systems, Inc.	Highland, CA (San Bernardino)	19	3	2	\$3,120.00
HOU	Safety-Kleen Systems, Inc.	Houston, TX (Atlantic)	3	1	1	\$425.00
HUN	Safety-Kleen Systems, Inc.	Huntsville, AL	2	0	0	\$0.00
IND	Safety-Kleen Systems, Inc.	Independence, MO (Kansas City)	59	0	0	\$0.00
IRV	Safety-Kleen Systems, Inc.	Irving, TX - (Dallas)	14	2	2	\$0.00
ISF	Industrial Services Oil Compan	ISOC Terminal FAC	2	0	0	\$0.00
JAB	Safety-Kleen Systems, Inc.	Jackson, MS	19	2	1	\$7,425.00
JAR	Safety-Kleen Systems, Inc.	Jackson, MS (Atlantic) - RC	6	1	1	\$0.00
JOH	Safety-Kleen Systems, Inc.	Johnstown, PA	14	1	1	\$1,929.00
KAU	Safety-Kleen Systems, Inc.	Kaukauna, WI	38	2	2	\$0.00
KEN	Safety-Kleen Systems, Inc.	Kenner, LA (New Orleans)	18	1	1	\$2,500.00
KIM	Safety-Kleen Systems, Inc.	Kimberly, WI	0	0	0	\$0.00
KNO	Safety-Kleen Systems, Inc.	Knoxville, TN	17	1	0	\$0.00
KOH	Safety-Kleen Systems, Inc.	Kent, OH (Akron)	5	0	0	\$0.00
LAC	Safety-Kleen Systems, Inc.	Lackawanna, NY (Buffalo)	24	1	1	\$1,000.00
LEB	Safety-Kleen Systems, Inc.	Lexington, SC (Columbia)	0	0	0	\$0.00
LED	Safety-Kleen Systems, Inc.	Lexington, SC - DC	0	0	0	\$0.00
LEK	Safety-Kleen Systems, Inc.	Lexington, KY	102	3	0	\$0.00
LER	Safety-Kleen Systems, Inc.	Lexington, SC - RC	7	2	2	\$1,000.00
LIN	Safety-Kleen Systems, Inc.	Linden, NJ - RC	587	25	21	\$22,950.00
LIO	Safety-Kleen Systems, Inc.	Linden, NJ - OT	0	0	0	\$0.00
LON	Safety-Kleen Canada, Inc.	London, ON	24	0	0	\$0.00
LOS	Safety-Kleen Systems, Inc.	Los Angeles, CA - Worthen Ave.	16	4	4	\$26,000.00
LOU	Safety-Kleen Systems, Inc.	Louisville, KY	91	8	1	\$30,000.00
LRB	Safety-Kleen Systems, Inc.	Little Rock, AR	2	0	0	\$0.00
LRE	Safety-Kleen Systems, Inc.	Laredo	0	0	0	\$0.00
LRO	Safety-Kleen Systems, Inc.	Port of Little Rock, AR	24	3	3	\$0.00
LSG	Safety-Kleen Canada, Inc	Linden Solvent Guelph	0	0	0	\$0.00
LTX	Safety-Kleen Systems, Inc.	Longview, TX (East Texas)	6	0	0	\$0.00
LVN	Safety-Kleen Systems, Inc.	North Las Vegas, NV	31	0	0	\$0.00

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
MAN	Safety-Kleen Systems, Inc.	Manassas, VA	5	2	2	\$0.00
MCT	Safety-Kleen Systems, Inc.	McAllen, TX	13	0	0	\$0.00
MED	Safety-Kleen Systems, Inc.	Medford, OR (SW Oregon)	2	0	0	\$0.00
MFL	Safety-Kleen Systems, Inc.	Medley, FL (Miami)	13	0	0	\$0.00
MID	Safety-Kleen Systems, Inc.	Midland, TX	13	0	0	\$0.00
MIL	Safety-Kleen Systems, Inc.	Millington, TN	16	3	3	\$300.00
MIS	Safety-Kleen Systems, Inc.	Missouri City, TX	16	2	1	\$550.00
MMA	Safety-Kleen Systems, Inc.	Mason, MI (Lansing) - AC	2	1	0	\$0.00
MMB	Safety-Kleen Systems, Inc.	Mason, MI (Lansing)	22	0	0	\$0.00
MNG	Safety-Kleen Systems, Inc.	Macon, GA	6	0	0	\$0.00
MOR	Safety-Kleen Systems, Inc.	Morrow, GA (S. Atlanta)	16	1	1	\$0.00
MPO	Safety-Kleen Systems, Inc.	Metairie Pkg Fac, Metairie, LA	3	0	0	\$0.00
MRB	Safety-Kleen Systems, Inc.	Marlborough, MA	11	1	1	\$2,300.00
MWB	Safety-Kleen Systems, Inc.	Madison, WI	15	1	1	\$0.00
MWO	Safety-Kleen Systems, Inc.	Madison, WI	25	1	1	\$0.00
NAS	Safety-Kleen Systems, Inc.	Nashville, TN	19	0	0	\$0.00
NEP	Safety-Kleen Canada, Inc.	Nepean, ON	18	2	2	\$0.00
NEW	Safety-Kleen Systems, Inc.	Newington, NH	0	0	0	\$0.00
NGA	Safety-Kleen Systems, Inc.	Norcross, GA (N. Atlanta)	9	4	4	\$163,900.00
NIS	Safety-Kleen Canada, Inc.	Nisku, AB	7	1	0	\$0.00
NKP	Safety-Kleen Systems, Inc.	New Kingstown, PA (Harrisburg)	28	1	1	\$0.00
OBF	Oil Filter Recyclers	OFR Facility	0	0	0	\$0.00
OCA	Safety-Kleen Systems, Inc.	Ocala, FL (Atlantic)	30	1	1	\$560.00
OKL	Safety-Kleen Systems, Inc.	Oklahoma City, OK (Wheatland)	18	1	1	\$0.00
OLK	Safety-Kleen Systems, Inc.	Olathe, KS Rail Spur	0	0	0	\$0.00
OMA	Safety-Kleen Systems, Inc.	Omaha, NE	13	0	0	\$0.00
ONT	Safety-Kleen Systems, Inc.	Ontario, CA - DC (Pomona)	6	1	1	\$0.00
OOK	Safety-Kleen Systems, Inc.	OK City, OK branch tank farm	0	0	0	\$0.00
OPF	Safety-Kleen Systems, Inc.	Orange Park, FL (Jacksonville)	11	1	0	\$0.00
ORT	Safety-Kleen Systems, Inc.	Orange, TX (Beaumont)	7	1	1	\$0.00
OSH	Safety-Kleen Canada, Inc.	Oshawa, ON	16	1	1	\$0.00
PAS	Safety-Kleen Systems, Inc.	Pasco, WA	5	3	3	\$0.00
PIN	Safety-Kleen Systems, Inc.	Pineville, LA (Alexandria)	8	0	0	\$0.00
PLT	Safety-Kleen Systems, Inc.	Piney Flats, TN (N. East TN)	10	1	0	\$0.00
POB	Safety-Kleen Systems, Inc.	Portland, CT (ALR)	1	0	0	\$0.00
POC	Safety-Kleen Systems, Inc.	Poca, WV (Charleston/Nitro)	18	1	0	\$0.00
POM	Safety-Kleen Systems, Inc.	Pompano Beach, FL	8	1	1	\$0.00
POO	Safety-Kleen Systems, Inc.	Portland, CT (ALR)	19	2	2	\$0.00
POR	Safety-Kleen Systems, Inc.	Port of Catoosa, OK	30	1	1	\$3,500.00
POT	SK Environmental Services	SK Williams Terminal	0	0	0	\$0.00
PRA	SK Envirosystems Co of PR, Inc	Manati PR	0	1	1	\$0.00
PRB	Safety-Kleen Envirosystems Co	Manati, PR	46	4	3	\$1,700.00
PRM	Safety-Kleen Env Puerto Rico	Manati, PR Facility	0	0	0	\$0.00
PUE	Safety-Kleen Systems, Inc.	Pueblo, CO	12	0	0	\$0.00
REE	Safety-Kleen Systems, Inc.	REEDLEY-RC-OPS	0	0	0	\$0.00
RMO	Rosemead Oil Products, Inc.	Rosemead Blended Operations	0	0	0	\$0.00
ROA	Safety-Kleen Systems, Inc.	Roanoke, VA (Vinton)	20	1	0	\$0.00
ROH	Safety-Kleen Systems, Inc.	Rohnert Park, CA (San Fran)	7	0	0	\$0.00
ROM	Safety-Kleen Systems, Inc.	Romulus, MI (Detroit)	11	2	1	\$0.00
ROP	Safety-Kleen Systems, Inc.	Richmond Pkg & Blending Ops	7	0	0	\$0.00
RPO	Safety-Kleen Systems, Inc.	St. Rose, LA Pkg & Blending Op	0	0	0	\$0.00
RSU	Thermo Fluids, Inc.	TFI - SCR RFO Sales	0	0	0	\$0.00
SAA	Safety-Kleen Systems, Inc.	Santa Ana, CA (Los Angeles)	14	0	0	\$0.00

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
SAB	Safety-Kleen Systems, Inc.	San Antonio, TX	20	2	2	\$0.00
SAC	Safety-Kleen Systems, Inc.	Santa Ana, CA (Los Angeles)	15	2	1	\$15,000,000.00
SAG	Safety-Kleen Systems, Inc.	Saginaw, MI	10	2	1	\$0.00
SAL	Safety-Kleen Systems, Inc.	Salida, CA (Stockton)	8	1	1	\$0.00
SAN	Safety-Kleen Systems, Inc.	Sanford, FL (Orlando)	26	2	2	\$250.00
SAO	Safety-Kleen Systems, Inc.	San Antonio, TX (Atlantic)	1	0	0	\$0.00
SAR	Safety-Kleen Systems, Inc.	Springdale, AR	1	0	0	\$0.00
SBC	Safety-Kleen Systems, Inc.	Santa Barbara, CA (Goleta)	15	1	1	\$4,500.00
SBI	Safety-Kleen Systems, Inc.	South Bend, IN	9	0	0	\$0.00
SCA	Safety-Kleen Systems, Inc.	Sacramento, CA - AC	31	1	0	\$0.00
SCB	Safety-Kleen Systems, Inc.	Sacramento, CA	6	0	0	\$0.00
SCM	Safety-Kleen Systems, Inc.	St. Charles, MO (St. Louis)	80	1	1	\$26,782.00
SHR	Safety-Kleen Systems, Inc.	Shreveport, LA	5	2	2	\$0.00
SIO	Safety-Kleen Systems, Inc.	Sioux Falls, SD	38	0	0	\$0.00
SJC	Safety-Kleen Systems, Inc.	San Jose, CA - N. 10th St.	14	1	1	\$0.00
SLC	Safety-Kleen Systems, Inc.	Salt Lake City, UT	26	1	1	\$0.00
SLR	Safety Kleen, Inc.	SK SLC Rail Spur	0	0	0	\$0.00
SMA	Safety-Kleen Systems, Inc.	Salisbury, MA	15	2	1	\$0.00
SMO	Safety-Kleen Systems, Inc.	Springfield, MO	48	0	0	\$0.00
SMR	Safety-Kleen Systems, Inc.	Smithfield, KY - RC	311	18	16	\$18,260.00
SMY	Safety-Kleen Systems, Inc.	Virtual terminal - Smyrna	0	0	0	\$0.00
SNV	Safety-Kleen Systems, Inc.	Sparks Branch	2	0	0	\$0.00
SOR	Safety-Kleen Systems, Inc.	Springfield, OR (Eugene)	3	1	1	\$0.00
SPA	Safety-Kleen Systems, Inc.	Sparks, NV (Reno)	11	0	0	\$0.00
SPN	Safety-Kleen Systems, Inc.	South Plainfield, NJ FAC	87	1	0	\$0.00
SPO	Safety-Kleen Systems, Inc.	Spokane Valley, WA	3	1	1	\$0.00
SPY	Safety-Kleen Systems, Inc.	Linden, NJ (Fac/branch)	1	0	0	\$0.00
STA	Safety-Kleen Canada, Inc.	St. Augustin, QC	22	0	0	\$0.00
STF	Safety-Kleen of California, Inc.	Santa Maria Tank Farm, Santa M	1	0	0	\$0.00
STL	Safety-Kleen Canada, Inc.	Stellarton Rail Spur	0	0	0	\$0.00
SYL	Safety-Kleen Systems, Inc.	Sylmar, CA (Los Angeles)	3	0	0	\$0.00
SYR	Safety-Kleen Systems, Inc.	Syracuse, NY(Dewitt/Mattydale)	32	2	2	\$0.00
TAK	Thermo Fluids, Inc.	TFI - Salina, KS	0	0	0	\$0.00
TAL	Safety-Kleen Systems, Inc.	Tallahassee, FL	22	2	2	\$5,350.00
TAM	Safety-Kleen Systems, Inc.	Tampa, FL	21	4	4	\$10,705.00
TAN	Thermo Fluids, Inc.	TFI - Albuquerque, N	0	0	0	\$0.00
TAT	Thermo Fluids, Inc.	TFI - Abilene, TX	0	0	0	\$0.00
TBI	Thermo Fluids, Inc.	TFI - Boise, ID	1	0	0	\$0.00
TBN	Thermo Fluids, Inc.	TFI - Beowawe, NV	0	0	0	\$0.00
TBO	Thermo Fluids, Inc.	TFI - Bend, OR	1	1	1	\$25,497.00
TCN	Thermo Fluids, Inc.	TFI Carson, CA FAC	0	0	0	\$0.00
TCS	Thermo Fluids, Inc.	TFI - CO Springs, CO	0	0	0	\$0.00
TDC	Thermo Fluids, Inc.	TFI - Denver, CO	2	0	0	\$0.00
TEO	Thermo Fluids, Inc.	TFI - Eugene, OR	0	0	0	\$0.00
TET	Thermo Fluids, Inc.	TFI - El Paso, TX	1	0	0	\$0.00
TFA	Thermo Fluids, Inc.	TFI - Amarillo, TX	0	0	0	\$0.00
TFT	Thermo Fluids, Inc.	TFI - Fort Worth, TX	0	0	0	\$0.00
TFU	Thermo Fluids, Inc.	TFI - SLC, UT	0	0	0	\$0.00
TGJ	Thermo Fluids, Inc.	TFI - Grand Jct, CO	3	0	0	\$0.00
TGW	Thermo Fluids, Inc.	TFI - Gillette, WY	0	0	0	\$0.00
THO	Thermo Fluids, Inc.	TFI - Houston, TX	2	0	0	\$0.00
TLN	Thermo Fluids, Inc.	TFI - Las Vegas AF	8	3	3	\$0.00
TLT	Thermo Fluids, Inc.	TFI - Lubbock, TX	0	1	1	\$571.00

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
TMO	Thermo Fluids, Inc.	TFI - Medford, OR	0	0	0	\$0.00
TMV	Thermo Fluids, Inc.	TFI - Mt Vernon, WA	0	0	0	\$0.00
TNI	Thermo Fluids, Inc.	TFI - Boise, ID	1	0	0	\$0.00
TOC	Thermo Fluids, Inc.	TFI - Orange County	0	0	0	\$0.00
TOD	Thermo Fluids, Inc.	TFI - Odessa, TX	0	1	1	\$0.00
TOL	Safety-Kleen Systems, Inc.	Toledo, OH	12	2	1	\$40,000.00
TON	Safety-Kleen Canada, Inc.	Trenton, ON branch tank farm	0	0	0	\$0.00
TOO	Thermo Fluids, Inc.	TFI - OK City, OK	0	0	0	\$0.00
TPA	Thermo Fluids, Inc.	TFI - Phoenix, AZ	7	0	0	\$0.00
TPO	Thermo Fluids, Inc.	TFI - Portland, OR	7	0	0	\$0.00
TRN	Thermo Fluids, Inc.	TFI - Reno, NV	0	1	1	\$0.00
TSA	Thermo Fluids, Inc.	TFI - San Antonio, T	1	0	0	\$0.00
TSR	Thermo Fluids, Inc.	TFI - Sumner, WA	1	0	0	\$0.00
TST	Thermo Fluids, Inc.	TFI - Shreveport, TX	0	0	0	\$0.00
TSV	Thermo Fluids, Inc.	TFI - Spokane, WA	0	0	0	\$0.00
TSW	Thermo Fluids, Inc.	TFI - Sumner, WA	0	0	0	\$0.00
TTA	Thermo Fluids, Inc.	TFI - Tucson, AZ	1	0	0	\$0.00
TTF	Thermo Fluids, Inc.	TFI - Twin Falls, ID	1	0	0	\$0.00
TUC	Safety-Kleen Systems, Inc.	Tucson, AZ	11	0	0	\$0.00
TUL	Safety-Kleen Systems, Inc.	Tulsa, OK	14	2	2	\$0.00
TVO	Thermo Fluids, Inc.	TFI - Las Vegas Oil	6	0	0	\$0.00
UAL	RS Used Oil Services, Inc.	UL ALTON IL - FAC	0	0	0	\$0.00
UBT	Safety-Kleen Canada, Inc.	UMO Hub Brampton, ONT FAC	0	0	0	\$0.00
UCM	RS Used Oil Services, Inc.	UL CARTHAGE MO - FAC	0	0	0	\$0.00
UDC	RS Used Oil Services, Inc.	DENVER CO - FAC	0	0	0	\$0.00
UDM	RS Used Oil Services, Inc.	DES MOINES NE - FAC	0	0	0	\$0.00
UHA	RS Used Oil Services, Inc.	OMAHA NE - FAC	0	0	0	\$0.00
UHK	RS Used Oil Services, Inc.	HAYES KS - FAC	0	0	0	\$0.00
UJM	RS Used Oil Services, Inc.	JACKSON MO - FAC	0	0	0	\$0.00
UKC	RS Used Oil Services, Inc.	UL KANSAS CITY KS - FAC	0	0	0	\$0.00
ULK	RS Used Oil Services, Inc.	LEAVENWORTH KS - FAC	0	0	0	\$0.00
ULO	Safety-Kleen Canada, Inc.	UMO Hub London, ONT FAC	0	0	0	\$0.00
ULR	RS Used Oil Services, Inc.	LITTLE ROCK AR - FAC	0	0	0	\$0.00
UMS	RS Used Oil Services, Inc.	OLIVE BRANCH MS - FAC	0	0	0	\$0.00
UNT	Safety-Kleen Canada, Inc.	UMO Hub Brantford, ONT FAC	0	0	0	\$0.00
UOO	RS Used Oil Services, Inc.	OKLAHOMA CITY OK - FAC	0	0	0	\$0.00
UOW	Safety-Kleen Canada, Inc.	UMO Hub Oshawa, ONT FAC	0	0	0	\$0.00
URB	Safety-Kleen Systems, Inc.	Urbana, IL (Champaign)	20	1	0	\$0.00
URI	RS Used Oil Services, Inc.	ROXANA IL - FAC	0	0	0	\$0.00
UWK	RS Used Oil Services, Inc.	WICHITA KS - FAC	0	0	0	\$0.00
VIN	Safety-Kleen Systems, Inc.	Vincentown, NJ (Southampton)	67	0	0	\$0.00
WAC	Safety-Kleen Systems, Inc.	Waco, TX	9	1	1	\$0.00
WAU	Safety-Kleen Systems, Inc.	Waukesha, WI (Milwaukee)	22	0	0	\$0.00
WBM	Safety-Kleen Systems, Inc.	West Brookfield, MA	9	4	4	\$11,200.00
WBP	Safety-Kleen Systems, Inc.	Wilkes-Barre, PA (Scranton)	14	5	5	\$5,400.00
WCP	Safety-Kleen Systems, Inc.	West Chester, PA (Malvern)	21	1	1	\$0.00
WHA	Safety-Kleen Systems, Inc.	Whistler, AL (Mobile)	5	0	0	\$0.00
WHE	Safety-Kleen Systems, Inc.	Wheeling, WV	18	2	1	\$3,188.00
WHG	Safety-Kleen Systems, Inc.	Whigham, GA	0	0	0	\$0.00
WIB	Safety-Kleen Systems, Inc.	Wichita, KS	14	4	4	\$575.00
WIO	Safety-Kleen Systems, Inc.	Wichita, KS	0	0	0	\$0.00
WMP	Safety-Kleen Systems, Inc.	West Mifflin, PA (Pittsburgh)	13	1	1	\$0.00
WNN	Safety-Kleen Systems, Inc.	West Nyack, NY (New York)	13	2	0	\$350.00

WIN ID	Company Name	Division	Number of Inspections	Number of Enforcements	Number of Penalties Assessed	Penalties Paid
WON	Safety-Kleen Canada, Inc.	WC Windsor-London	5	0	0	\$0.00



Enforcement Action Summary Report

NC Facilities; 5/1/2007 - 4/30/2017

This document summarizes the environmental compliance history of Clean Harbors facilities or those of its subsidiaries. Information may be provided on compliance or enforcement matters prior to acquisition of the facility by Clean Harbors. Clean Harbors makes no representation as to the completeness or accuracy of the information on compliance or enforcement matters involving prior owners or operators of these facilities. No information is supplied concerning proceedings under the Comprehensive Environmental Response, Compensation and Liability Act or comparable state statutes.

State, Location North Carolina, Charlotte

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/22/2015	NCR000006775	NCDENR	Notice of Violation	1) Failure to make a waste determination, 2) Failure to make arrangements with and provide copies of the contingency plan to local emergency responders, 3) Failure to update the contingency plan with coordinator addresses and emergency equipment capabilities.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written response to agency.		

State, Location North Carolina, Charlotte BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/25/2009	NCD079060059	North Carolina Department of Environment and Natur	Notice of Deficiency	All issues were corrected prior to receipt of final inspection report. 001 - Container Storage Mgmt,002 - Labeling	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> na	<i>Description of Resolution:</i>	na		

State, Location North Carolina, Raleigh BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/22/2007	NCD000776740	North Carolina Division of Environmental Health	Notice of Violation	The branch apparently missed collecting a quarterly bacteriological drinking water sample for laboratory analysis as required for the on-site drinking water water supply system. Evidently the contracted laboratory sample collection bottle was never received via regular US mail at the branch and the laboratory did not notify the branch that the sample had not been received. A subsequent second quarter sample has been collected and received by the laboratory. A new system for tracking and managing all routine water quality samples is being implemented to alleviate future occurrences of this type. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> NA	<i>Description of Resolution:</i>	NA		

10/25/2007	NCD000776740	North Carolina Division of Environmental Health	Notice of Violation	Public Water System Monitoring - Missed 2nd quarter VOC sample collection due to mix-up with contract laboratory. VOC sample bottle kit was not received from the laboratory by the BGM until mid-July (3rd Qtr) and the sample was subsequently collected and analyzed. According to agency personnel SK will likely receive a penalty for approximately \$150.00 within 30 days. 999 - Other	Resolved	\$150.00	\$150.00
------------	--------------	---	---------------------	---	----------	----------	----------

EA Number: NA

Description of Resolution: Paid \$150 penalty for missing VOC water sample.

3/10/2011	NCD000776740	North Carolina Division of Environmental Health	Notice of Violation	The local engineer who handles the monitoring & reporting of the potable water system (well) for the branch has informed us that the water sample was collected, tested and submitted by the lab into the state's electronic database as required. We have learned that the lab made a clerical error (i.e., wrong system/facility ID number) when entering the test results in the state database which resulted in the preceived reporting violation. This has happened before and agency just rescinded the NOV; we fully believe from speaking to our engineer that this will be the case again. 999 - Other	Withdrawn	\$0.00	\$0.00
-----------	--------------	---	---------------------	---	-----------	--------	--------

EA Number: N/A

Description of Resolution: NA

State, Location North Carolina, St. Pauls BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
10/23/2007	NCD980846935	North Carolina Department of Environment and Natur	Notice of Violation	NOV was issued since the mislabeling issue was noted during the inspection on 10/9 and again on 10/11. SSRs did not place the storage date on the label upon placing the containers in the warehouse and the daily inspections did not identify the issues. BGM implementing correction actions to prevent a recurrence. 002 - Labeling	Resolved	\$0.00	\$0.00
			EA Number: 2008-006	Description of Resolution: None			
5/26/2009	NCD980846935	North Carolina Department of Environment and Natur	Notice of Violation	The inspection report issued today by the NCDENR Resident Inspector contained three violations noted during the annual CEI inspection. The violations include: 1) Annual Hazwoper and RCRA training refresher not completed for two employees that were absent during scheduled training date; 2) Daily inspection logs were not completed properly by former BGM; 3) TSDf received date was absent from a customer manifest. 006 - Training Records,012 - Inspection Records,703 - Manifest - TSDf	Resolved	\$0.00	\$0.00
			EA Number: 2009-080	Description of Resolution: no penalties assessed			



Enforcement Action Summary Report

Non NC Facilities; 5/1/2007 - 4/30/2017

This document summarizes the environmental compliance history of Clean Harbors facilities or those of its subsidiaries. Information may be provided on compliance or enforcement matters prior to acquisition of the facility by Clean Harbors. Clean Harbors makes no representation as to the completeness or accuracy of the information on compliance or enforcement matters involving prior owners or operators of these facilities. No information is supplied concerning proceedings under the Comprehensive Environmental Response, Compensation and Liability Act or comparable state statutes.

State, Location Alabama, Dolomite, AL (Birmingham) BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/28/2016	ALD983191537	Alabama Department of Environmental Management	Warning Letter/Notice	1) Two boxes of universal waste lamps were not adequately closed, 2) incomplete weekly hazardous waste inspection reports, 3) insufficient documentation that the contingency plan had been provided to local emergency response agencies.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written response.		

State, Location Alberta, Calgary BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/1/2009		Workplace Standards Occupational Health and Safety	Compliance Order	There was an incident this evening at a Calgary Branch customer location. One of the MSSs was moving drums into a truck and while moving the 4th drum, an explosion occurred. The MSS was injured and has been sent to hospital. The drum apparently contained small butane cylinders. The Lead investigator asked four (4) different orders related to the documentation of the injured employee and documents related to the waste and the third party involved for the disposal of the wastes.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	999 - Other none		
12/19/2012		Alberta Environment	Notice of Non-Compliance	Leak test completed by Tom Hill of Chinook Pumps on May 21, 2013. Loading Dock containment concrete pad was installed May 31, 2013. 008 - 2ndary Cont Mgmt/Cracks,011 - Annual/Periodic Rpts,015 - Closure Cost Est/Plans/Fin Asur	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Alberta, Nisku BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/18/2011	ABR1098	Alberta Envrionment	Notice of Non-Compliance	1)All empty unrinsed containers noted during the inspection were shipped out for disposal. A 3rd storage trailer will be brought in for the storage of empty drums in the near future. 2) Arrangements have been made to ship waste drums out more frequently and drums containing solids are now being stacked three high instead of two. 3) On the next annual waste report facility generated waste material such as Class 4.1 branch debris will be included. 001 - Container Storage Mgmt	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	NA		

State, Location *Arizona, Chandler*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/30/2016	AZD981969504	ADEQ	Notice of Violation	1) Failure to perform a hazardous waste determination, 2) cracks in the secondary containment, 3) containers in the ten day transfer area were not listed on the facility operating log, 4) failure to document annual inspection of a pressure relief valve.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written response to the Agency.		

State, Location *Arizona, North Las Vegas*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/17/2016	NVR000001925	City if North Los Vegas Department of Utilities	Notice of Violation	Exceeded wastewater discharge criteria for Biochemical Oxygen Demand (BOD), Total Dissolved Solids (TDS) and chronic failures for Fats, Oil and Grease (FOG) on the 2016 Semi-Annual discharge report.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Agency letter only looking for future compliance with permit conditions. No response required for past exceedances.		
2/22/2017	NVR000001925	City of North Los Vegas	Notice of Violation	Discharge exceedance of Ammonia, Selenium, Arsenic, and TTO	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/9/2017	NVR000001925	City of North Las Vegas Utilities Department	Warning Letter/Notice	Exceedance of the total toxic organics (TTO) wastewater discharge parameter for the fourth quarter of 2016.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Arkansas, Little Rock Oil*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/20/2008	ARD981585318	Arkansas Department of Environmental Quality	Notice of Violation	Opacity reader not onsite - required due to previous process heater burning fuel oil (unit replaced in 2001 with one that burns natural gas only); 2008 process heater replacement done without notifying AR DEQ as required by air permit. Facility has minor source air permit but is actually a de minimus facility. Request for withdrawal of permit completed and submitted. Permit voided by AR DEQ. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	AFIN:60-00471	<i>Description of Resolution:</i>	None	
9/22/2009	ARD981585318	United States Coast Guard	Notice of Deficiency	No security exercise completed within the 18 month time frame as required by facility's FSP. 999 - Other	Withdrawn	\$0.00	\$0.00
			<i>EA Number:</i>	N/A	<i>Description of Resolution:</i>	None	
12/3/2009	ARD981585318	Arkansas DEQ	Notice of Violation	Sampling & pH calibration logs not gathering all needed information, duplicate pH samples not being taken, 2 DMRs incorrectly completed, open stormwater valve (no discharge) & drip/leak residues not completely removed. 011 - Annual/Periodic Rpts,021 - Permitting Issues	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	60-00635	<i>Description of Resolution:</i>	N/A	

State, Location *British Columbia, Delta BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/8/2012		BC Ministry of Environment	Notice of Non-Compliance	Langley (Delta) Branch operates a truck on Vancouver Island. The truck collects waste throughout the week and delivers it to Newalta in Nanaimo. The BC MOE is alleging that when the truck is parked overnight at a truck stop that we are in violation because the truck stop is not permitted to receive waste, we are not terminating manifests at the truck stop and that we are not generating new manifests the next day to ship from the truck stop. 702 - Manifest - Transporter	Resolved		
			<i>EA Number:</i>	2012 01844	<i>Description of Resolution:</i>		

State, Location *British Columbia, Delta RC RC*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
1/27/2011		Ministry of Environment	Compliance Order	In an email, BC MOE is requiring that we cease any discharge of stormwater to the environment or the storm sewer until such time that the company can confirm that the discharge meets the regulatory standards 999 - Other	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *California, Carson*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/15/2014	CAD981696420	DTSC	Notice of Violation	Four manifests with illegible waste quantities and one manifest with a transporter listed that did not transport the waste. Failure to include the name of a contact person on a copy of the manifest. Failure to develop and follow an inspection schedule for emergency equipment.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/27/2017	CAD981696420	DTSC	Notice of Non-Compliance	1) Failure of the operating log to cross reference manifests, 2) placing used oil in Tanks 8 & 9 which are only permitted for recycled oil.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *California, Davis*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/21/2017		DTSC	Notice of Violation	1) Failure to meet secondary containment requiremnts for Unit 3, 2)	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *California, El Cajon, CA (San Diego) BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/24/2008	CAD981989122	San Diego County Air Pollution Control District	Notice of Violation	SK received a NOV for using noncompliant solvent at one of our customer sites (San Diego Trolley. 999 - Other	Resolved	\$0.00	\$400.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Paid \$400		

State, Location California, El Monte

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/7/2012	CAT000613893	DTSC	Notice of Violation	1.Failure to test waste oil for halogens (SB-546) 2.Failure to conduct daily inspection of air emissions required under title 22 California Code of Regulations chapter 14, article 28.5 3. Failure to develop a procedure for the tank assessment 012 - Inspection Records,016 - Tank Mgmt,022 - Used Oil,ND - SK Admin Only	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
6/9/2014	CAT000613893	DTSC	Notice of Violation	Failed to complete a daily inspection form accurately.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location California, Fresno

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/18/2015	CAD066113465	DTSC	Warning Letter/Notice	1) Failure to maintain adequate water pressure to an eyewash station, 2) Failure to apply the accumulation start date to universal waste labels.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided a written response to DTSC		
4/10/2017	CAD066113465	DTSC	Notice of Violation	1) Failure to have the accumulation start date on containers or the date when the containers arrived on site, 2) failure to label hazardous waste containers with the words "Hazardous Waste", waste composition, physical state and generator information, 3) storing universal waste for greater than one year, 4) failure to mark containers with "Universal Waste - Electronic Devices", 5) failure to mark containers with "Universal Waste - CRTs, 6) failure to mark Universal Waste with the date it became a waste or was received.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location California, Highland

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/20/2012	CAT000613927	California Environmental Protection Agency	Notice of Violation	Alleged violation: is compositing the WAP sample with samples from other sites. This was a mistake by the inspector. She confirmed there was no violation 014 - WAP	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	NA		

10/16/2015	CAT000613927	San Bernardino County Fire District	Notice of Violation	On July 21, 2015 the San Bernardino County Fire Department alleged 1) Failure to properly monitor UST system as specified by the permit and failure to correct past UST violations within 30 days of receiving a UST inspection report. On September 22, 2015 the allegations were amended to include: 1) Failure to properly monitor UST system as specified by the permit and 2) Failure to install/maintain operational automatic line leak detector(s) On October 16, 2015 the allegations were amended to 1) Failure to install, operate and maintain monitoring equipment such that the equipment is capable of detecting a leak at the earliest possible opportunity, 2) Leak detection equipment tampered with or disabled, 3) Failure to install a functioning line leak detector.	Resolved	\$25,000.00	\$3,120.00
			EA Number: EN0002154	Description of Resolution:	Payment of the civil penalty and implementing upgrades to the leak detection monitoring device on the tank.		

11/1/2016	CAT000613927	DTSC	Notice of Violation	1) Accepting undrained oil filters thus accepting CA Hazardous waste without a permit, 2) receiving undrained oil filters without a manifest, 3) transferred undrained oil filters to a transporter that was not registered as a hazardous waste transporter, 4) failed to make a waste determination on undrained oil filters, 5) failed to complete a manifest for undrained oil filters shipped off site.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			

State, Location California, Industrial Service Oil Company, Inc.

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
12/1/2016		DTSC	Notice of Violation	1) The misrepresentation of halogen testing on each incoming load, 2) failing to determine if incoming oil had halogens in excess of 1,000 ppm by testing, 3) accepting hazardous waste not allowed under the facility permit.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			

State, Location California, Los Angeles BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
6/13/2007	CAT000613935	California Environmental Protection Agency	Compliance Order	701 - Manifest - Generator,702 - Manifest - Transporter,703 - Manifest - TSDF	Resolved	\$14,000.00	\$14,000.00
			EA Number:	Description of Resolution:	Penalty assessed		

10/11/2011	CAT000613935	California Environmental Protection Agency	Notice of Violation	Facility was alleged storing hazardous waste outside permitted area (waste was staged outside the permitted area prior to be transferred outside without being first stored in a permitted storage room). Consent order was signed by SK and DTSC and \$12,000 penalty paid. 021 - Permitting Issues	Resolved	\$0.00	\$12,000.00
------------	--------------	--	---------------------	---	----------	--------	-------------

EA Number: *Description of Resolution:* Penalty for non-compliance

4/24/2012	CAT000613935	California Department of Toxic Substances Control	Notice of Violation	Failure to conduct daily inspection of air emissions required under title 22 California Code of Regulations chapter 14, article 28.5 3. Failure to develop a procedure for the tank assessment 016 - Tank Mgmt,999 - Other	Resolved	\$0.00	\$0.00
-----------	--------------	---	---------------------	--	----------	--------	--------

EA Number: *Description of Resolution:* Na

1/17/2017	CAT000613935	DTSC	Notice of Violation	1) failed to include in the Tank Certification Report dated December 2, 2014 certification (s) of any testing results obtained to determine the underground hazardous waste tank thickness, 2) failed to include in the Tank Certification Report dated December 2, 2014 certification (s) of any leak testing results for the pipes and conveyance systems of the under ground tank to confirm their seal and tightness, 3) failed to include in the Tank Certification Report the tank and ancillary equipment design standards: gross capacity (in gallons), description (including pipe diameter) for the conveyance piping in and/or out the tank. Include inner and secondary piping, and description and list of internal and/or external pump (s).	Pending	\$0.00	\$0.00
-----------	--------------	------	---------------------	--	---------	--------	--------

EA Number: *Description of Resolution:*

State, Location *California, Newark - Cherry Street*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/23/2016		Alameda Department of Environmental Health	Notice of Violation	Failure to timely submit a hazardous materials business plan.	Pending	\$0.00	\$0.00

EA Number: *Description of Resolution:*

State, Location *California, NewarkCA*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
10/7/2013	CAD980887418	BAAQMD	Notice of Violation	Tank Overflow from T-800	Resolved		

EA Number: *Description of Resolution:*

3/3/2014	CAD980887418	DTSC	Notice of Violation	The contingency plan was deficient because it did not specify the time for repair of a tank. Failure to notify DTSC of a change in ownership. Failure to notify DTSC of and air release within 24 hours. Failure to immediately notify the air district and fire department of the same air release. Failure to quantify the extent of the air release. Failure to minimize the potential for the air release. Deficient coating in the secondary containment for Tank 800. Deficient air controls for a transfer of material subject to RCRA air standards. Training program for emergency procedures was deficient.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Facility provided written notice of corrected items.	
5/15/2014	CAD980887418	Alameda County CUPA	Notice of Violation	EPA ID Number had not been updated to reflect the Corporate name change. Business plan not updated. Waste storage exceeding 180 day. Waste containers not properly labeled or closed. Employee training not current. Documentation of weekly inspections lacking.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Provided documentation to the Agency.	
5/22/2014	CAD980887418	CA DTSC	Notice of Violation	Failure to update the EPA ID number at the Cherry Street address after a change in Company name. Storage of waste over 90 days.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		DTSC instructed the Company to resolve the issues in conjunction with the Alameda County Health Department and no further action was required with the DTSC.	
5/30/2014	CAD980887418	Alameda County Waste Management Authority	Warning Letter/Notice	Failure to remit a solid waste fee for each ton of material generated in Alameda County but disposed of in a landfill outside of Alameda County. Failure to submit monthly reports.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Provided written response to the agency.	
6/19/2014	CAD980887418	DTSC	Notice of Violation	Failure to have warning sign in both English and Spanish. Failure to sign a manifest received via rail.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Corrected the issue	
8/5/2014	CAD980887418	Union Sanitary District	Notice of Violation	Oil and Grease discharge exceedance.	Resolved w/o Penalty	\$1,400.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		The Union Sanitary District waived any penalty as long as the penalty amount is used for system improvements.	
9/10/2014	CAD980887418	US EPA	Notice of Violation	1) Spill prevention, control and countermeasure plan (SPCC Plan) lacked sufficient detail in some areas, 2) The facility could not produce some historical inspection reports and records, 3) a gate appeared to be unsecured, 4) cracks in a containment pad, 5) Level detectors on tanks were questioned, 6) oil accumulated in a diked area, 7) a tank had a partially collapsed roof, 8) the facility lacked a Facility Response Plan (FRP Plan).	Resolved	\$174,184.00	\$90,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Consent Order and civil penalty.	

9/24/2014	CAD980887418	Union Sanitary District	Cease and Desist	1) Discharge of material with an offensive odor, 2) Discharge of material causing a detrimental environmental impact or a nuisance or a condition unacceptable to a regulating authority, 3) Discharge of waste causing the evolution of gases, fumes or vapors in quantities that could be injurious to District personnel, and 4) Discharge of water without proper pretreatment	Resolved	\$0.00	\$0.00
			EA Number: CD-14-001	Description of Resolution:			Entered into a consent order with the District and agreed to pay the District costs associated with the Order.
3/17/2015	CAD980887418	Bay Area Air Quality Maangement District	Notice of Violation	NOx emission in excess of 35 ppm.	Dismissed	\$0.00	\$0.00
			EA Number:	Description of Resolution:			Notice rescinded by the BAAQMD. An existing consent agreement with compliance schedule to address the issue was already in place.
8/6/2015	CAD980887418	DTSC	Notice of Violation	1) Failure to maintain 95% removal efficiency with air pollution control equipment, 2) Failure to submit the biennial report to DTSC in a timely manner.3) Stained gravel near rail spur, 4) Documentation on tank inspections was challenged, 5) Manifest correction not completed correctly, 6) Daily sump inspections not documented properly.	Resolved	\$0.00	\$0.00
			EA Number:	Description of Resolution:			Corrections were made and notification was provided to the agency.

State, Location California, Ontario

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
1/11/2016	CAR000203984	City Of Ontario Stormwater Program	Notice of Violation	1) Soapy rain water from contact with empty pails and process water from degreaser tank was discharging to the stormwater system, 2) empty containers without lids exposed to stormwater, 3) a paint container outside did not have adequate secondary containment, 4) Need to submit a notice of intent for the new industrial stormwater general permit or complete a no exposure certification.	Dismissed	\$100.00	\$0.00
			EA Number:	Description of Resolution:			The City acknowledged that the operations on site did not trigger the need for a stormwater permit.

State, Location California, Sacramento AC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/30/2012	CA0000084517	State of California, Environmental Protection Agen	Notice of Violation	1. Facility failed to conduct daily inspection of the Fire Suppression Water UST 2. Facility failed to conduct tank assessment for Fire SuppressionUST 3. Failure to complete manifest according to the manifest instructions (manifest numbers printed outside the manifest margin in Item 8) 012 - Inspection Records,016 - Tank Mgmt,701 - Manifest - Generator	Resolved		
<i>EA Number:</i>				CA0000084517	<i>Description of Resolution:</i>		

State, Location California, Salida (Stockton)

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/24/2015	CAT000613968	STANISLAUS COUNTY DEPT. OF ENVIRONMENTAL RESOURCES	Notice of Violation	Site map not up to date with all required information	Resolved w/o Penalty	\$0.00	\$0.00
<i>EA Number:</i>					<i>Description of Resolution:</i> Updated the site map.		

State, Location California, San Jose BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/18/2016	CAD980817159	Cty. Of Santa Clara Department of Env. Health	Notice of Violation	1) failure to make a waste determination on four containers, 2) improperly completed hazardous waste manifests, 3) the contingency plan was missing a phone number and two agency notification numbers, 4) failure to update the contingency plan with change of emergency coordinators, 5) failure to submit a copy of the contingency plan to appropriate state agencies, 6) missing data from the biennial report, 7) failure to mark an empty container with the date it was emptied, 8) spelling error on emergency coordinators name, 9) hazardous materials business plan inventory was not updated, 10) failure to update HMBP site map and inventory, 11) failure to notify of applicability of the aboveground petroleum storage act requirements, 12) inadequate SPCC plan.	Pending	\$0.00	\$0.00
<i>EA Number:</i>					<i>Description of Resolution:</i>		

State, Location California, Santa Ana AC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/3/2016		Orange County Health Care Agency, Environmental	Notice of Violation	1) Failure to have a current CUPA permit, 2) failure to maintain an accurate CUPA UST permit application, 3) failure to maintain a current certificate of financial responsibility, 4) monthly inspection were missing detail	Resolved	\$65,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	The penalty was waived and Safety-Kleen agreed to provide three supplemental environmental projects totaling \$35,000.		

State, Location California, Santa Ana BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
10/31/2008	CAT000613976	South Coast Air Quality Management District and th	Notice of Violation	SK received 42 NOV's for supplying noncompliant solvents to 42 of our customers in the South Coast Basin (Santa Ana, Sylmar, Los Angeles, and Highland branches). Our customers were inspected and received violations from the South Coast AQMD from February 2008 to October 2009 for utilizing noncompliant solvents. SK received violations for supplying noncompliant solvents to those customers from October 2008 to May 2009. In Southern California, Safety-Kleen has approximately 18,000 parts cleaners in use today and has converted all but approximately 130 customers (that are exempt from certain requirements), to water-based systems. On April 6, 2010, Safety-Kleen reached a settlement with the South Coast AQMD and the local District Attorneys that covered 137 violations of air quality regulations by Safety-Kleen and 96 violations at businesses caused by Safety-Kleen's distribution of non-compliant solvents; under terms of the agreement, Safety-Kleen and not the businesses paid for the violations at these 96 businesses. 803 - CAA - Exceed/RMP/NESHAPS,999 - Other	Resolved		\$15,000,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	\$15,000,000 was paid to SCAQMD and District Attorney offices in the south coast basin.		
11/14/2016	CAT000613976	DTSC	Notice of Violation	1) Accepting state hazardous waste (undrained oil filters) without a permit, 2) storing state hazardous waste (undrained oil filters) without a permit, 3) treating state hazardous waste (undrained oil filters) without a permit 4) accepting for transport, state regulated hazardous waste (undrained oil filters) without a manifest, 5) failure to determine that undrained oil filters are a state hazardous waste.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location California, Santa Barbara BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
12/21/2009	CAD981374077	Santa Barbara Fire Department	Notice of Violation	Santa Barbara County Fire Department (CUPA) issued a notice of violation for not submitted annual updates of Business and Emergency Plan after 2006 submittal. An enforcement order is issued to submit an updated Plan, return signed stipulation and order, and pay \$4,500 penalty by 1/21/10. EHSM requested an extension until 1/25/10 and waive of penalty. EHSM submitted the Plan on 1/14/10. We are waiting for Fire Department on the amount of penalty. 013 - Conting Plan/EC/Alarms	Resolved	\$4,500.00	\$4,500.00
			<i>EA Number:</i> 2009-04	<i>Description of Resolution:</i>	An enforcement order was issued to submit an updated Business Plan, return signed stipulation and order, and pay \$4,500 penalty.		

State, Location Colorado, Grand Junction

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/31/2016	COT090010851	Grand Junction Fire Department	Notice of Non-Compliance	1) Improper separation of materials, 2) inadequate warning signs, 3) prohibit storage near doors, 4) remove items from on top of the flammable storage cabinet, 5) prepare a chemical inventory for the fire department, 6) evaluate flammable transfer area for static electricity potential.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Connecticut, Bridgeport Oil

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/16/2016	CTD981203888	US Coast Guard	Notice of Violation	Failure to comply with security requirements because non-employee workers were not escorted.	Resolved	\$3,000.00	\$3,000.00
			<i>EA Number:</i> 00204282	<i>Description of Resolution:</i>	Paid civil penalty.		

State, Location Connecticut, Portland

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/3/2008	CTD001446962	Connecticut Department of Environmental Protection	Notice of Non-Compliance	this is related to the CERP event for the truck at Portland approximately 30 days ago where the contents were determined to be hazardous waste 022 - Used Oil,702 - Manifest - Transporter	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> September 3, 2008	<i>Description of Resolution:</i>	na		

10/2/2014 CTD001446962 CT DEEP Notice of Violation Storm water pollution prevention plan (SWPPP) deficiencies Pending \$0.00 \$0.00

EA Number:

Description of Resolution:

State, Location Florida, Boyton Beach

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
11/5/2015	FLD984167791	FL DEP	Warning Letter/Notice	Insufficient documentation of training and in transit waste being managed in excess of 10 days.	Resolved w/o Penalty	\$0.00	\$0.00
			EA Number:	Description of Resolution:	Provided the Department with additional information after the inspection.		

State, Location Florida, Ocala Oil

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
11/22/2011	FLR000060301	Florida Department of Environmental Protection	Notice of Violation	Facility was cited for failure to analyze for a required parameter (Lead) on its' quarterly discharge monitoring reports. Consent Order received with total penalty of \$560.00 (\$310 for violation & \$250 for costs/expenses). 011 - Annual/Periodic Rpts	Resolved	\$560.00	\$560.00
			EA Number:	Description of Resolution:	Failure to analyze quarterly samples for Lead		

State, Location Florida, Orange Park, FL

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
6/4/2014	FLD980847214	USEPA	Notice of Violation	40 CFR 264.31, 40 CFR 265.173(a), 40 CFR 279.22(c)(1), 40 CFR 264.54, 40 CFR 264.16(c)	Resolved		
			EA Number:	Description of Resolution:	Provided a written response to the agency.		

State, Location Florida, Pompano Beach Oil

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
10/29/2009	FLD984247882	City of Pompano Beach Engineering Department	Notice of Violation	Hearing on this matter has been scheduled for 1/13/10 by Special Magistrate if violations are not corrected before 1/8/10. 999 - Other	Withdrawn	\$0.00	\$0.00
			EA Number: N/A	Description of Resolution:	Trees were planted on top of city water main lines		

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
12/17/2007	FLD984171165	Florida Dept of Environmental Protection - Central	Notice of Violation	FDEP cited 40 CFR 262.20/264.76(a). Inspectors sampled two CUP product drums at the 6/26/07 inspection and later analysis showed HW constituents. A warning letter was issued and received on 12/17/07. An enforcement meeting was then scheduled for 2/12/08 at which SK provided documentation that CUP SOP's were documented and followed for these CUP services. SK also provided the FDEP with copies of CUP service training documents and CUP material checklists that were completed for the customers and drums in question along with the argument that these HW constituents were incidental to the cleaning process and could not have been detected by the CUP SOP agreement between SK and the FDEP when the CUP program was introduced in the State of Florida. FDEP Central District stated that they would have to consult with Tallahassee on the future of this issue. On 4/14/08 EHS Manager Jeff Curtis met with FDEP inspectors at the Sanford branch to visually show the piping associated with the CUP vat and drum washers. At this time, and on a previous telephone conversation Jeff Curtis questioned the status of the issue and whether or not a decision had been reached regarding the ongoing enforcement action and was told that it had not. On 5/30/08 a Short Form Consent Agreement was received via e-mail offering to resolve the violation for the proposed penalty of \$3,336.00 which was lowered from the original amount of \$4,319.00. 703 - Manifest - TSDF	Withdrawn	\$4,319.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Penalty violation noted in NOV is 40 CFR 262.20/264.76(a) unmanifested waste	
8/23/2011	FLD984171165	DOT	Citation/Ticket	Citation in the amount of \$250.00 received for prohibited placarding. Placard clip on truck was damaged causing an Oxidizer placard to be showing as the truck was operating on the road although the truck contained no Oxidizers. 601 - DOT Plac/Strap/Logs/Wgt	Resolved	\$250.00	\$250.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		citation for incorrect placarding of truck. Placard clip was broken and the oxidizer placard was showing although the truck contained no oxidizers	

State, Location Florida, Tallahassee

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
5/14/2008	FLD982133159	Florida Department of Environmental Protection - N	Notice of Violation	Summary of alleged violations - 49 CFR 171.2(e) & 40 CFR 263 Part B Incorrect/missing shipping papers; one 30-gallon drum of HW did not have the appropriate shipping papers with the driver while the drum was being transported over the road, two 30-gallon and one 16-gallon drums were not labeled with the correct generator name or contents. 40 CFR 264.15(b) General inspection requirements subpart BB difficult to monitor equipment inspections. 40 CFR 264.14 & Permit Specific Condition 12 in Part 1 - Warning signs. 002 - Labeling,019 - Subpart AA/BB/CC,021 - Permitting Issues	Resolved	\$4,950.00	\$4,350.00
			EA Number:	Description of Resolution:		49 CFR 171.2(e) & 40 CFR 263 Part B - Incorrect/missing shipping papers, labeling drum issue, 40 CFR 264.14 & Permit Specific Condition 12 - signage requirements for telephone number on facility signs,	
7/13/2015	FLD982133159	FL DEP	Notice of Violation	Failure to conduct weekly inspection checklists of the hazardous waste storage area.	Resolved	\$1,000.00	\$1,000.00
			EA Number:	Description of Resolution:		Paid civil penalty	

State, Location Florida, Tampa

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
11/10/2009	FLD980847271	FDEP	Notice of Violation	One fire extinguisher on the emergency equipment list of the facility contingency plan was not actually present at the facility. This item was noted by the inspector during an inspection of the facility on 8/27/08 and brought to the attention of the former BGM. The former BGM stated that it would be fixed the following day, but evidently the correction did not take place because during this inspection, 09/30/09, the same fire extinguisher on the EC list was not present at the designated area on the plan. Inspector also noted that there was no evidence (mounting hardware, interviews with staff) to suggest that the violation was corrected in 2008. 013 - Conting Plan/EC/Alarms	Resolved	\$4,169.00	\$3,395.00
			EA Number:	Description of Resolution:		40 CFR 264.52(e) Permit condition 1.27.a - emergency equipment list is showing a fire extinguisher that does not exist at the location indicated.	

10/4/2010	FLD980847271	Florida Department of Environmental Protection	Notice of Violation	Failure to immediately clean up two small spills of used oil near the return/fill area - 40 CFR 279.22(d)(3), Failure to provide secondary containment for at least 4 containers holding > 2-inches of used oil - 62-710.401(6) FAC, Failure to maintain an impervious secondary containment system at the return/fill area - 403.727(1)(c), FS. Proposed penalty combines first two items in amount of \$2,000 plus \$300 department costs. Secondary containment coating issue no penalty sought. 008 - 2ndary Cont Mgmt/Cracks,010 - Spills/Releases,022 - Used Oil	Resolved	\$2,300.00	\$1,900.00
-----------	--------------	--	---------------------	---	----------	------------	------------

EA Number: WL10-0062HW29SWD **Description of Resolution:** Penalty was for failure to immediately respond to a used oil spill in the Return/Fill bay, and storage of containers of used oil outside of secondary containment

9/14/2011	FLD980847271	Florida Department of Environmental Protection	Notice of Violation	Total proposed penalty is \$8,250.00. 010 - Spills/Releases,012 - Inspection Records,014 - WAP,016 - Tank Mgmt,702 - Manifest - Transporter	Resolved	\$8,250.00	\$5,410.00
-----------	--------------	--	---------------------	--	----------	------------	------------

EA Number: **Description of Resolution:** Penalty for profiling error of customer waste stream, broken pipe support bracket for HW tank, paint waste containers with waste on outside of drums

11/2/2015	FLD980847271	FL DEP	Warning Letter/Notice	1) Adequate isle space was not maintained with drums and an eye wash station, 2) improperly classifying mixtures of different DOT hazard classes, 3) storage of material in an improper area, 4) failure to remove precipitation from a collection sump in a timely manner, 5) oil drum integrity and labeling deficiencies.	Resolved w/o Penalty	\$0.00	\$0.00
-----------	--------------	--------	-----------------------	--	----------------------	--------	--------

EA Number: **Description of Resolution:** Provided written documentation of corrective actions to the Department.

State, Location *GA, Columbus*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/12/2016		Georgia Department of Natural Resources	Notice of Violation	Failure to maintain a functioning lock on a groundwater monitoring well.	Pending	\$0.00	\$0.00

EA Number: **Description of Resolution:**

State, Location *Georgia, Morrow BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/24/2007	GAD981265424	Georgia Department of Natural Resources	Notice of Violation	Resonded to NOV letter; no further action expected 002 - Labeling,008 - 2ndary Cont Mgmt/Cracks,012 - Inspection Records,021 - Permitting Issues	Resolved	\$0.00	\$0.00

EA Number: **Description of Resolution:** na

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/17/2007	GAD980842777	Georgia Department of Natural Resources	Notice of Violation	SK received the NOV correspondence 5 months after the inspection. Both issues were corrected at the time of the inspection. 002 - Labeling,703 - Manifest - TSDF	Resolved	\$0.00	\$0.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		NOV: Manifest was not dated by TSDF; Satellite container did not have marking "hazardous waste"	
10/2/2008	GAD980842777	Georgia Department of Natural Resources	Compliance Order	Consent Order still being negotiated. Met with GAEPD on 10/23/08. Refer to MTI; On 12/30/08 the Consent Order was executed between GAEPD and SK. The provisions of the order require SK to provide Training and implement a Waste Transportation and Acceptance Plan. The Order would "Sunset" on 12/30/09. 001 - Container Storage Mgmt,004 - LDRs,005 - OP Records/Notifs/Logs,009 - Storage Vol/Time/Unperm Wst,014 - WAP,023 - Generator Stnd / 10 Day Trf,701 - Manifest - Generator,703 - Manifest - TSDF	Resolved	\$149,500.00	\$149,500.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		Improper storage, manifest, recordkeeping, waste identification, wap requirements	
8/4/2010	GAD980842777	Georgia Department of Natural Resources	Notice of Violation	Satellite container not latched properly; ER contact list needs updating (resolved - EHSM updated the list before EPD's arrival, but there has been no time to post this); 001 - Container Storage Mgmt,013 - Conting Plan/EC/Alarms	Resolved	\$0.00	\$0.00
		<i>EA Number:</i> GAD980842777		<i>Description of Resolution:</i>		NA	
8/22/2016	GAD980842777	Georgia Department of Natural Resources	Notice of Violation	1) Inspection forms documented issues with a high level alarm but did not document repairs, 2) Failure to have training records available for inspection, 3) Failure to mark the accumulation start date on two containers, 4) Failure to document two inspections, 5) Failure to complete new hire training within six months, 6) Failure to include three waste codes on a manifest, 7) Inadequate or missing waste determination for two containers, 8) Failure to manage accumulation drums with the lids latched close, 9) Accumulating more than 55 gallons of material in a satellite accumulation area, 10) failure to label containers with the words "Used Oil", 11) Failure to maintain container integrity because a used oil container leaked.	Resolved	\$15,800.00	\$14,400.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		Paid civil penalty	

State, Location Idaho, Boise BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/7/2007	IDD981770498	Idaho Department of Environmental Quality	Notice of Violation	Conference call scheduled for this afternoon to discuss options 010 - Spills/Releases,022 - Used Oil,702 - Manifest - Transporter	Resolved	\$29,200.00	\$29,200.00
			<i>EA Number:</i> None	<i>Description of Resolution:</i>		Hazardous waste determination, EPA ID number regarding rail site, Secondary containment (Boise), Secondary Containment - Rail site, Spill cleanup (rail site)	
7/31/2009	IDD981770498	State of Idaho	Notice of Violation	NOV focuses on the use of SKs Standard Industrial Profile regarding VAC, Non Haz Aqueous - 941, and CUP. 004 - LDRs,021 - Permitting Issues,701 - Manifest - Generator	Resolved	\$31,003.00	\$18,601.00
			<i>EA Number:</i> NA	<i>Description of Resolution:</i>		NOV focused on the use of SKs Standard Industrial Profile regarding VAC, Non Haz Aqueous - 941, and CUP.	
9/30/2010	IDD981770498	Idaho DEQ	Compliance Order	These violations were incorporated into a Consent Order that included the March 31 and April 1 2009 RCRA inspection and NOV dated July 31, 2009. 703 - Manifest - TSDF	Resolved	\$31,003.30	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Faillure to perform hazardous waste determination on aqueous solution and VAC wastes. This enforcement action was resolved with the enforcement action from July 31, 2009 and a total of \$18,601 was paid in total for both enforcement actions.	

State, Location Idaho, Eden

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
10/26/2016		IDEQ	Warning Letter/Notice	1) The fill line for the tank farm was not marked with the words "Used Oil".	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Idaho, EMR Pocatello - FAC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/1/2008		Idaho Department of Environmental Quality	Notice of Violation	NOV for operating a transfer facility without notification to appropriate agencies, and storing used oil in an secondary containment area with compromised integrity. \$12,800 penalty.	Resolved	\$12,800.00	\$12,800.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Notification was made as required and repairs were made to containment areas.	

4/2/2010 Idaho DEQ Notice of Violation Notice of Violation for lack of transportation records on-site. Resolved
No penalty.

EA Number: *Description of Resolution:* Records are now maintained at site.

State, Location Idaho, Nampa Site A

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/2/2016		IDEQ	Warning Letter/Notice	1) Used oil tank no. 13 was not marked with the words "Used Oil", 2) stained soil beneath an out of service boiler, 3) a container not marked with the words "Used Oil", 4) manifests missing transporter EPA ID Numbers.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided corrective actions to the agency.		
2/14/2017		IDEQ	Warning Letter/Notice	1) A container was not clearly marked "Used Oil", 2) contingency plan not updated.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Facility provided a written response with corrective actions.		

State, Location Idaho, Nampa Site B

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
1/13/2017		IDEQ	Warning Letter/Notice	1) Shipping documents missing EPA ID Number of the transporter and receiving facility, 2) Tank missing a "Used Oil" label, 3) indications of releases from a tank cap. 4) the coontingency plan was not up to date.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written response to the agency of corrective actions.		

State, Location Illinois, Champaign BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/13/2013	ILD981088388	Illinois Environmental Protection Agency	Notice of Violation	702 - Manifest - Transporter, 703 - Manifest - TSDF	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	L-2013-01161		

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/3/2011	ILD980613913	Illinois Environmental Protection Agency	Notice of Violation	Agency reported that on the annaul calculations that the fives filler operation exceeded the annual allownce under our Title V permit. 011 - Annual/Periodic Rpts,021 - Permitting Issues	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> A-2010-00155	<i>Description of Resolution:</i>		No penalty assessed - after face to face meeting IEPA - Air branch on April 7th state asked us to submit a Class 1 permit modification to correct their oversight. Legal counsel for state assured us they had no interest in action.	
8/10/2011	ILD980613913	Metropolitan water Reclamation District of Greater	Notice of Violation	pH exceedance during one day of three day composite sampling 999 - Other,ND - SK Admin Only	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> 88186	<i>Description of Resolution:</i>	None		
3/22/2013	ILD980613913	Metropolitan Water Reclamation District of Greater	Cease and Desist	pH exceeding discharge limits.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
10/16/2013	ILD980613913	Metroplitan Water Reclimation District of Greater	Cease and Desist	Exceedance of storm water discharge parameters 806 - Pretreatment	Pending		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
10/17/2013	ILD980613913	Metroplitan Water Rec. Dist. of Greater Chicago	Cease and Desist	Exceeding the storm water discharge limit for pH.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/24/2014	ILD980613913	Metropolitan Water Reclamation District of Greater	Cease and Desist	Exceeding stormwater discharge criteria during the month of January. Stormwater pH exceeded the permit range of 5-10 units on multiple occasions.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
10/10/2014	ILD980613913	Metropolitan Water Reclamation District	Cease and Desist	Stormwater discharges with elivated pH readings.	Pending	\$0.00	\$0.00
			<i>EA Number:</i> 91247	<i>Description of Resolution:</i>			
9/1/2015	ILD980613913	Metro Water Reclamation Dist. of Greater Chicago	Cease and Desist	Sewer discharge that was outside of the acceptable pH range.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Illinois, East Chicago*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/7/2008	IND077042034	East Chicago Sanitary District	Notice of Violation	Fluoride exceedances noted as well as a Chlorine exceedance related to a Compliance Agreement from a separate and previous enforcement action. 806 - Pretreatment	Resolved	\$200.00	\$200.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Residual CI exceedance.		
7/1/2008	IND077042034	East Chicago Sanitary District	Notice of Violation	Alleged exceedances of Total Phosphorous and Amenable Cyanide with a penalty of \$200 per exceedance totalling \$400. Amenable cyanide is not in our current permit. 806 - Pretreatment	Resolved	\$400.00	\$200.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
10/3/2008	IND077042034	East Chicago Sanitary District	Notice of Violation	3 citations for amenable cyanide exceedances and 3 citations for fluoride exceedances. Amenable cyanide limit is currently subject to a permit appeal. 806 - Pretreatment	Resolved	\$1,200.00	\$400.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
11/9/2010	IND077042034	East Chicago Sanitary District	Notice of Violation	According to the NOV, fines are being imposed for 7 cyanide violations at \$500 each and 1 fluoride violate at \$100 for a total of \$3600. In addition, a response is requested summarizing the steps we will be taking to achieve compliance with the amenable cyanide limitation. In re: the response, S-K EC has a contractor scheduled for a site visit on 11-18-10, to size an oxidation unit, to be brought on-site. The unit may be able to be set in place in under 2 weeks, depending on bench study results. The plan is have this unit in place before the response date. 806 - Pretreatment	Resolved	\$3,600.00	\$3,600.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Wastewater exceedances for amenable cyanide and fluorides.		
4/18/2011	IND077042034	East Chicago Sanitary District	Notice of Violation	Alleged violations include 2- Amenable Cyanide & 2 - Fluoride exceedances with a total civil penalty of \$6000 requested. 806 - Pretreatment,ND - SK Admin Only	Resolved	\$6,000.00	\$1,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	2 Fluoride exceedances		
7/27/2011	IND077042034	East Chicago Sanitary District	Notice of Violation	The proposed penalty of \$3500, includes 1 amenable cyanide exceedance (\$2500) and 2 fluoride exceedances (\$1000). 806 - Pretreatment,ND - SK Admin Only	Resolved	\$3,500.00	\$1,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	2 Fluoride exceedances		
1/31/2012	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides and other parameters in Fourth Quarter 2011.	Pending	\$12,600.00	\$2,600.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

1/31/2012	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of oil and grease and ammonia in January 2012.	Resolved	\$1,000.00	\$1,000.00
			EA Number:	Description of Resolution:			
1/31/2012	IND077042034	East Chicago Sanitary District	Notice of Violation	Exceedances alleged for 4th Quarter 2011. 4 fluorides, 1 phenol and 1 oil and grease. Ongoing issues with amenable cyanide also included 4 alleged exceedances. 806 - Pretreatment	Resolved	\$12,600.00	\$1,600.00
			EA Number:	Description of Resolution:			
1/31/2012	IND077042034	East Chicago Sanitary District	Notice of Violation	1 O&G and 1 Ammonia-N exceedance 806 - Pretreatment	Resolved	\$1,000.00	\$1,000.00
			EA Number:	Description of Resolution:	\$500 for each exceedance.		
5/29/2012	IND077042034	Indiana Department of Environmental Management		Failure to take manual readings when an analyzer broke down.	Resolved	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
5/29/2012	IND077042034	Indiana Department of Environmental Management-Nor	Notice of Violation	IDEM Air conducted a scheduled annual inspection on 4/23/12. During that inspection, they verified the information submitted in the facility's RY2011 Annual Compliance Certification (ACC) which is required to be submitted by the Title V Air Permit. In the ACC, the facility reported that it failed to conduct backup off-gas analysis when the off-gas analyzers were out-of-service. The non-compliance occurred in October 2011. The NOV requests a response be submitted which includes an explanation for the non-compliance and the corrective action taken to prevent re-occurrence. 999 - Other	Resolved	\$0.00	\$0.00
			EA Number:	Description of Resolution:	N/A		
9/12/2012	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides and phenol in August 2012.		\$4,700.00	\$300.00
			EA Number:	Description of Resolution:			
9/12/2012	IND077042034	East Chicago Sanitary District	Notice of Violation	The NOV was issued for exceedances that occurred between Feb and August 2012. 6 were for amenable cyanide and 1 was for Phenol. The total assessed penalty is \$4700. \$300 for the phenol and \$4400 for the amenable cyanide. The amenable cyanide limit was appealed and the ECSD has not addressed that appeal. S-K will pay the \$300 for the phenol exceedance. ND - SK Admin Only	Resolved	\$4,700.00	\$300.00
			EA Number:	Description of Resolution:			
5/13/2013	IND077042034	City of East Chicago	Notice of Violation	Alleged discharge exceedances of Phenol, Fluoride and amenable Cyanide	Resolved	\$19,350.00	\$17,350.00
			EA Number:	Description of Resolution:	Paid civil penalty		

5/13/2013	IND077042034	East Chicago Sanitary District	Notice of Violation	Penalties assesses for wastewater exceedances. 2 amenable cyanide which are under appeal, 1 fluoride and 57 phenols, which occurred during a system upset that we notified the agency of. The facility is now out of the upset condition and in compliance. 806 - Pretreatment	Pending	\$19,350.00	\$17,350.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Penalized for Phenol exceedances which occurred while in an upset condition, of which the ECSD had been notified.		
7/31/2013	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides and fluoride in second quarter 2013.	Pending	\$3,250.00	\$250.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
9/13/2013	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides and fluoride in July and August 2013.	Pending	\$4,900.00	\$900.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
12/6/2013	IND077042034	City of East Chicago	Notice of Violation	Exceeding discharge limits for free cyanide and fluoride on September and October discharges	Pending	\$4,300.00	\$300.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
12/6/2013	IND077042034	East Chicago Sanitary District	Notice of Violation	Exceedances for amenable cyanide and fluoride 805 - NPDES - Direct Discharge	Pending		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/3/2014	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides and phenolic in December 2013.	Pending	\$2,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/20/2014	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanides.	Pending	\$1,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
4/4/2014	IND077042034	City of East Chicago	Notice of Violation	Exceedances of the amenable cyanide discharge parameter for Q1 2014.	Pending	\$2,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/2/2014	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanides on March 31, 2014.	Pending	\$1,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/22/2014	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanides from April, 2014.	Pending	\$2,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
6/24/2014	IND077042034	City of East Chicago	Notice of Violation	Exceedance of amenable cyanides in the wastewater discharge.	Pending	\$3,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

7/31/2014	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanide and fluoride limits.	Pending	\$1,950.00	\$450.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
9/8/2014	IND077042034	City of East Chicago, IN	Notice of Violation	Exceedance of wastewater discharge limit for amenable cyanide and fluoride.	Pending	\$1,975.00	\$475.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
11/10/2014	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides and flourides in August and September 2014.	Pending	\$3,900.00	\$900.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
1/26/2015	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanides during January, 2015.	Pending	\$3,200.00	\$0.00
			<i>EA Number:</i> AE-XP-14-01209	<i>Description of Resolution:</i>			
2/4/2015	IND077042034	City of East Chicago	Notice of Violation	Four amenable cyanide discharge exceedances between October and December 2014.	Pending	\$6,400.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/26/2015	IND077042034	City of East Chicago	Notice of Violation	Amenable cyanide discharge exceedances on February 9 and February 23, 2015.	Pending	\$3,200.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/1/2015	IND077042034	City of East Chicago	Notice of Violation	Alleged discharge exceedance for ammonia and for amenable cyanide.	Pending	\$3,300.00	\$100.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/22/2015	IND077042034	City of East Chicago	Notice of Violation	Two discharge exceedances of cyanides.	Pending	\$1,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
6/10/2015	IND077042034	City of East Chicago	Notice of Violation	Two discharge exceedances of cyanides.	Pending	\$3,200.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
7/28/2015	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedances of cyanide.	Pending	\$1,600.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
9/3/2015	IND077042034	City of East Chicago	Notice of Violation	Two exceedances of the amenable cyanide discharge parameter and one exceedance of the fluoride discharge parameter for July 2015.	Pending	\$3,250.00	\$50.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
9/3/2015	IND077042034	City of East Chicago	Notice of Violation	Exceedances of the amenable cyanide discharge parameter for August 2015.	Pending	\$1,600.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

9/17/2015	IND077042034	IDEM	Notice of Violation	Allegations include not performing annual sulfur testing in the fuel and exceeded sulfur dioxide emissions from heaters for 3 hours.	Resolved	\$12,500.00	\$12,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					Paid a civil penalty.		
10/19/2015	IND077042034	City of East Chicago	Notice of Violation	Exceedance of amenable cyanide discharge limit in pre-treatment permit for 2 samples in September.	Pending	\$2,400.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
11/2/2015	IND077042034	East Chicago Sanitary District	Notice of Violation	A discharge exceedance of cyanide.	Pending	\$1,600.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
11/4/2015	IND077042034	US EPA Region V		Failure to maintain training records thus invalidating an exemption to the hazardous waste permitting requirements. Cracks and gaps in secondary containment.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					Provided EPA with additional documentation on areas of concern.		
11/4/2015	IND077042034	East Chicago Sanitary District	Consent Administrative Order	Fifteen discharge exceedances that had been previously been identified as discharge Notices of Violation.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					The order was withdrawn.		
11/16/2015	IND077042034	City of East Chicago	Notice of Violation	A discharge exceedance of cyanide.	Pending	\$1,600.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
12/7/2015	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanide on November 18, 2015.	Pending	\$1,600.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
12/14/2015	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanide on November 23, 2015.	Pending	\$1,800.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
4/29/2016	IND077042034	City of East Chicago	Notice of Violation	Alleged amenable cyanide and residual chlorine exceedances of wastewater discharge permit.	Pending	\$14,500.00	\$2,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/3/2016	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanides on April 11, 2016 and April 21, 2016.	Pending	\$5,000.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
6/6/2016	IND077042034	City of East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanide on May 9th.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
6/8/2016	IND077042034	US EPA	Compliance Advisory	Failure to notify the National Response Center of a reportable quantity release.	Resolved	\$87,710.00	\$39,384.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			CERCLA-05-2017-004		Paid civil penalty		

6/13/2016	IND077042034	City of East Chicago Sanitary District	Notice of Violation	Discharge exceedance of Mercury and Amenable Cyanide.	Pending	\$5,000.00	\$2,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
7/7/2016	IND077042034	City of East Chicago Sanitary District	Notice of Violation	Discharge exceedance for cyanide, oil & grease and mercury	Pending	\$7,500.00	\$5,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
7/12/2016	IND077042034	City of East Chicago Sanitary District	Notice of Violation	Discharge exceedance of mercury.	Pending	\$2,500.00	\$2,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
7/12/2016	IND077042034	Indiana Department of Environmental Management	Notice of Violation	1) Inaccurate waste determination, 2) failure to list the transporter EPA ID Number on manifests, 3) employees failing to complete annual training requirements in one year, 5) training documents lacked required information, 6) shipping documents used to receive used oil shipments did not include required transporter information.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Written responses to violations were submitted on 8/24/16 and 9/6/16. IDEM indicated that violations were properly addressed.	
7/20/2016	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of mercury.	Resolved	\$2,500.00	\$2,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Paid civil penalty	
8/2/2016	IND077042034	City of East Chicago Sanitary District	Notice of Violation	There was an alleged exceedance of the pH limit based on a 6-27-16 sampling event by the ECSD.	Resolved	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Paid civil penalty.	
8/2/2016	IND077042034	East Chicago Sanitary District	Notice of Violation	The ECSD issued a NOV for an alleged exceedance of the wastewater discharge permit. An exceedance of the amenable cyanide limit was alleged based on a 07-11-16 sampling event by the ECSD.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
8/3/2016	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanide and mercury.	Pending	\$5,000.00	\$2,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
9/20/2016	IND077042034	East Chicago Sanitary District	Notice of Violation	The ECSD issued a NOV for an alleged exceedance of amenable cyanides in the wastewater discharge on August 29, 2016.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
9/26/2016	IND077042034	East Chicago Sanitary District	Notice of Violation	The ECSD issued a NOV for alleged exceedance of wastewater discharge permit on September 12, 2016.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

10/10/2016	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanidei district sample collected on September 26, 2016.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
10/24/2016	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanide from October 10, 2016.		\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
12/9/2016	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of he following parameters: cyanide, mercury, oil & grease and ammonia.	Pending	\$10,000.00	\$2,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
1/20/2017	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanide on January 9, 2017.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/1/2017	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of amenable cyanide.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/22/2017	IND077042034	City of East Chicago	Notice of Violation	Discharge exceedance of cyanide and residual chlorine on January 26, 2017.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/13/2017	IND077042034	City of East Chicago	Notice of Violation	The ECSD issued an NOV for an alleged residual chlorine exceedance of the wastewater discharge permit from Marh 13, 2017.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/17/2017	IND077042034	City of East Chicago	Notice of Violation	The ECSD issued an NOV for an alleged available cyanide exceedance of the wastewater discharge permit on February 27, 2017.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/28/2017	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides on March 13, 2017.		\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/31/2017	IND077042034	City of East Chicago	Notice of Violation	The ECSD issued a NOV for an alleged exceedance of the wastewater discharge permit. The alleged exceedance was for available cyanide.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
4/10/2017	IND077042034	East Chicago Sanitary District	Notice of Violation	Discharge exceedance of amenable cyanides on March 28, 2017.	Pending	\$2,500.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Illinois, Elgin

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/2/2016	ILD000805911	IEPA	Warning Letter/Notice	Failure to submit discharge monitoring reports (DMRs).	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Illinois, Goodfield BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/7/2009	ILR000157065	Illinois Environmental Protection Agency	Notice of Violation	NOV result of 3/25/2009 inspection for operating permit request. On guidance from the IEPA Permit Section the operating request was submitted before completion of the Development Permit transfer pad. 021 - Permitting Issues	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> L-2009-01094	<i>Description of Resolution:</i>	None		

State, Location Iowa, Davenport BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/4/2013	IAD098027592	US EPA, Region VII	Notice of Violation	Permit Section V.D. – Tank containment area has unsealed cracks 008 - 2ndary Cont Mgmt/Cracks	Pending		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Iowa, Des Moines BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/27/2008	IAD981718000	Booz/Allen/Hamilton Contracted by EPA Region 7	Notice of Violation	Manifest numbers were missing on 2 LDRs for outbound loads from branch to RC. One LDR had not been signed by authorized personnel. 004 - LDRs	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> None	<i>Description of Resolution:</i>	Two violations noted in the Notice Of Preliminary Findings left at time of inspection		
1/26/2010	IAD981718000	United States Environmental Protection Agency	Notice of Violation	012 - Inspection Records	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
8/30/2016	IAD981718000	US EPA	Notice of Non-Compliance	1) Failure to date a universal waste accumulation start date, 2) Accumulation of universal waste lamps for greater than one year.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written response to the agency.		

State, Location *Kansas, Dodge City BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/23/2009	KSR145864678	U.S. Environmental Protection Agency Region VII	Notice of Violation	001 - Container Storage Mgmt,005 - OP Records/Notifs/Logs,008 - 2ndary Cont Mgmt/Cracks,013 - Conting Plan/EC/Alarms,017 - Prepdness/Prevent/Security	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> n/a	<i>Description of Resolution:</i> None			

State, Location *Kansas, Wichita, KS - SK*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/28/2012	KSD000809723	KDHE	Notice of Non-Compliance	Violation cited was KSA 65-3441(a)(3): Failure to comply with a condition (inspection procedures) of the permit. There was damage to the heat tape/insulation around the waste solvent piping in the truck bay. There is no damage to the pipe and this tear in the heat tape/insulation has been there for years. Because we do not have the tear and subsequent inspection of the pipe for damage documented on our daily inspection sheet, inspector cited the above. 012 - Inspection Records	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i> N/A			
1/15/2014	KSD000809723	US EPA	Notice of Violation	Deficiencies in the SPCC plan	Resolved	\$575.00	\$575.00
			<i>EA Number:</i>	<i>Description of Resolution:</i> Paid civil penalty			
12/21/2016	KSD000809723	KDHE	Notice of Violation	1) failure to maintain secondary containment free of cracks or gaps, 2) failure to make waste determinations on containers, 3) failure to label a container as hazardous waste, 4) failure to update the form or Regulated Waste Activity for an employee, 5) storage of products and equipment in the hazardous waste storage area, 6) inadequate maintenance of the secondary containment coating, 7) two incorrect subpart BB air tags.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
4/4/2017	KSD000809723	US EPA	Notice of Violation	1) Failure to mark thredded connection to identify the equipment for air monitoring tests, 2) Failure to include the thredded connection in the facility operating records.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Kentucky, Lexington, KY BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/23/2008	KYD981027469	Kentucky Dept for Environmental Protection	Notice of Violation	KY DEP has cited the branch for having two drums where "the labels had been folded up and wedged into the lids of the containers". This is noted as a violation of 401 KAR 35:180 Section 4(3). 002 - Labeling	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			ENV20080001				
3/31/2011	KYD981027469	Kentucky Natural Resources and Environmental Prote	Notice of Violation	Exceeded TSS and not submitting monitoring reports on a monthly basis (submitted quarterly) 999 - Other	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		NOV - no monetary penalty	
10/24/2012	KYD981027469	Kentucky Natural Resources and Environmental Prote	Notice of Violation	Exceedance of TSS parameter 999 - Other	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Kentucky, Louisville BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/8/2007	KYD985072610	Kentucky Division of Waste Management	Notice of Violation	Two Subpart BB tags had fallen off at time of inspection, including one under the R&F dock. 019 - Subpart AA/BB/CC	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		No penalty from state	
			ENV20070003				
5/19/2008	KYD985072610	Kentucky Division of Waste Management	Notice of Violation	We were cited for inadequate secondary containment as a consequence of the spill on Tuesday, May 13th 008 - 2ndary Cont Mgmt/Cracks,010 - Spills/Releases,022 - Used Oil	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		NOV - no fine	
			ENV20080001				
6/11/2008	KYD985072610	Louisville and Jefferson County Metropolitan Sewer	Notice of Violation	Metro Sewer District issued NOV for same spill for which the KY DEP issued NOV. 010 - Spills/Releases	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		None	
7/25/2008	KYD985072610	Louisville and Jefferson County Metropolitan Sewer	Notice of Violation	Failure to promptly notify local fire department of spill 013 - Conting Plan/EC/Alarms	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

1/29/2009	KYD985072610	Kentucky Division of Waste Management	Notice of Violation	A five gallon bucket near the Vac Rail Car used for draining the hose was not labeled with the words "Used Oil", the inspection log for 1/26/09 was incomplete, two 5-gallon buckets next to the "Wet Dumpsters" containing branch debris were not closed, and the same two 5-gallon buckets were not labeled with the words "Hazardous Waste". 001 - Container Storage Mgmt,002 - Labeling,012 - Inspection Records,022 - Used Oil	Resolved		
		EA Number: ENV20090001		Description of Resolution:			
7/15/2009	KYD985072610	Federal Aviation Administration	Penalty Notice	Improper sample shipment 999 - Other	Resolved	\$40,000.00	\$30,000.00
		EA Number: 2009SO700182		Description of Resolution:		Cival penalty	
7/5/2011	KYD985072610	Kentucky Division of Waste Management	Notice of Violation	002 - Labeling,701 - Manifest - Generator	Resolved		
		EA Number:		Description of Resolution:			
2/21/2012	KYD985072610	Louisville and Jefferson County Metropolitan Sewer	Notice of Violation	Louisville/Jefferson County has an "immediate" spill notification requirement to 911. Branch reported spill 30 minutes after it first occurred. 999 - Other	Resolved		
		EA Number:		Description of Resolution:		None	

State, Location *Kentucky, Smithfield*

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
5/10/2007	KYD053348108	Kentucky Dept for Environmental Protection	Notice of Violation	The following five different open hazardous waste containers were observed during the inspection: one 55-gallon satellite container in the maintenance room, one 5-gallon bucket with liner in the loading bays (tanker tunnel 3 and 4), two hoppers in the A-Mod, and one 85-gallon over-pack drum in the shredder room. 001 - Container Storage Mgmt	Resolved	\$0.00	\$0.00
		EA Number: ENV20070003		Description of Resolution:		None	
6/11/2007	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	The facility was cited for noncompliance with 401 KAR 35:020 Section 6(4) for the lack of notations regarding observations of contaminated storm water in the secondary containment of one permitted area in the daily inspection log. The facility was also cited for noncompliance with 401 KAR 35:030 Section 2 regarding the liquid that was observed leaking out of the back of a dump trailer filled with washed shredded metal. 010 - Spills/Releases,012 - Inspection Records	Resolved	\$0.00	\$0.00
		EA Number: ENV20070004		Description of Resolution:		None	

11/30/2007	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	40 CFR 63.693 (h)(i) - The permittee shall monitor the operation of the thermal oxidizer using a continuous monitoring system to measure and record the daily average temperature of the exhaust gases from the control device. The accuracy of the temperature monitoring device must be within 1 percent of the temperature being measured, expressed in degrees Celsius within 0.5 degrees Celsius, whichever is greater. 803 - CAA - Exceed/RMP/NESHAPS	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> ENV20070005	<i>Description of Resolution:</i> None.			
8/13/2008	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	The inspector issued the NOV for two container (hoppers), which were observed outside without being properly closed during an inspection on 8/11/08. Waste was not being actively added or removed from the hoppers. However, the material contained in these hoppers was involved in a fire earlier that day and it was decided to stage these hoppers outside in an isolated area with the lids off so that if a fire did occur, it could be extinguished easily. The Kentucky Division of Waste Management is requiring Smithfield to establish and implement procedures to ensure that all hazardous waste containers are kept closed at all times, except when actively adding or removing waste. Smithfield is to submit a copy of these new procedures, and documentation verifying how the procedures have been implemented to the Florence Regional Office by 9/15/08. 001 - Container Storage Mgmt	Resolved		
			<i>EA Number:</i> ENV20080001	<i>Description of Resolution:</i> N/A			
6/4/2009	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	Smithfield was cited to be out of compliance with 40 CFR 264.177(c), due to storing a hazardous waste flammable liquid next to a hazardous waste oxidizer within the same containment device. 001 - Container Storage Mgmt	Resolved		
			<i>EA Number:</i> ENV20090001	<i>Description of Resolution:</i> N/A			
7/10/2009	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	Smithfield was cited to be out of compliance with 40 CFR 264.177(c), due to storing a hazardous waste flammable liquid next to a hazardous waste oxidizer within the same secondary containment. This is a repeat violation and is being referred to the Division of Enforcement for further action. 001 - Container Storage Mgmt	Resolved	\$10,000.00	\$10,000.00
			<i>EA Number:</i> ENV20090002	<i>Description of Resolution:</i> On April 15, 2010, a "Demand for Remedial Measures and Civil Penalty" was received stating that the Kentucky Department for Environmental Protection would settle this matter (Case No. DOW 090214) for a civil penalty of \$10,000. On April 26, 2010, the \$10			
11/22/2010	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	Containers of Hazardous Waste received from offsite were not marked with the date accumulation began (received) in accordance with 40 CFR 268.50(a)(2)(i) and a container of Universal Waste was not marked with the date it was received. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> ENV20100001	<i>Description of Resolution:</i> NA			

6/23/2011	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	A drum labeled "Hazardous Waste" appeared to exceed the 90-day limit for site generated waste. 001 - Container Storage Mgmt	Resolved	\$0.00	\$0.00
			EA Number: ENV20110001	Description of Resolution: None.			
9/9/2011	KYD053348108	Ohio Public Utilities Commission	Notice of Violation	Codes: 173.30 and 172.205 601 - DOT Plac/Strap/Logs/Wgt	Resolved	\$760.00	\$760.00
			EA Number: 3207301057S	Description of Resolution: Forfeiture of \$760 regarding violation related to loading of transport vehicle.			
10/3/2011	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	Insufficient aisle space, open container of Universal Waste Lamps, a drum of hazardous waste received from offsite not stored in a permitted area, containers not appropriately marked with the words "Hazardous Waste" and the date received. 001 - Container Storage Mgmt,002 - Labeling,007 - Aisle Space	Resolved	\$0.00	\$0.00
			EA Number: ENV20110002	Description of Resolution: NA			
1/5/2012	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	The control device (thermal oxidizer) monitoring data from June 5th to June 8th in 2010 was not collected as required by the facility's Title V Permit, the dump trailer used for accumulating shedded metal with clinging solvent prior to being shipped to a smelter was not covered, and Method 21 readings have been performed on an annual basis instead of a quarterly basis without the inclusion of the clean metal dump trailer. 803 - CAA - Exceed/RMP/NESHAPS	Resolved	\$0.00	\$0.00
			EA Number: ENV20120001	Description of Resolution: NA			
9/11/2012	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	During an inspection conducted on 8/22/12, the inspector observed a container leaking, inadequate aisle space, and receipt dates missing from containers of hazardous waste generated offsite. 001 - Container Storage Mgmt,007 - Aisle Space,010 - Spills/Releases	Resolved	\$0.00	\$0.00
			EA Number: ENV20120002	Description of Resolution: None.			
11/7/2012	KYD053348108	Kentucky Department for Environmental Protection	Notice of Violation	The Division for Air Quality has reviewed 2010 - June 2012 data regarding control device bypass events and determined that for many of the bypass events, Safety-Kleen continued to operate even though the event would not qualify as a malfunction or planned routine maintenance. Therefore, the Kentucky Division for Air Quality concluded that Safety-Kleen was not in compliance with 40 CFR 63.693(e) nor the associated permit condition. 803 - CAA - Exceed/RMP/NESHAPS	Resolved	\$0.00	\$0.00
			EA Number: ENV20120003	Description of Resolution: None.			
6/18/2013	KYD053348108	KY DEP	Notice of Violation	1) Two trailers without 90 day accumulation labels, 2) a trailer not labeled with the words "Hazardous Waste", 3) failure to note on an inspection that a trailer had been inspected, 4) failure to document observations on an inspection form.	Resolved w/o Penalty	\$0.00	\$0.00
			EA Number:	Description of Resolution: Provided a written response to the agency.			

9/25/2014	KYD053348108	LA Department of Public Safety	Notice of Violation	Leaking hazardous materials package discovered on a truck in Baton Rouge, LA.	Resolved	\$2,250.00	\$2,500.00
			EA Number:	Description of Resolution:			
			H14-0097	Paid civil penalty			
12/2/2014	KYD053348108	KY Dept. of Environment	Notice of Violation	Failing to close containers that were opened to sample for receipt when the employee went on break.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
1/14/2016	KYD053348108	KY DEP	Notice of Violation	Operating equipment and storing waste subject to control requirements in a T-enclosure while the control devise (thermal oxidizer) was not operational.	Resolved	\$10,000.00	\$5,000.00
			EA Number:	Description of Resolution:			
				Paid civil penalty			
3/3/2017	KYD053348108	KY DEP	Notice of Violation	1) Failure to secure a tarp on a roll off container so it did not meet the Level 2 controls requirements, 2) a visable gap between a cover and a container, 3) failure to secure the closure device in the closed position and install covers after the completion of a batch loading after which no additional material will be added to the container within 15 minutes.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			

State, Location Louisiana, Kenner, LA (New Orleans) BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
4/19/2011	LAD985171024	LA Department of Public Safety	Notice of Violation	This NOV is related to an incident that occurred on February 23, 2011 and alleges careless handling of a hazardous material. 010 - Spills/Releases	Resolved	\$5,000.00	\$2,500.00
			EA Number:	Description of Resolution:			
			H11-0037	Agency agreed to cut penalty to \$2,500 from the originally proposed \$5,000			

State, Location Louisiana, Shreveport

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
11/10/2010	LAR000068239	City of Shreveport	Notice of Non-Compliance	pH exceeding discharge permit levels 806 - Pretreatment	Resolved	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
				na			
6/15/2015	LAR000068239	City of Shreveport	Notice of Violation	Failure to submit an annual report on time.	Resolved w/o Penalty	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
				Submitted the report.			

State, Location Louisiana, Metairie

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/11/2016		LDEQ	Warning Letter/Notice	Stormwater management violations including failure to document the temperature of the discharge.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Maryland, Baltimore BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
10/28/2011	MDD981034291	Maryland Department of the Environment	Notice of Violation	015 - Closure Cost Est/Plans/Fin Asur	Resolved	\$1,500.00	\$1,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			NOV-LMA-12-HAZ-067	Civil penalty.			
12/13/2013	MDD981034291	US Department of Transportation Federal Railroad A	Notice of Violation	Federal Railroad Administration inspected a SK Placarded Railcar and found some deficiencies 601 - DOT Plac/Strap/Logs/Wgt	Pending		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Massachusetts, Marlborough BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/25/2011	MAD088978143	Massachusetts Department of Environmental Protecti	Compliance Order	Received and transferred 1 drum of properly manifested and containerized PCB-containing waste, which was not authorized by permit 021 - Permitting Issues	Resolved	\$2,500.00	\$2,300.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			133136	Pay penalty and make sure the mistake is not repeated through training.			

State, Location Massachusetts, Salisbury BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/16/2011	MAD060095569	Waste Management Division	Citation/Ticket	Cited for failure to carry a copy of the contingency plan on the truck, failure to carry a copy of the waste transporter authorization letter, and failure to display the transporter number on the truck. 999 - Other	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
1/17/2017	MAD060095569	MA DEP	Notice of Violation	Violations pertain to minor container labeling issues, UST cathodic testing, location of spill equipment, and waste classification of bulk spent parts cleaning solvent.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Massachusetts, West Brookfield*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
10/26/2007	MAD096287354	Massachusetts Department of Environmental Protecti	Notice of Non-Compliance	MADEP cites us per TSD requirements for failure to operate and/or maintain vehicle, which caused off-site release to occur 010 - Spills/Releases	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	NON-WE-07-9051-2	<i>Description of Resolution:</i>	na	
5/18/2009	MAD096287354	Massachusetts Department of Environmental Protecti	Notice of Non-Compliance	Failure to prevent unknowing entry of persons - security gate broken, being fixed, but left unattended 017 - Prepdness/Prevent/Security	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	NON-CE-09-2010	<i>Description of Resolution:</i>	Notice of Non compliance	
6/19/2009	MAD096287354	Massachusetts Department of Environmental Protecti	Compliance Order	Consent Order issued with penalty of \$11,200, already negotiated down by SKS, for failure to take retains as required by license in association with PCB event 022 - Used Oil	Resolved	\$12,800.00	\$11,200.00
			<i>EA Number:</i>	ACOP-CE-09-2002	<i>Description of Resolution:</i>	\$11200	
4/3/2015	MAD096287354	MA DEP	Notice of Non-Compliance	Failure to label each container with an appropriate label.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Replaced the label in question and provided refresher training to prevent reoccurrence.		

State, Location *Michigan, Mason AC*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/26/2011	MID981000359	Michigan Dept. Of Environmental Quality	Notice of Non-Compliance	SK Grand Rapids received a "Compliance Communication" letter from the MDEQ for a missing container identified by the Mason AC from one of the branch's customers, GE Aviation as a result of a manifest (003369915FLE 11/23/10) discrepancy report they received. The container tracking error happened while the container was in transit between the SK Mason AC and Smithfield RC.	Resolved		
			<i>EA Number:</i>	702 - Manifest - Transporter,ND - SK Admin Only	<i>Description of Resolution:</i>		

State, Location *Michigan, Romulus*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/18/2013	MID985663251	State of Michigan	Notice of Violation	Paragraph 2.1.6 and paragraph 2.1.8 of the Consent Order 111-05-07. Section B of Form for Severstal North America #2900960, Lloyds Electric #2691386, GKN Driveline #177605, and UPS Freight #179456 not completed. 999 - Other	Resolved		\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

2/11/2016 MID985663251 MI DEQ Notice of Violation Accepting hazardous waste solvent without a permit. Pending \$0.00 \$0.00

EA Number:

Description of Resolution:

State, Location Michigan, Saginaw

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/17/2011	MID981000607	United States Environmental Protection Agency	Notice of Violation	Received violations specifically for the following: 1) Not having the hazardous waste solvent tanker trailer labeled with the start accumulation date and a hazardous waste label 2) hazardous waste debris drum at tanker pad was not labeled 3) the secondary containment had accumulated liquids which were not removed in a timely manner 4) operating in this manner without a hazardous waste license, and 5) not having a waste determination for the used oil debris on the oil pad as a used oil or non-hazardous waste. 001 - Container Storage Mgmt,002 - Labeling,008 - 2ndary Cont Mgmt/Cracks,022 - Used Oil	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
2/4/2015	MID981000607	Michigan Licensing and Regulatory Affairs	Notice of Violation	Failure to have an approved heat actuated internal or external quick closing valve installed on a tank.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Installed correct valve on the tank		

State, Location Minnesota, Blaine BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/5/2008	MND981953045	Anoka County Environmental Services	Notice of Violation	Received NOV for 1) the spent solvent tanks was not labeled with the words "Hazardous Waste" and 2) the state contends that they never received copies of 42 manifests. 002 - Labeling,701 - Manifest - Generator	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	NA		
9/30/2009	MND981953045	Anoka County	Notice of Deficiency	Allegedly branch has not submitted initial manifest copy to MPCA w/in 5 days of shipment 701 - Manifest - Generator	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	NA		
8/23/2010	MND981953045	United States Environmental Protection Agency	Notice of Violation	008 - 2ndary Cont Mgmt/Cracks,023 - Generator Stnd / 10 Day Trf,701 - Manifest - Generator	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	MND981953045 LR-8J		None

State, Location Minnesota, Eagan BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
6/19/2009	MND981097884	OSHA Department of Labor and Industry	Penalty Notice	Serious Violation-Failure to train on Methylene Chloride Standard (\$1800.00); Non-Serious Violation-Failure to monitor quarterly for carbon monoxide levels from forklift usage (\$300.00) 006 - Training Records,812 - OSHA	Resolved		\$2,100.00
			EA Number:	Inspection # 313391443 OSHI ID X6353 Optional Re	Description of Resolution:	\$300.00 for CO monitoring violation: \$2100.00 for Methylene Chloride standard violation	
8/18/2016	MND981097884	US EPA	Notice of Violation	1) The operating record did not appear to identify the location of a container within the facility. 2) Training records for a Customer Service Representative were not complete. 3) Historical training records maintained in an old database were not readily available for inspection.	Resolved w/o Penalty	\$0.00	\$0.00
			EA Number:		Description of Resolution:	Provided written response.	

State, Location Mississippi, Jackson RC - Closed

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
3/19/2013	MSD985969690	Mississippi Department of Environmental Quality	Notice of Violation	This issue resulted from the self-discovery and subsequent self-reporting of the incident involving the receipt and processing of 3 drums of hazardous waste in November 2012. 023 - Generator Stnd / 10 Day Trf	Resolved	\$0.00	\$0.00
			EA Number:		Description of Resolution:	No penalty expected since self-reporting requirements were met.	

State, Location Mississippi, Jackson, MS - SK

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
5/24/2010	MSD000776765	Mississippi Department of Environmental Quality	Notice of Deficiency	013 - Conting Plan/EC/Alarms,015 - Closure Cost Est/Plans/Fin Asur	Resolved	\$0.00	\$0.00
			EA Number:	44 PER2010001	Description of Resolution:	NA	
9/18/2014	MSD000776765	MDEQ	Notice of Violation	1) Failure to mark an accumulation start date on four drums, MHWMR 262.34(c)(2), 2) One container not properly closed, MHWMR 265.173(a)	Resolved		\$7,425.00
			EA Number:		Description of Resolution:	Paid civil penalty and agreed to a consent order.	

State, Location Missouri, Columbia BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/17/2011	MOD980971626	US Dept of Labor, Mine Safety & Health Admin	Citation/Ticket	While on site at customer location (Doe Run Mine) the BGM was cited for failure to have parking brake set and wheel chocks deployed by MSHA inspector on site. Penalty is not known, estimated to be \$200-\$300. This citation will be contested. There were numerous employee pers owned vehicles parked in the immediate area that were not chocked and the SK vehicle involved was not a service vehicle (sales van) that entered the mine. 999 - Other	Resolved		
			<i>EA Number:</i> 8622078	<i>Description of Resolution:</i>			

State, Location Missouri, St. Charles, MO BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/19/2011	MOD095486312	United States Environmental Protection Agency	Penalty Notice	Failure to report EPCRA TRI Form R for reporting year 2008 810 - EPCRA	Resolved	\$38,260.00	\$26,782.00
			<i>EA Number:</i> EPCRA 07-2011-0004	<i>Description of Resolution:</i>		Failure to report in a timely manner ethylene glycol, toxic chemical to EPA and to the State of Missouri for the calendar year 2008.	

State, Location Montana, EMR Helena MT - FAC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/31/2007		Montana Department of Environmental Quality	Notice of Violation	NOV for Storage of Hazardous Waste without a permit. \$67,500 penalty	Resolved	\$67,500.00	\$67,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Disciplinary action, clarification of policies with employees	

State, Location Montana, EMR Missoula MT - FAC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/1/2008		Montana Department of Environmental Quality	Warning Letter	Warning Letter	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Additional staff training, marking od "do-it-yourself" accumulation tank.used oil	
12/3/2014		Missoula County Health Dept	Notice of Violation	Missoula County Health Dept was on-site to observe hydrostatic test of containment vault. Significant drop was noted in vault level over 24 hours period. Notice of Violation, Order to Take Corrective Action was received 12/8/14.	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Vault was repaired and corrective action completed.	

State, Location Nevada, Sparks - TFI

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/8/2015	NVD982510711	City of Sparks Environmental Control Section	Notice of Violation	failure to notify the City of an oil spill.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided explanation to the City.		

State, Location New Jersey, Burlington

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/11/2009	NJD986604510	Burlington Township Bureau of Fire Prevention	Notice of Violation	The inspector was concerned about the proximity of empty drums to sprinkler heads. The drums were moved immediately. Also the inspector was concerned because fire doors needed to be inspected on an annual basis and this was not done. This requirement is a new regulation that the facility was unaware of. An inspection of the doors is scheduled and will be tracked in the future on the compliance administrative calendar. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	0		
1/13/2011	NJD986604510	NJDEP	Notice of Violation	One violation was for the failure of INFOTRAC to report a HAZMAT spill to the Office of Hazardous Materials Transportation within 30 days, the other was for picking up an improperly packaged container of nitric acid. The package of nitric acid leaked while in transit in Burlington. 010 - Spills/Releases,999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	PEA100001 PEA100002		
2/10/2011	NJD986604510	US Dept of Labor	Penalty Notice	812 - OSHA	Resolved	\$59,100.00	\$32,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Changed from willfull to serious		
2/14/2011	NJD986604510	NJDEP	Notice of Violation	701 - Manifest - Generator,702 - Manifest - Transporter,804 - Solid Waste - Land Treatment,ND - SK Admin Only	Resolved	\$20,000.00	\$15,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	PEA110002 civil penalty		
4/14/2014	NJD986604510	NJ Dept. of Environmental Protection	Compliance Advisory	Failure to have a DPCC/DCR Plan on file for the facility.	Resolved	\$4,800.00	\$4,800.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Entered into a consent order and paid a civil penalty.		

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/29/2007	NJD002182897	Linden Roselle Sewerage Authority	Notice of Violation	LRSA issued a NOV pertaining to the March 2007 DMR report for DSN002. The Oil and Grease parameter was considered as an omission since it was analyzed outside of the holding time as required. A letter from the contract lab was sent to LRSA accepting responsibility for the error. This letter was accepted by LRSA as, "extenuating circumstances beyond your control was the cause of the violation". Thus there is no fine. 011 - Annual/Periodic Rpts	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> n/a	<i>Description of Resolution:</i> none			
6/27/2007	NJD002182897	New Jersey Department of Environmental Protection	Notice of Violation	Facility was cited for spilling 1500 gallons of spent MS when a tanker became disconnected from the 5th wheel to the tractor being used to park it and impact breached front compartment. A second citation was made relative to the facility not minimizing the spill which is standard with any spill reported to NJDEP. On March 24, 2008, the facility received a Notice of Civil Penalty Assessment from NJDEP requesting a \$5,000 fine. A 15% reduction in the fine was successfully negotiated. Revised NCPA from NJDEP that reflects \$4,250 fine was paid. 010 - Spills/Releases	Resolved	\$5,000.00	\$4,250.00
			<i>EA Number:</i>	<i>Description of Resolution:</i> \$4,250 civil penalty successfully negotiated			
6/10/2008	NJD002182897	New Jersey Department of Environmental Protection	Compliance Order	010 - Spill occured 5/11/06. 999 - Wheels not chocked while loading found during 2/13/08 DPCC/DCR inspection 010 - Spills/Releases,999 - Other	Resolved	\$7,500.00	\$6,000.00
			<i>EA Number:</i> PEA080002 - 200900369001	<i>Description of Resolution:</i> \$5,000 for 5/11/06 spill from tanker overfill (see 5/12/06 IA). \$2,500 for one tanker not chocked while loading found during NJDEP 2/13/08 DPCC/DCR inspection (see 2/13/08 IA). Filed for Administrative Hearing to negotiate fine reduction. Negotiated s			
6/24/2008	NJD002182897	New Jersey Department of Environmental Protection	Notice of Violation	Stack gas flow meter malfunction. Affirmative Defense accepted by NJDEP. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> PEA080001 - 40097	<i>Description of Resolution:</i> None			
7/21/2008	NJD002182897	New Jersey Department of Environmental Protection	Compliance Order	\$75 fine + \$100 administration fee for 2-minute drop in RTO temperature below permitted limit. NJDEP invoice to follow (30 days plus) 999 - Other	Resolved	\$75.00	\$75.00
			<i>EA Number:</i> EA ID # NEA080002	<i>Description of Resolution:</i> \$75 + \$100 administration fee			

10/3/2008	NJD002182897	New Jersey Department of Environmental Protection	Compliance Order	During 10/07 RTO stack gas emission testing groundwater treatment system was not operating at the required 70% of permitted capacity. Current permitted capacity is greater than what is needed. Facility will apply for new operating capacity limit commensurate with the capacity demonstrated during stack gas testing. 021 - Permitting Issues	Resolved	\$3,000.00	\$1,500.00
			EA Number: PEA080002-40097	Description of Resolution: David DeSha has negotiated a 50% reduction in fine. NJDEP will revise order to reflect \$1500 fine. Facility must apply for reduced operating capacity for groundwater treatment system or reconduct stack gas test at 70% of current permitted limit.			
12/1/2008	NJD002182897	New Jersey Department of Environmental Protection	Notice of Violation	Exceeded RTO scrubber Dp limit of 6" on rolling 1-minute at 6.3" for 2 minutes due to minor equipment malfunction. 999 - Other	Resolved	\$0.00	\$0.00
			EA Number: PEA080003 - 40097	Description of Resolution: None			
2/5/2009	NJD002182897	NJ Department of Environmental Protection	Notice of Violation	Rolling hour average for VOC in RTO exhaust exceeded limit (25.5ppm vs. 25ppm). Unpreventable - occurred during start-up; shut-down upon detecting. 999 - Other	Resolved	\$0.00	\$0.00
			EA Number: PEA090001-40097	Description of Resolution: None			
9/23/2009	NJD002182897	USEPA, Region 2	Notice of Violation	Subsequent to an April 2009 inspection by EPA a NOV has been issued regarding operation of a trough to capture and contain drips and leaks during truck to tank transfers, 9 caps not secured on open-ended lines in Subpart BB service, proof (e.g., return receipt) for submittal of contingency plans to local first responders and accumulation of precipitation in some secondary containments. These matters were addressed at the time of the inspection and corrective actions were implemented post inspection. Contingency plan was previously submitted to local responders and documentation of submittal was available but did not satisfy inspector. Further documentation for contingency plan distribution will be made. Additionally, the EPA has requested information regarding conservation vents on certain tanks in hazardous waste service. Due to the volume of this information a request for additional time to respond is being prepared for submittal to EPA. EPA has yet to make a decision relative to any civil penalties or monetary fines regarding this matter. During phone discussions with the EPA inspector on 9/29 it was mentioned that EPA will not make any determination as to whether a fine will be levied until additional information is received and reviewed. 016 - Tank Mgmt,017 - Prepdness/Prevent/Security,999 - Other	Resolved	\$0.00	\$0.00
			EA Number: RCB ID # 09-3007-3008-31	Description of Resolution: None			

2/4/2010	NJD002182897	NJ Department of Environmental Protection	Notice of Violation	Tank T-209 was taken out of service. T-202 was placed into service in its place for tolling solvents. T-202 was not a replacement in kind due to larger size. NJDEP allows grace period to submit permit modification to address operation of tanks. Extension granted by NJDEP for permit modification submittal by 5/13. 021 - Permitting Issues	Resolved	\$0.00	\$0.00
			EA Number:	PEA100001-40097	Description of Resolution:	None	
2/5/2010	NJD002182897	NJ Department of Environmental Protection	Notice of Violation	CEMs contractor for Linden failed to coordinate CGA for CO monitor with newly approved air permit conditions. NJDEP allows grace period for correction without penalty. 999 - Other	Resolved	\$0.00	\$0.00
			EA Number:	PEA100002-40097	Description of Resolution:	None	
6/17/2010	NJD002182897	Linden Roselle Sewerage Authority	Notice of Violation	Oil & Grease detected at 60 mg/L vs. permit limit of 50 mg/L in 4/13/2010 discharge - self report. Isolated incident with cause determined to be wash down after equipment cleaning. Sampling conducted same week by LRSA showed no deviations from permit limits. 806 - Pretreatment	Resolved	\$0.00	\$0.00
			EA Number:	NA	Description of Resolution:	None	
9/16/2010	NJD002182897	NJ Department of Environmental Protection	Notice of Violation	Air permit(s) stipulates vapor pressure gauges and daily readings on certain tank, quarterly HAP grab sampling/testing for phenol & titanium tetrachloride, fuel usage gauge for emergency fire foam diesel generator. Rule change requires boiler tune-up report to be submitted electronically not hard-copy. 016 - Tank Mgmt,999 - Other	Resolved	\$0.00	\$0.00
			EA Number:	PEA100003-40097	Description of Resolution:	None	
11/19/2010	NJD002182897	Linden Fire Department	Notice of Violation	1 fire pump test not conducted by October 2010 annual date. 1 fire door actuator not operating properly (facility discovered, recorded and action ordered) 999 - Other	Resolved	\$0.00	\$0.00
			EA Number:	2009-42989-001-01	Description of Resolution:	None	
7/25/2012	NJD002182897	NJ Department of Environmental Protection	Notice of Violation	Scrubber flow was measured at less than permitted limit for a few minutes. Sensor suspected to have malfunctioned. Affirmative defense submitted to and accepted by NJDEP. 021 - Permitting Issues	Resolved	\$0.00	\$0.00
			EA Number:	PEA120001-40097	Description of Resolution:	None	
8/9/2012	NJD002182897	NJ Department of Environmental Protection	Compliance Order	Lab Certification QA Testing - outside parameter limits 999 - Other	Resolved	\$1,000.00	\$1,000.00
			EA Number:	NEA120001	Description of Resolution:	Penalty assessed for violations to the laboratory's certification found during the annual Solid/Hazardous Waste Proficiency test given for October 2011 and April 2012.	

2/1/2013	NJD002182897	NJ DEP	Notice of Violation	Failure to report a significant manifest discrepancy that was not resolved within 15 days.	Resolved	\$4,500.00	\$3,375.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written explanation to NJ DEP and corrective actions to prevent reoccurrence and paid civil penalty.		
2/1/2013	NJD002182897	NJ DEP	Notice of Violation	Failure to inspect a hazardous waste shipment to ensure it matched the shipping paper.	Resolved	\$4,500.00	\$3,375.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided written explanation to NJ DEP and corrective actions to prevent reoccurrence and paid civil penalty.		
2/1/2013	NJD002182897	New Jersey Department of Environmental Protection	Notice of Violation	The NOV references BOL 33235 from Weco Metal Products for the 12/19/12 pick-up of 2 dm at 800 lbs of hazardous waste (profile 40565482 listing the generator as CESQG). During the same pick-up, 2 additional drums of hazardous waste (total of 500 lbs) were accepted from Weco via manifest 002987102SKS (profiles 3169003 and 3169004 also listing the generator as CESQG). Focal Point indicates Weco was last serviced (prior to the 12/19/12 service) on 8/28/12. So, in roughly 4 months Weco generated 1,300 lbs of hazardous waste – NOT CESQG 703 - Manifest - TSDF, ND - SK Admin Only	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/3/2013	NJD002182897	NJ Department of Environmental Protection	Notice of Violation	Deficiencies found during Lab Inspection on 3/25/13 are noted in report received by the Facility on 5/20/13. A plan to correct the deficiencies must be submitted to OQA within 30 days. Deficiencies must be corrected in order to maintain certification for analysis of solid and hazardous waste. 999 - Other	Pending		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Lab Cert #20003		
5/20/2013	NJD002182897	New Jersey Dept. of Environmental Protection	Notice of Violation	Failure to have adequate laboratory procedures to support certification.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Updated procedures and documentation.		
12/18/2013	NJD002182897	NJDEP Bureau Haz Waste Compli and Enforce	Notice of Violation	Failure to reconcile manifest discrepancy with generator/transporter within 15 days 703 - Manifest - TSDF	Resolved without penalty		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
12/18/2013	NJD002182897	NJDEP Bureau Haz Waste Compli and Enforce	Notice of Violation	Failure to properly and inspect a shipment of haz waste received on 8/12/13 consisting of manifests 00990788JJK, 011811538JJK, 011811620JJK, and 011811760JJK 009 - Storage Vol/Time/Unperm Wst	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/20/2014	NJD002182897	NJ DEP	Notice of Violation	Failure to label two drums and failure to note accumulation start dates on seven drums.	Resolved	\$4,500.00	\$3,375.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Paid civil penalty		

6/18/2015 NJD002182897 Passaic Valley Sewage Commission Notice of Violation Monthly discharge monitoring report received 1 day late. Resolved w/o Penalty \$300.00 \$0.00

EA Number:

Description of Resolution:

Penalty was waived because it was a first time violation and the report was received under 10 days late.

State, Location New Jersey, South Plainfield BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
5/1/2008	NJD982270506	South Plainfield Borough	Notice of Violation	4 items: Sprinkler system due for annual inspection; Fire Alarm Annual Test; Test and service Em. lighting; Storage shall be neat & orderly. 012 - Inspection Records,999 - Other	Resolved		
			EA Number: 1222-67267-001-01	Description of Resolution:		none	

State, Location New Mexico, Albuquerque BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
11/24/2010	NMD000804294	New Mexico Environment Department	Notice of Violation	001 - Container Storage Mgmt,005 - OP Records/Notifs/Logs,012 - Inspection Records,701 - Manifest - Generator	Resolved	\$0.00	\$0.00
			EA Number: None	Description of Resolution:		None	
9/26/2012	NMD000804294	State of New Mexico	Notice of Violation	10/9/12- Received written NOV and proposed penalties in the amount of \$28,358.00. The violations noted consisted of: Failure to keep container closed during storage, failure to control volatile organic air emissions from a container, failure to conduct daily inspection and evaluate the condition of container, failure to remove liquids from the sump within 24 hours, failure to monitor secondary containment, failure to label a 30 gallon drum containing or storing hazardous waste (satellite container), failure to label approximately 800 containers used oil with the words "used oil", failure to dispose of approx. 200 containers of used oil within 35 days, failure to ensure that containers of used oil that were stored outside were kept closed (oil filter bins). 001 - Container Storage Mgmt,008 - 2ndary Cont Mgmt/Cracks,012 - Inspection Records,021 - Permitting Issues,022 - Used Oil	Resolved	\$28,358.00	\$18,848.00
			EA Number:	Description of Resolution:		Civil Penalty	

State, Location *New Mexico, Farmington*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/13/2007	NMD980698849	New Mexico Environmental Dept	Notice of Violation	Proposal for penalties also included. 008 - 2ndary Cont Mgmt/Cracks,012 - Inspection Records,013 - Conting Plan/EC/Alarms,016 - Tank Mgmt,017 - Prepdness/Prevent/Security,021 - Permitting Issues	Resolved		\$14,270.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		\$14,270 minus the costs of agreed upon SEP	
10/19/2009	NMD980698849	New Mexico Environmental Department	Notice of Violation	012 - Inspection Records,019 - Subpart AA/BB/CC	Resolved	\$18,095.00	\$10,902.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		\$5,000 to Western States Project Training fund & \$5,902 to the State of New Mexico	
12/13/2013	NMD980698849	New Mexico Environment Department	Notice of Violation	Improper waste storage, incomplete inspections, deficient container labeling.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Responded with written corrections.	
12/20/2013	NMD980698849	New Mexico Environment Department	Notice of Violation	Inspections, violations of permit conditions 021 - Permitting Issues	Pending		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
4/20/2015	NMD980698849	New Mexico Environment Department	Notice of Violation	Failure to accurately complete facility inspection forms, failure to mark a container with an accumulation start date, failure to complete manifest discrepancy documentation, an open container of universal waste, failure to date a universal waste container, failure to clean up a broken universal waste light bulb, failure to limit the storage of used oil to 35 days.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Provided written response to the agency.	

State, Location *New York, Avon, NY (Rochester) BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/6/2007	NYD980753784	NYSDEC	Notice of Violation	The inspector cited the branch for not specifically listing the BGM as an Emergency Coordinator in the Contingency Plan. There is a sentence in the Contingency Plan that states that the BGM will be named as an Emergency Coordinator. The last time the Emergency Coordinator list was modified due to branch personnel changes. There was no BGM in the branch, so 3 other qualified branch personnel were listed as the emergency coordinators.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		no penalty	

3/26/2010	NYD980753784	New York State Department of Environmental Conserv	Notice of Violation	transportation of hazardous waste without a manifest 702 - Manifest - Transporter	Withdrawn	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	0		

8/10/2011	NYD980753784	NYSDEC	Notice of Violation	Failure to label satellite accumulation drums of retain samples as hazardous waste 002 - Labeling	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	none		

State, Location *New York, Buffalo Oil*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/16/2012	NYD980593842	USEPA	Compliance Order	A voluntary disclosure was filed with EPA in 2011 for an error of omission when it was discovered that ethylene glycol had not been included on the annual TRI reports. Revised reports were submitted. As a result of the voluntary disclosure, a potential penalty of \$20,623 was reduced to \$3,550. ND - SK Admin Only	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			EPCRA-02-2012-4208				

State, Location *New York, Cohoes*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/19/2007	NYD986872869	New York Dept. of Environmental Conservation	Penalty Notice	A draft Order on Consent was issued with a cvil penalty of \$13,800. This penalty was reduced to \$3000 and the number of alleged violations has been significantly reduced. However, as of 3/19/08 a final consent order has not been issued. A consent order WAS issued and signed by SK on 01/23/08. On 11/26/08, SK received notification that the terms and conditions had been satisfied. The total amount of the fine was reduced to \$3000. 013 - Conting Plan/EC/Alarms,019 - Subpart AA/BB/CC	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			R4-2007-0615-76				
4/30/2008	NYD986872869	NYSDEC	Notice of Violation	001 - Container Storage Mgmt	Resolved	\$0.00	
			<i>EA Number:</i>	<i>Description of Resolution:</i>	none		
11/2/2009	NYD986872869	NYSDEC	Notice of Violation	Upon challenge of the alleged NOV by EHSM Mark Hansen, the NYSDEC withdrew the allegation and issued a retraction letter. 001 - Container Storage Mgmt	Withdrawn		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
1/31/2011	NYD986872869	NYSDEC	Penalty Notice	012 - Inspection Records	Resolved	\$80,000.00	\$56,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

5/10/2011	NYD986872869	NYSDEC	Notice of Violation	Violations cited include improper secondary containment, improper tank guages, improper venting, improper marking on tanks. 016 - Tank Mgmt	Withdrawn		
			<i>EA Number:</i> 25402	<i>Description of Resolution:</i>			
3/6/2012	NYD986872869	New York Dept. of Environmental Conservation	Notice of Violation	All issues addressed and deemed satisfactory by the Agency, no penalty issued. 002 - Labeling,007 - Aisle Space,012 - Inspection Records	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i> none			
3/16/2015	NYD986872869	NY DEC	Notice of Violation	1) Two containers with insufficient labels, 2) exceeding the 55 gallon limit for satellite accumulation containers, 3) failing to test the high level alarms daily, 4) Improperly recording the description in the inspection of the trash dumpster, 5) failing to complete the safety equipment inspection on one day, 6) failing to request a permit modification to amend the inspection format.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i> Provided corrective action documentation to the Department.			
3/15/2016	NYD986872869	NY DEC	Notice of Violation	Insufficient secondary containment in the dock unloading	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *New York, Lackawanna, NY (Buffalo) BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/31/2008	NYD981556541	NYSDEC	Penalty Notice	A draft order on consent with a civil penalty of \$1000 was issued in response to a spill on 2/21/08. This spill was reported in the Incident Alert System. The order on consent is for allegedly failing to report an oil spill. 010 - Spills/Releases	Resolved	\$1,000.00	\$1,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i> A ticket was issued with a fine.			

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/6/2009	NYD000708198	Suffolk County Dept. of Public Works	Notice of Violation	Elgin manifest department did not send in the biannual waste removal reporting form to the County. In the past, the County only sent Elgin one form to cover all the buildings at the North Amityville facility. However, this time, two separate forms were received at Elgin; one for the building that houses the offices and a separate form for the building that houses the warehouse/operational areas. Since all waste generated is from our operational areas and attached to that building's EPAID#, a reporting form was only submitted for the one building, and no form was submitted for the building that houses the offices. 011 - Annual/Periodic Rpts	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		A \$500 penalty would have been assessed if we would not have provided the requested information within the required time frame.	
2/3/2011	NYD000708198	New York Dept. of Environmental Conservation	Notice of Non-Compliance	There were 10 items of alleged non-compliance listed on the NOV, but the main concerns of the DEC include using the improper generator status for used oil customers and therefore not applying the proper halogen screening; not doing halogen screening on all incoming drums of used oil. 001 - Container Storage Mgmt,007 - Aisle Space,009 - Storage Vol/Time/Unperm Wst,013 - Conting Plan/EC/Alarms,022 - Used Oil	Pending		
			<i>EA Number:</i> None	<i>Description of Resolution:</i>			
2/12/2016	NYD000708198	NY DEC	Notice of Violation	1) failure to test all containers of used oil for halogen content, 2) failure to include the generators phone number on a manifest, 3) Failure to identify a solvent as a hazardous waste on a manifest, 4) failure to use a manifest to transport the solvent in allegation 3.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
10/4/2016	NYD000708198	NY DEC	Notice of Violation	1) Failure to test all containers for total halogens, 2) failure to label three containers of mineral oil with the words "Used Oil".	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *New York, Syracuse BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/8/2013	NYD982743312	NYSDEC	Notice of Violation	This is in regards to a self-report submitted on 03/04/13 for an incident that occurred in 2012, but was not discovered until 2/2013. Driver records indicate that oil loads picked up on 2/15/12 were screened for halogens and none were detected. Driver records also show that a halogen test performed on the truck retain also passed. NY regulations require confirmation analysis be performed on 5% of all oil samples if the halogen screening at an oil terminal is not performed by a certified lab. The confirmation analysis performed at a lab showed high levels of perc, but the oil had been shipped long before the analysis was performed. Enforcement is not being pursued at this time, but may be in the future. 022 - Used Oil	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	none		
1/4/2017	NYD982743312	NY DEC	Notice of Violation	Shipping antifreeze to a recycling facility before analytical results were returned and indicated the material was a hazardous waste.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *New York, West Nyack BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
12/27/2007	NY0000962076	Court of Clarkstown	Notice of Violation	Richard Cornetto, OSSR, overfilled the oil truck spilling about 30-g of used oil while pumping oil at a customer's location. Spill was on parking lot and a small amount went into the storm drain. DEC spill number 0710277. 010 - Spills/Releases	Resolved		\$350.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Fine		
10/26/2012	NY0000962076	New York State Department of Environmental Conserv	Citation/Ticket	Copy of ticket sent to Transportation Compliance on date issued. Request for appearance and plea of not guilty was sent to local court by local branch management. Branch management did not receive notification of 11/20/12 hearing date and therefore missed the hearing. 602 - DOT Moving Viols/Tickets	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *North Dakota, Bismarck BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/21/2008	NDD980957070	Bismarck Fire Department	Notice of Non-Compliance	International Fire Code 10/1006.1, Exit illumination req'd-bldg occupied: The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied. 013 - Conting Plan/EC/Alarms	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	None		
2/19/2010	NDD980957070	North Dakota Department of Health	Notice of Non-Compliance	ND inspected one of Bismarck's customers - Killdeer Mountain Manufacturing - and questioned a waste stream that is currently being shipped as non-haz. ND requested the generator analyze the waste. It came back hot for Cadmium (D006), Chrome (D007), Lead (D008), and possibly Arsenic (D004). They are citing us for accepting as transporter a hazardous waste without a manifest (33-24-04-04.1) Not properly signing or dating a manifest (33-24-04-04.2) No manifest accompanied the waste to the disposal facility (33-24-04-04.3) Did not obtain subsequent signatures from second transporter or disposal facility on manifest (33-24-04-04.4) Letter states that subsequent noncompliance or similar provisions or a history of non compliance with the Hazardous Waste Management Rules may result in escalated enforcement action. 701 - Manifest - Generator	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> N/A	<i>Description of Resolution:</i>	N/A		

State, Location *North Dakota, Fargo BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/7/2010	NDD000716738	North Dakota Department of Health	Notice of Non-Compliance	Branch did not send a signed-off copy of manifest 002142237SKS to NDDOH within the 21 day required time frame. 701 - Manifest - Generator	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> N/A	<i>Description of Resolution:</i>	None		

State, Location *Ohio, Brunswick BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/10/2009	OHD000720987	State of Ohio Environmental Protection Agency	Notice of Violation	No response needed. Used oil label was applied to drum during inspection and OEPA issued a Notice of Violation/Return to Compliance. 002 - Labeling	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	None		

State, Location *Ohio, Toledo BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/3/2007	OHD981097876	Lucas County	Notice of Violation	LEPC sent the branch a Notice of Violation via certified mail stating they had not received a copy of the Toledo branch Tier II Report for 2006. EHS manager completes reports and had copies of the completed report and letters believed to be sent. Branch immediately delivered the LEPC a copy of the completed report and is in the process of sending a written response. The contact at LEPC did not state whether a fine would be issued or not. 011 - Annual/Periodic Rpts	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	No penalty received.		
2/23/2010	OHD981097876	Ohio Environmental Protection Agency (OEPA)	Compliance Order	Branch self-reported to OEPA and WM misrouting used oil and water characterized waste streams to the WM Evergreen landfill. 021 - Permitting Issues,022 - Used Oil,702 - Manifest - Transporter,703 - Manifest - TSDf,804 - Solid Waste - Land Treatment	Resolved	\$40,000.00	\$40,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Within 30 days of CO SK to pay \$32,000 in settlement of OEPA's claims into the hazardous waste cleanup fund and \$8000 to fund a supplemental environmental project (SEP) to the Ohio EPA Clean Diesel School Bus Program.		

State, Location *Oklahoma, Oklahoma City BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/5/2009	OKD980878474	Oklahoma Department of Environmental Quality	Notice of Non-Compliance	A satellite drum at the return and fill was mislabeled. The drum had the label for branch-generated debris on it instead of the label for dumpster sludge. 002 - Labeling	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> None	<i>Description of Resolution:</i>	"Area of non-compliance" marked on inspection checklist		

State, Location *Oklahoma, Port of Catoosa Oil*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/18/2008	OKD982558207	USCG Sector Lower Mississippi River	Notice of Violation	Deficiencies regarding FSP and USCG Ops Manual, hose markings, hose testing, quarterly MARSEC drills (must be full facility not admin only), electrical safety, 1fire extinguisher without inspection punch mark, PIC not staged for duration of barge transfer 999 - Other	Resolved	\$3,500.00	\$3,500.00
			<i>EA Number:</i> 00226450	<i>Description of Resolution:</i>	\$1500 - PIC @ barge transfer + \$1500 quarterly security MARSEC drill + \$500 hose testing		

State, Location *Oklahoma, Tulsa BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/24/2007	OKD000763821	Oklahoma Department of Environmental Quality	Notice of Non-Compliance	State-required wording was not present on financial assurance document. Although the receipt date of the actual Notice to Comply wasn't until 8-20-07, I had already spoken with Ryan Kirk from ODEQ several weeks prior to this and had made arrangements to get the financial assurance document corrected. 015 - Closure Cost Est/Plans/Fin Asur	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> N/A	<i>Description of Resolution:</i>		No penalty, just a Notice to Comply	
3/30/2009	OKD000763821	Oklahoma Department of Environmental Quality	Notice of Non-Compliance	001 - There were some containers of waste stacked 3 pallets high. Permit only allows 2 pallets high. 703 - Inspector looked at 13 outbound manifests. 3 out of the 13 did not have the manifest number written on pag 2 of the manifest. 001 - Container Storage Mgmt,703 - Manifest - TSDF	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		None	

State, Location *Ontario, Brantford BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/20/2008		City of Hamilton	Notice of Deficiency	Training - fire drill, Replace exit light bulb, test suppression system every 6 months 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> n/a	<i>Description of Resolution:</i>		none	

State, Location *Ontario, Breslau*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/6/2007	A8231	Regional Municipality of Waterloo	Notice of Violation	Office requested for explanation of alleged by-law infraction on 12/17/07 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
6/23/2009	A8231	Ministry of the Environment	Notice of Violation	The inspector noted cracks in the concrete floor and at the base wall of walls and the floor. The CofA# A140708 Appendix D states the tank farm area is designed to comply with the 1978 MOE Guideleines inthe storage of chemicals and have suffidient containment for the material being stored. This tank farm is being closed down this year and decommissioned. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> VN-1431-007-09	<i>Description of Resolution:</i>			

6/23/2009	A8231	Ministry of the Environment	Notice of Violation	Violation for failure to submit Part 2B forms to the receiver for registered waste classes 213T, 251T, 253T and 254T. Receiver is Safety-Kleen at 60 Katherine St. in Buffalo and is under the oversight of the Safety-Kleen EHS group. Receiver is therefore aware of the LDR regulations. 005 - OP Records/Notifs/Logs	Resolved	\$0.00	\$0.00
			EA Number:	VN-1431-007-09	Description of Resolution:		
5/10/2013	A8231	Ministry of the Environment	Notice of Violation	Improper completion of the manifest because waste numbers and characterization were alleged to not be accurate. Proper distinction between "regulated" and "non-regulated" was challenged.	Resolved w/o Penalty	\$0.00	\$0.00
			EA Number:	SCB-762-13-6782	Description of Resolution:	Provided additional information to the inspection officer and he agreed there was no f	
11/18/2013	A8231	Environmental Enforcement and Laboratory Services	Notice of Violation	Discharge exceedance of Phosphorus and Biological Oxygen Demand, Phenol, Oil & Grease, suspended solids and TKN.	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		
11/19/2013	A8231	Environmental Enforcement and Laboratory Services	Notice of Violation	Discharge exceedance of chemical oxygen demand and phenol	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		
2/3/2014	A8231	Environmental And Enforcement Laboratory	Notice of Violation	Received bylaw infraction notice for sewer discharge - exceeded oil & grease, total suspended solids (TSS), phosphorous, zinc, biochemical oxygen demand (BOD) and dichloromethane.	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		
2/28/2014	A8231	Environmental And Enforcement Laboratory	Notice of Violation	Discharge exceedance of biochemical oxygen demand (BOD).	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		
5/2/2014	A8231	Environmental Enforcement and Laboratory Services	Notice of Violation	Discharge exceedance of Oil & Grease on March 27, 2014.	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		
5/2/2014	A8231	Environmental Enforcement and Laboratory Services	Notice of Violation	Discharge exceedance of Oil & Grease and Total Suspended Solids on March 28, 2014.	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		
12/22/2014	A8231	Region of Waterloo Transportation and Env. Service	Notice of Violation	Discharge exceedance of Oil & Grease during the December 15, 2014 waste water discharge.	Pending	\$0.00	\$0.00
			EA Number:		Description of Resolution:		

5/1/2015	A8231	Region of Waterloo Transportation and Environment	Notice of Violation	Discharge of nitrosodimethylamine at a concentration of 0.39ug/l vs. a permit condition of 0.2ug/l.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
6/2/2015	A8231	Region of Waterloo	Notice of Violation	Waste water discharge exceedance during a line flush.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
5/13/2016	A8231	Region of Waterloo	Notice of Non- Compliance	Oil & Grease discharge exceedance in April 2016.	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			
1/4/2017	A8231	Region of Waterloo	Notice of Violation	Oil and Grease Wastewater Exceedance	Pending	\$0.00	\$0.00
			EA Number:	Description of Resolution:			

State, Location *Ontario, Chelmsford BR*

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
9/25/2007		Ministry of the Environment	Compliance Order	Air permit amendment to add the vent above the return/fill dock. Train employees on the OWRA. Provide a spill plan for the oil that is incidently spilled during oil filter tipping. Put A8231 on side of truck 349-1PB. Enhanced training program for manifesting. 006 - Training Records,021 - Permitting Issues,701 - Manifest - Generator,807 - SPCC/Oil Pollution Prevent	Resolved	\$0.00	\$0.00
			EA Number: SCB-762-008-07	Description of Resolution:	n/a		

State, Location *Ontario, Nepean BR*

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
9/18/2009		Ontario Ministry of the Environment	Notice of Deficiency	Branch was missing a sign on the gate for hazardous area. 021 - Permitting Issues	Resolved	\$0.00	\$0.00
			EA Number: 2685-7snkuc	Description of Resolution:	Post a sign.		
6/30/2011		Ministry of the Environment	Notice of Violation	Driver was cited for not having training record on his person; truck was cited for not having locking mechanism on the ports 006 - Training Records,601 - DOT Plac/Strap/Logs/Wgt	Resolved	\$0.00	\$0.00
			EA Number: SCB-762-11-6252	Description of Resolution:	No penalty.		

State, Location *Ontario, Oshawa BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/25/2007		Ministry of the Environment -	Compliance Order	By 11/30/2007 SK must submit an enhanced training program for the review and handling of manifests to reduce errors. By 12/14/2007 SK must submit an Environmental Risk Analysis Report as required by Condition 12 of C of A A363005 006 - Training Records,021 - Permitting Issues	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> SCB-762-007-07	<i>Description of Resolution:</i>			n/a

State, Location *OR, Springfield*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/13/2015	ORD000712067	WA DEQ	Warning Letter/Notice	1) Failure to maintain adequate isle space, 2) missing weekly inspection, 3) failure to post emergency contact by the telephone.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			Responded with a corrective action letter.

State, Location *Oregon, Bend*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/30/2015	ORQ000005389	Oregon Department of Environmental Quality	Warning Letter/Notice	Failure to maintain secondary containment.	Resolved	\$29,097.00	\$25,497.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			Paid a civil penalty.

State, Location *Oregon, Clackamas*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/2/2014	ORD981766124	Oregon DEQ	Warning Letter/Notice	Stormwater discharge exceedance of zinc.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			Submitted response plan to the State.
10/28/2015	ORD981766124	Oregon Department of Environmental Quality	Notice of Violation	Accepting waste from regulated generators without a uniform hazardous waste manifest.	Resolved	\$26,400.00	\$19,200.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			Entered into an agreed order with civil penalty.
6/10/2016	ORD981766124	ODEQ	Warning Letter/Notice	Failure to properly complete manifests and universal waste violations by allowing a light bulb box to be compromised by stacking additional boxes on top of the box.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			Provided written documentation of corrections to the agency.

State, Location Oregon, Clackamas AC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/20/2010	ORD981766124	Oregon Department of Environmental Quality	Notice of Violation	The document is a "Pre-Enforcement Notice" 001 - Container Storage Mgmt,002 - Labeling	Withdrawn		
			<i>EA Number:</i>	PEN-NWR-HW-10-027	<i>Description of Resolution:</i>		

State, Location PA, Erie

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/13/2017	PAD086673407	PA DEP	Notice of Violation	Removal of 3 tanks by a contractor not certified by the PA DEP	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>		<i>Description of Resolution:</i> PA DEP notified the facility that not using a certified tank contractor is a violation but does not require any further action.		

State, Location Pennsylvania, Fairless Hills

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/28/2007	PAD987266715	U.S. EPA, Region III	Notice of Non-Compliance	On 10/2/2007 we received a notice of noncompliance (NON) from USEPA Region III for two shipments of used oil that were shipped to East Chicago and tested positive for PCBs. The shipments originated from the Vinton, VA on May 18, 2004 and Fairless, PA on April 12, 2006. When the PCBs were discovered we reacted appropriately. We conducted an investigation and truck retains were analyzed. The offending customers were identified and we notified EPA. The used oil was properly managed and there was no harm to the environment. EPA's NON included a penalty of \$51,582 that they waived since the company self disclosed the violations and managed the contaminated used oil correctly. However, EPA also included a request in the NON that requires us to respond within 45 days of 10/2/2007 with a plan to minimize the potential of reoccurrence of picking up PCB contaminated oil. Developing a plan that will address their concerns will be difficult since the methods we currently use are generally beyond the industry standard. In order to make sure that we properly address their concerns we plan to schedule a meeting with their technical staff to explain our current methods and the checks and balances being implemented.	Resolved	\$25,000.00	\$0.00
			<i>EA Number:</i>	03-07-0110	<i>Description of Resolution:</i> none		
1/23/2013	PAD987266715	PADEP	Notice of Violation	012 - Inspection Records	Resolved		
			<i>EA Number:</i>		<i>Description of Resolution:</i>		

4/3/2013	PAD987266715	PADEP	Notice of Violation	016 - Tank Mgmt	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	None		
5/22/2013	PAD987266715	USEPA	Notice of Non-Compliance	010 - Spills/Releases	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/18/2014	PAD987266715	PADEP	Notice of Violation	Failure to prepare a manifest for four shipments of hazardous waste.	Resolved without penalty		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Written response		
3/25/2014	PAD987266715	PADEP	Notice of Violation	Failure to submit payment for annual storage tank fee	Resolved without penalty		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Fee was payed		

State, Location Pennsylvania, Johnstown BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/22/2012	PAD981736143	PADEP	Notice of Violation	SKOS collection 50 gallon oil spill at customer site - overfilling truck 010 - Spills/Releases	Resolved	\$1,929.00	\$1,929.00
			<i>EA Number:</i> NA	<i>Description of Resolution:</i>	Civil Penalty		

State, Location Pennsylvania, New Kingstown BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/8/2010	PAD000738823	PADEP	Notice of Violation	Violation for storing D002 waste on an in-transit basis without specific permit approval. 021 - Permitting Issues	Withdrawn	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	NA		

State, Location Pennsylvania, West Chester

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/1/2015	PAD000738849	PA DEP	Notice of Violation	Delinquent on tank registration payment.	Pending	\$125.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Pennsylvania, West Mifflin*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/31/2015	PAD982576258	PA DEP	Notice of Violation	Past due integrity inspection of an above ground storage tank.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Completed the required inspection.	

State, Location *Pennsylvania, Wilkes-Barre*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/26/2008	PAD981737109	PADEP	Notice of Violation	SK failed to submit exemption reports to the PADEP when signed copies of the manifests were not returned by the TSDf within 45 days in violation of 40CFR262.42(a)(2). Manifests 000206579SKS, 000206580SKS, 000206944SKS. 701 - Manifest - Generator	Resolved	\$3,600.00	\$3,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Financial penalty	
			N/A				
6/25/2009	PAD981737109	PADEP	Notice of Violation	Hazardous waste tank bottoms from annual clean-out shipped off-site without a manifest. 701 - Manifest - Generator	Resolved	\$3,000.00	\$2,400.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Financial Penalty	
8/30/2012	PAD981737109	PADEP	Notice of Violation	Minor tank piping and valve coating issues identified by PA Certified Tank Inspector and reported to Bureau of Storage Tanks in their inspection report. 016 - Tank Mgmt	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		N/A	
7/10/2013	PAD981737109	US EPA Region III	Notice of Violation	Failure to have in-transit container storage area designated by a sign in the warehouse. Three drums with incorrect storage and/or in-transit storage start dates.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Provided written responses to the agency.	
7/10/2013	PAD981737109	US Environmental Protection Agency	Notice of Violation	BGM never disclosed the NOV. Due to non-response, EPA contacted EHS to inquire about a response. EHS spoke to EPA on 12/5 and 12/10. EPA to provide additional information regarding the alleged violations. EHS to respond to EPA. 001 - Container Storage Mgmt,002 - Labeling	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		NO PENALTY	

State, Location Puerto Rico, Manati

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/11/2013		Environmental Quality Board	Notice of Violation	Failure to have a sign posted at the entrance to a hazardous waste storage area.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
				Replaced the sign.			

State, Location Puerto Rico, Manati BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/6/2007	PRD090399718	Puerto Rico OSHA	Penalty Notice	Puerto Rico OSHA has assessed a penalty of \$875 for the alleged mishandling of some spilled mercury. The spill occurred at a hospital where SK was coincidentally collecting a lab pack. Apparently, the mercury thermometer was also collected and placed into the lab pack. The matter is under review by Dennis Hansberry, and the penalty will be contested. 812 - OSHA	Resolved	\$875.00	\$700.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			307965954	Original penalty was approximately \$2,100, then reduced to \$875, ultimately reduced to \$700.			
2/5/2008	PRD090399718	Edificio de Agencias Ambientales Cruz A. Matos	Notice of Violation	The agency alleges that SK failed to adhere to certain requirements of its asbestos removal permit including notification requirements, periodic reporting following demolition activities, as well as submittal of a final report at completion of the project. 999 - Other	Withdrawn		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/26/2010	PRD090399718	Puerto Rico OSHA	Penalty Notice	812 - OSHA	Resolved	\$5,125.00	\$1,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			L4371				
3/11/2013	PRD090399718	Edificio de Agencias Ambientales Cruz A. Matos	Notice of Violation	016 - Tank Mgmt	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Quebec, Chambly

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
1/11/2016		QC French Language Office	Compliance Advisory	Failure to have all Safety-Kleen Web pages in French	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Quebec, Chambly RC*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/11/2013		Regie du Batiment du Quebec	Notice of Deficiency	La Régie du Bâtiment requests that backflow preventers is installed on all hoses, the entry of Desco products, at the fire suppression system and the protection of laboratory filters. 999 - Other	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Rhode Island, Cranston*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/14/2008	RID084802842	Connecticut DEP	Notice of Violation	No CT hazardous waste transporter permit on vehicle. 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
			WSWDH08033	N/A			
5/27/2014	RID084802842	US EPA	Warning Letter/Notice	Ten potential violations resulting from an inspection in May 2013. The issues related to waste storage and labeling requirements, RCRA air compliance and documentation deficiencies.	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
				Issues incorporated into a Notice of Violation issued January 15, 2015.			
1/15/2015	RID084802842	US EPA	Notice of Violation	1) Operating a major source, 2) failure to submit notices and reports as a major source managing waste from off site locations, and failure to operate the control device at required efficiencies 3) failure to submit notices and reports for operating a organic liquids distribution operation without sufficient emissions controls, 4) operating a major source without a title V permit, 5) operating a source of greater than 10 pounds per hour or 100 pounds per day of air emissions without a minor source permit.	Resolved	\$1,643,825.00	\$547,587.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
				Entered into an administrative consent order. Also agreed to install additional air pollution control devices and apply for a new air permit.			
2/3/2015	RID084802842	RI DEM	Notice of Violation	Failure to submit 3 Discharge Monitoring Reports in a timely manner.	Resolved	\$2,750.00	\$1,500.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
				Payment of civil penalty.			
8/17/2015	RID084802842	RI DEM	Notice of Non-Compliance	Failure to submit annual air inventory form update.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
				Provided the missing report.			

State, Location Rhode Island, Cranston RC RC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/1/2010	RID084802842	RIDEM	Notice of Violation	002 - Labeling,005 - OP Records/Notifs/Logs,007 - Aisle Space	Resolved	\$15,000.00	\$11,500.00
			<i>EA Number:</i> HW 2009-78	<i>Description of Resolution:</i>	Monetary penalty		

State, Location South Carolina, Greer BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/13/2016	SCD981031040	SC DHEC	Notice of Non-Compliance	1) failure to indicate the accumulation start date on three containers, 2) inadequate container inspection, 3) incomplete inspections since items identified with a deficiency did not include specific comments, 4) insufficient documentation of the biennial tank inspection.	Warning Only, No Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	A meeting was held with the agency. Due to mitigating factors discussed at the meeting, the agency decided a written warning was sufficient to resolve the issues.		

State, Location South Carolina, Lexington

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/28/2014	SCD077995488	SC DHEC	Notice of Violation	Facility did not submit Annual Tire Reports for 2012 or 2013	Resolved	\$1,000.00	\$1,000.00
			<i>EA Number:</i> 14-19-SW	<i>Description of Resolution:</i>	Paid civil penalty		
10/9/2015	SCD077995488	SC DHEC	Warning Letter/Notice	Failure to properly manifest two shipments.	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Provided corrective actions including retraining for appropriate employees.		

State, Location Tennessee, Knoxville BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/6/2012	TND987777695	Tennessee Division of Environment and Conservation	Notice of Violation	New satellite accumulation drum was unlabeled at time of inspection. Label was placed on drum prior to inspector leaving site. 002 - Labeling	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Notice of violation issued - no monetary penalty		

State, Location Tennessee, Millington

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/27/2011	TND000614321	Tennessee Department of Environment and Conservati	Notice of Violation	Branch was cited for keeping a container of hazardous waste beyond the 10-day transfer limit. Container was received on 7/16/2010 and shipped out on 7/28/2010. 009 - Storage Vol/Time/Unperm Wst	Resolved	\$0.00	
			<i>EA Number:</i>	<i>Description of Resolution:</i>	None		
11/6/2012	TND000614321	Tennessee Department of Labor and Workforce Develo	Penalty Notice	Two citations - outlet not properly gourned and outlet did not trip when tested 812 - OSHA	Resolved	\$300.00	\$300.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	\$300 Fine		
4/10/2015	TND000614321	TN Dept. of Env. and Conservation	Notice of Non-Compliance	Missing accumulation start date on a site generated drum, a hole for a line breached containment, cracks in the containment system.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location Tennessee, Piney Flats BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
8/7/2009	TN0000317289	Tennessee Department of Environmental Compliance-D	Notice of Violation	Violation corrected before inspector left site 002 - Labeling	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	NOV issued, no penalty		

State, Location Texas, Brownfield

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/2/2015	TXD982756868	TCEQ	Consent Administrative Order	Cracks in the west tank farm that would fail to prevent an oil release from reaching soil.	Resolved	\$0.00	\$571.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Civil penalty and administrative consent order agreeing to repair the crack.		

State, Location Texas, Corpus Christi

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
12/16/2016	TXD000747402	TCEQ	Notice of Violation	1) Failure to maintain equipment as rust was observed on a tank. 2) cracks and peeling paint in secondary containment.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/27/2008	TXD077603371	Texas Commission on Environmental Quality	Notice of Violation	Alleged violations from self reported data include: 1.) Failure to comply with permit effluent limit for TOC maximum for monitoring periods ending 6/30/07, 9/30/07, and 10/31/07 2.) Failure to comply with other permit effluent limits during the period of 12/2006 thru 11/20007 3.) Failure to submit DMR Parameter date for effluent (TOC) for monitoring periods 12/31/2006 and 11/30/2007 999 - Other	Resolved	\$4,070.00	\$3,265.00
			<i>EA Number:</i> 637795	<i>Description of Resolution:</i>	Administrative Penalty		
12/17/2010	TXD077603371	Texas Commission on Environmental Quality	Compliance Order	Facility allowed the shipment of hazardous waste to an unauthorized facility. 701 - Manifest - Generator	Resolved	\$5,000.00	\$4,000.00
			<i>EA Number:</i> Docket 2010-IHW-E; Enforcement Case No. 40539	<i>Description of Resolution:</i>	Check 10818601 in the amount of \$4,000		
8/27/2012	TXD077603371	Texas Commission on Environmental Quality	Notice of Violation	NOV received from inspection from 11/14-17/2011. Separate NOV's received for incorrectly classified units in the facility NOR, gloves not disposed of in a waste container, and a satellite accumulation container in the lab hood did not have the words "hazardous waste" on them 999 - Other	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> TCEQ	<i>Description of Resolution:</i>	Written NOV		
9/13/2012	TXD077603371	City of Denton	Notice of Non-Compliance	The facility installed a pretreatment process for the scrubber in July. Prior to installation, the discharge from the scrubber had exceeded the discharge limit for mercury which is 0.0006 mg/L. After installation, the scrubber discharge complied with the discharge limits up until the last 2 weeks where it exceeded the limit. 805 - NPDES - Direct Discharge	Resolved	\$0.00	\$0.00
			<i>EA Number:</i> 0085	<i>Description of Resolution:</i>	none		
5/13/2013	TXD077603371	US EPA Region 4	Notice of Violation	Failure to provide a transporter an appropriate PCB manifest, failure to mark each end of a transport vehicle with appropriate PCB marks, offering PCB capacitors to an incorrect disposal facility.	Resolved	\$152,218.00	\$59,925.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Entered into an administrative consent order with civil penalties.		

7/28/2014	TXD077603371	TCEQ	Notice of Violation	1) Notice of Registration deficiencies, tank numbers and waste codes needed to be updated, 2) Manifests that were not completed correctly, 3) two pumps not repaired in a timely manner, 4) tags on equipment were missing, 5) failure to notify TCEQ of recycling operation of electronics.	Resolved w/o Penalty	\$0.00	\$0.00
-----------	--------------	------	---------------------	--	----------------------	--------	--------

EA Number: *Description of Resolution:* Provided written response to the agency

7/30/2014	TXD077603371	City of Denton	Notice of Violation	Discharge exceedance of Phosphorous.	Resolved	\$0.00	\$0.00
-----------	--------------	----------------	---------------------	--------------------------------------	----------	--------	--------

EA Number: *Description of Resolution:* Provided written response.

State, Location *Texas, Fort Worth*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/15/2016	TXD981053416	TCEQ	Warning Letter/Notice	1) Failure to update the site Notice of Registration to reflect all wastes generated on site, 2) failure to store hazardous waste in containers in good condition with good labels that have the accumulation start date, 3) failure to store hazardous waste in a containment area, 4) failure to label each package with light bulbs with a label that says "Universal Waste" and the accumulation start date, 5) failure to prevent stormwater inundation or discharge from permitted units.	Resolved w/o Penalty	\$0.00	\$0.00
<i>EA Number:</i>				<i>Description of Resolution:</i>		The container integrity and labeling issues were corrected during the inspection. Documentation of proper disposal of the Universal Waste and application for a stormwater permit resolved the remaining issues.	

State, Location *Texas, Houston Oil*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/12/2010	TXR000059303	City of Houston	Penalty Notice	Citation with possible fines by the City of Houston for failure to submit fees not submitted in the time frame required. Fine assessed for this citation is \$425.00 021 - Permitting Issues	Resolved	\$425.00	\$425.00
<i>EA Number:</i>				<i>Description of Resolution:</i>		Fine assessed to citation for amount of \$425.00	

State, Location *Texas, Irving*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/17/2015	TXD981052061	TCEQ	Compliance Advisory	1) Failure to identify a unit with a TCEQ permit number, 2) Failure to inspect lighting weekly, 3) Incorrect state waste codes on the annual summary report, 4) Failure to ship a class 1 material on a manifest, 5) failure to submit a timely exception report, 6) Improper use of a state hazardous waste code.	Pending	\$0.00	\$0.00
<i>EA Number:</i>				<i>Description of Resolution:</i>			

2/20/2017	TXD981052061	TCEQ	Notice of Non-Compliance	1) Failure to update the facility's Notice of Registration to reflect all waste streams, 2) Failure to complete a manifest accurately by listing the amount of waste disposed in pounds instead of gallons and omitting a D006 waste code.	Pending	\$0.00	\$0.00
-----------	--------------	------	--------------------------	--	---------	--------	--------

EA Number:

Description of Resolution:

State, Location Texas, Missouri City BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
----------------------	---------------	---------------	-------------------------	--------------------------	---------------	-------------------------	---------------------

5/25/2011	TXD010803203	City of Houston	Notice of Non-Compliance	Ticket references Section 47-532 of the City of Houston Codes for removing city-regulated waste from a site that was not registered as a generator 999 - Other	Resolved	\$550.00	\$550.00
-----------	--------------	-----------------	--------------------------	--	----------	----------	----------

EA Number:

Description of Resolution:

Fine for collecting vac waste from site that had expired registration with the City of Houston

9/28/2012	TXD010803203	Environmental Protection Agency	Compliance Order	Vac sample collected by EPA prior to offloading at U.S. Oil Recovery on 11/17/09 indicated sample as hazardous waste characteristic for ignitability (D001); and presence of trichloroethylene and tetrachloroethylene 999 - Other	Resolved		
-----------	--------------	---------------------------------	------------------	--	----------	--	--

EA Number:

Description of Resolution:

State, Location Texas, Odessa - TFI

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
----------------------	---------------	---------------	-------------------------	--------------------------	---------------	-------------------------	---------------------

1/6/2016	TXR000041293	City of Odessa Stormwater Department	Notice of Violation	Storage of equipment and containers on soil without proper concern for stormwater.	Resolved w/o Penalty	\$0.00	\$0.00
----------	--------------	--------------------------------------	---------------------	--	----------------------	--------	--------

EA Number:

Description of Resolution:

The facility changed its stormwater status from a site with no exposure to a site subject to the generals stormwater permit.

State, Location Texas, Orange BR

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
----------------------	---------------	---------------	-------------------------	--------------------------	---------------	-------------------------	---------------------

7/30/2010	TXD061290276	Texas Commission on Environmental Quality	Notice of Violation	805 - NPDES - Direct Discharge	Resolved	\$0.00	\$0.00
-----------	--------------	---	---------------------	--------------------------------	----------	--------	--------

EA Number:

Description of Resolution:

No penalty. Issue resolved by closing top of waste unit

State, Location *Texas, Richardson*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
4/15/2014		NJ DEP	Notice of Violation	Transportation of two drums of hazardous waste without a proper manifest.	Resolved	\$5,000.00	\$3,750.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					Paid civil penalty		
5/28/2014		MA DEP	Notice of Violation	A transporter accepting waste from generators without valid EPA identification numbers. Submitting electronic reports with invalid EPA identification numbers.	Resolved	\$0.00	\$60,000.00
			<i>EA Number:</i> 2014-14-1633	<i>Description of Resolution:</i>			
					Payment of Civil Penalty, as well as revised training requirements.		
8/1/2016		Suffolk County Dept. of Health Services	Notice of Violation	Failure to submit an application for 220 gallon above ground used oil collection tank at 16 customer locations.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Texas, San Antonio BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/26/2010	TXD000729400	San Antonio Water Systems	Notice of Violation	Branch failed to submit re-registration for the liquid wsate transportation permit for vac waste prior to the expiration date. The form has been completed by the branch and will be submitted to the San Antonio Water Systems by 4/5/2010 021 - Permitting Issues	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					NA		
3/12/2012	TXD000729400	San Antonio Fire Department	Notice of Non-Compliance	Failure to comply with a repair order to an out of service fire suppression system	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					Repaired the system		

State, Location *Texas, Waco BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/29/2008	TXD980876015	TCEQ	Notice of Non-Compliance	Warning signs on fence were faded and/or contained the words "Caution & Persons" vs "Danger & Personnel" 017 - Prepdness/Prevent/Security	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
					na		

State, Location *Utah, EMR SLC UT - FAC*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/25/2013		Utah DEQ	Notice of Violation	Several items of non-compliance related to used oil tracking, training and general documentation. UDEQ collected records for review.	Resolved	\$173,500.00	\$73,274.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Follow-up conference call with UDEQ on 9/24/13, followed by UDEQ letter report, dated April 25, 2014. Emerald responded to letter report May 12, 2014. Proposed Stipulation and Consent Order received 10/21/14 with recommended penalty of \$173,580. Emerald ultimately settled with UDEQ for a total penalty amount (inclusive of one SEP) of \$73,274.		

State, Location *Utah, Salt Lake City BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/17/2017	UTD980957088	UDEQ	Warning Letter/Notice	Used Oil Facility permit allegations of 1) Failure to notify the Department of a change of personnel, 2) failure to retain all required documents for 3 years, 3) failure to submit annual reports, 4) failure to provide adequate used oil training.	Pending	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Vermont, Barre*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
5/7/2007	VTD000791699	VTDEC	Notice of Non-Compliance	The Agency is making allegations that a spill report submitted by the branch for a 1-2 gallon spill was inaccurate. We believe that these allegations are false and will dispute them. 010 - Spills/Releases	Withdrawn		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
5/20/2009	VTD000791699	VTDEC	Notice of Deficiency	001 - Container Storage Mgmt,002 - Labeling,007 - Aisle Space	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	none		
10/5/2009	VTD000791699	VTDEC	Notice of Non-Compliance	We believe our response will settle the issue. 005 - OP Records/Notifs/Logs	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	none		
1/21/2011	VTD000791699	Vermont DEC		001 - Container Storage Mgmt,019 - Subpart AA/BB/CC	Resolved	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	none		

2/3/2015	VTD000791699	VT DEC	Notice of Violation	Failure to maintain an updated contingency plan. Two employees listed on the plan were no longer current employees.	Resolved	\$0.00	\$0.00
----------	--------------	--------	---------------------	---	----------	--------	--------

EA Number:

Description of Resolution:

Provided the VT DEC with an updated contingency plan contact list.

9/16/2016	VTD000791699	VT DEC	Notice of Violation	1) Incompatible waste on the same storage pallet, 2) inventory was not accurate, 3) one daily inspection was missing, 4) secondary containment had a cracks or gaps, 5) one manifest was missing a generator signature date, 6) a leak at a tank man way, 7) waste gasoline was manifested from the site but it is not an acceptable waste at the site, 8) conflicting information on Subpart BB tags, 9) the Subpart BB tags did not match the schematic drawing.	Pending	\$30,000.00	\$0.00
-----------	--------------	--------	---------------------	--	---------	-------------	--------

EA Number:

Description of Resolution:

State, Location *Virginia, Chesapeake*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/3/2014	VAD000737346	Virginia Department of Environmental Quality	Notice of Violation	Late submission of a manifest exception report. Transportation of hazardous waste without a manifest. Inability to verify compliance with land disposal restriction notifications due to missing tracking records.	Resolved	\$0.00	\$20,000.00

EA Number:

Description of Resolution:

Entered into an administrative consent order with civil penalty.

State, Location *Virginia, Manassas BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/7/2008	VAR000001255	United States Environmental Protection Agency	Notice of Violation	NOV issued for one (1) used flourescent light bulb generated by the branch that was not placed in a proper container per the universal waste regulations. The single bulb was mistakenly placed in a oopen bin that is utilized for storing oil sampling coliwassas in the warehouse. Upon discovery the bulb was immediately placed into a proper container. 001 - Container Storage Mgmt	Resolved	\$0.00	\$0.00

EA Number:

R3-09-NOV-RCRA-01

Description of Resolution:

none

3/24/2017	VAR000001255	US EPA	Notice of Determination	Distributing PCBs in commerce when a load of used oil from a municipal collection center tested positive for PCBs.	Pending	\$44,850.00	\$0.00
-----------	--------------	--------	-------------------------	--	---------	-------------	--------

EA Number:

Description of Resolution:

State, Location *Virginia, Vinton BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
9/28/2007	VAD000737361	U.S. EPA, Region III	Notice of Non-Compliance	<p>Per Lin Longshore-On 10/2/2007 we received a notice of noncompliance (NON) from USEPA Region III for two shipments of used oil that were shipped to East Chicago and tested positive for PCBs. The shipments originated from the Vinton, VA on May 18, 2004 and Fairless, PA on April 12, 2006. When the PCBs were discovered we reacted appropriately. We conducted an investigation and truck retains were analyzed. The offending customers were identified and we notified EPA. The used oil was properly managed and there was no harm to the environment. EPA's NON included a penalty of \$51,582 that they waived since the company self disclosed the violations and managed the contaminated used oil correctly. However, EPA also included a request in the NON that requires us to respond within 45 days of 10/2/2007 with a plan to minimize the potential of reoccurrence of picking up PCB contaminated oil. Developing a plan that will address their concerns will be difficult since the methods we currently use are generally beyond the industry standard. In order to make sure that we properly address their concerns we plan to schedule a meeting with their technical staff to explain our current methods and the checks and balances being implemented.</p> <p>10/4/07 - Per Mike Fusco, no penalty anticipated. Enforcement Priority moved from level 4 to level 1 by DA. 022 - Used Oil,801 - TSCA - PCB/Other Chem</p>	Resolved		
			<i>EA Number:</i> 03-07-0110	<i>Description of Resolution:</i>	None		

State, Location *Washington, Auburn*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
1/29/2010	WAD061665766	Valey Regional Fire Authority	Notice of Non-Compliance	Branch is not in compliance with international fire codes given the amounts of clean and spent product stored. 001 - Container Storage Mgmt	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>			
3/23/2016	WAD061665766	WA Department of Ecology	Notice of Non-Compliance	Removal of waste oil from a 2 customer tanks that did not have compliance tags.	Resolved	\$200.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Paid civil penalty and conducted additional training.		

State, Location Washington, Corporate Seattle, WA

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
1/18/2011		Seattle Fire Dept.	Notice of Violation	Notice of Violation	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Provide completed Hazardous Materials Inventory Statement Site Map	

State, Location Washington, Emerald - Refinery Fleet

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/4/2011		Washington State Patrol - DOT	Notice of Violation	DOT Part B Violations Report	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Ensure an accurate and complete proper shipping description is included on all hazardous materials shipping documents. (See Safety Department for other safety-related items noted in the report.) Monetary penalty.	

State, Location Washington, EMR - Tacoma - RCRA Facility

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/24/2008		WDOE - Stormwater and Dangerous Waste	Notice of Violation	Inspection report from Stormwater Group. Compliance Certificate from Hazardous and Solid Waste Division.	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Ensure visual monitoring reports are completed quarterly. Remove excess sediment from bioswale. See Compliance Certificate for other requirements.	
4/16/2009		WDOE, EPA Region 10, Tacoma	Notice of Violation	Compliance Certificate - provide training documentation, clarify acceptance documentation for one profile, initiate planning for used oil transfer area construction.	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Emerald has completed the 30-day response and addressed issues regarding used oil transfer.	
6/1/2009		WDOE - Penalty Letter	Penalty Notice	\$9,000 penalty due to deferred clean-up and improper storage of hazardous waste generated from spill clean-up.	Resolved	\$9,000.00	\$9,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Language regarding timelines for clean-up of spills that are not of reportable quantity, or do not create a hazardous environment, is clarified in upcoming permit.	
6/16/2010		WDOE, City of Tacoma IWW	Notice of Violation	Report from City of Tacoma IWW, compliance certificate from WDOE	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Repair of berm, report of berm repair plus clarification, proceed with oil processing area construction, ensure proper cleaning of sumps, and update facility diagrams to incorporate new containment pan location	

7/8/2010	Washington State Dep. of Labor and Industries	Notice of Violation	Repair to circuit breaker (\$350.00 penalty for safety violation), industrial hygiene issues (\$800 penalty for eyewash violation).	Resolved	\$1,150.00	\$600.00
	<i>EA Number:</i>		<i>Description of Resolution:</i>		Repair to circuit breaker completed 7/8/10, prepare chemical hygiene plan for Emerald laboratory. Emerald is appealed the \$800 industrial hygiene portion of the penalty, and settled for a reduced penalty of \$600.	
4/20/2012	Federal Railroad Administration	Notice of Violation	\$5,000 penalty for overweight railcar	Resolved	\$5,000.00	\$5,000.00
	<i>EA Number:</i>		<i>Description of Resolution:</i>		Increase frequency of railcar clean-out to minimize sludge accumulation.	
2/15/2013	Tacoma Environmental Services (Ind. Wastewater)	Notice of Violation	Notice of Violation for late submittal of ASPP (no penalty). Notice that fire lanes need to be kept clear.	Resolved		
	<i>EA Number:</i>		<i>Description of Resolution:</i>		ASPP submitted April 15, 2013 as stipulated in NOV. Fire lane painting completed April and May 2013.	
6/26/2013	Washington State Department of Ecology	Notice of Violation	Compliance Certificate for Baker tank containment construction, use of WA Toxic, Persistent, Carcinogenic, and Polycyclic labels in addition to Class 9, permit required training inclusive of land disposal restriction requirements.	Resolved		
	<i>EA Number:</i>		<i>Description of Resolution:</i>		7-Day Response for containment construction schedule submitted. LDR training completed. Containment design drawing submitted 12/24/13. Toxic and carcinogenic labels ordered. Training program schedule developed. Updated compliance certificate sent March 14, 2014. Final compliance certificate sent 11/3/14.	
12/16/2013	Puget Sound Clean Air Agency	Notice of Violation	Facility walk-through. Discussion regarding requirements of NOC for monitoring of leaks within VGO Plant. Request for odor complaint tracking information.	Resolved	\$11,000.00	\$11,000.00
	<i>EA Number:</i>		<i>Description of Resolution:</i>		Information provided to PSCAA 1/16/14. NOV for lack of timely response and use of afterburner for back-up control. Response to NOV submitted by Emerald 2/12/14. Received Notice and Order of Civil Penalty for \$11,000 for items noted above and also late report submittal (see 3/12/14 entry, below). Penalty paid.	
3/12/2014	Puget Sound Clean Air Agency	Notice of Violation	NOV for late report from thermal oxidizer testing in November 2013.	Resolved		
	<i>EA Number:</i>		<i>Description of Resolution:</i>		Test report was submitted to PSCAA on February 5, 2014, which was within a week of when test report was received by Emerald from the test company. Emerald will track the 60-day submittal timeline more closely in the future.	
9/16/2014	Federal Rail Administration	Notice of Violation	Inspection due to railcar collision at Tacoma Rail that resulted in leak. Car that had been released from Tacoma facility, and was involved in collision, was missing gasket. FRA recommends violation.	Resolved	\$10,000.00	\$10,000.00
	<i>EA Number:</i>		<i>Description of Resolution:</i>		NOV for \$10,000 received and paid.	

3/31/2015	Washington State Dept of Ecology	Penalty Notice	No inspection - Notice of Proposed Penalty of \$68,000 due to tank circumstances surrounding tank overflows in October 2013 and January 2014.	Resolved	\$68,000.00	\$54,400.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>		Penalty was appealed and then settled. Penalty amount was consolidated with penalty issued 7/29/15. Total penalty amount was \$167,000, which was reduced by 20% to \$133,600 due to Emerald's willingness to settle without elevating the appeal to the PCHB.	
7/29/2015	Washington State Dept of Ecology	Penalty Notice	No inspection - Notice of Proposed Penalty of \$99,000 due to two solvent waste spills in December 2014.	Resolved	\$99,000.00	\$79,200.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>		Penalty was appealed and then settled. Penalty amount was consolidated with penalty issued 3/31/15. Total penalty amount was \$167,000, which was reduced by 20% to \$133,600 due to Emerald's willingness to settle without elevating the appeal to the PCHB.	
9/17/2015	Federal Railroad Administration	Notice of Violation	Follow-up regarding report of leaking railcar TILX194849. Car leaked from bottom outlet cap due to open valve handle; valve handle retaining pin was not in place. Cap was not too tight. Violation with penalty of \$10,000 - paid.	Resolved	\$10,000.00	\$10,000.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>		Updated forms for pre-inspections or rail shipments. Updated internal EMS procedure for loading and off-loading requirements.	
11/2/2016	City of Tacoma Environmental Services	Warning Letter	Warning letter for late report submitted in October. Report was submitted October 18, 2016, but due October 15, 2016.	Resolved		0
		<i>EA Number:</i>	<i>Description of Resolution:</i>			

State, Location *Washington, EMR - Tacoma TF - Marine View*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
3/19/2015		WDOE - Stormwater	Notice of Violation	Compliance letter to follow within 3-4 weeks. Items expected to be on report are: improved recordkeeping; additions to SWPPP; redirection of condensate; clean-out of stormwater catch basins; quarterly sweeping. Penalty of \$2000 issued and paid.	Resolved	\$2,000.00	\$2,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Stormwater line and catch basins clean-outs completed. Documentation updated and sent to Ecology as appropriate. Redesign of stormwater management sytem approved by Ecology.	
3/30/2015		WDOE - Stormwater	Notice of Violation	Tallow still present in stormwater vault. See above for penalty information.	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>		Stormwater line and catch basins were cleaned. Worked with Ecology for permitting of redesign of stormwater management system. Engineering report prepared and system approved.	

State, Location Washington, EMR Everett WA - FAC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
11/1/2008		Washington State Department of Ecology	Notice of Violation	Compliance Certificate	Resolved		
		<i>EA Number:</i>		<i>Description of Resolution:</i>		Place all liquids (both waste and product) in secondary containment, construct containment berm around transfer trailer, clarify policy for labeling of wastes.	

State, Location Washington, EMR Spokane WA - FAC

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
6/1/2011		EPA Region 10 and WDOE	Notice of Violation	Violation was for delivery of a Washington State Dangerous Waste (WP02) to a landfill that did not have necessary permits to receive the waste. Violation was self-reported by Emerald. Initial penalty proposed by WDOE was \$18,000. Emerald entered into an expedited settlement agreement with WDOE which resulted in a reduced penalty of \$12,000.	Resolved	\$18,000.00	\$12,000.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		Emerald conducted additional training for staff regarding proper procedures for waste management.	

State, Location Washington, EMR Used Oil Supply Chain

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
12/9/2009		Washington State Department of Ecology	Notice of Violation	Enforcement letter and penalty for spill of oil to railspur. Oil leaked from valve of railcar loaded with oil filters.	Resolved	\$14,000.00	\$12,000.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		Emerald appealed the original penalty amount of \$14,000, and ultimately settled with Ecology in February 2011 with a penalty of \$12,000.	

State, Location Washington, Pasco

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/18/2008	WAH000042595	Washington Department of Ecology	Notice of Deficiency	001 - Container Storage Mgmt,008 - 2ndary Cont Mgmt/Cracks,012 - Inspection Records,013 - Conting Plan/EC/Alarms,017 - Prepdness/Prevent/Security,022 - Used Oil,804 - Solid Waste - Land Treatment	Resolved	\$0.00	\$0.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		No penalty	
2/20/2009	WAH000042595	Washington DOE	Notice of Deficiency	002 - Labeling,013 - Conting Plan/EC/Alarms,701 - Manifest - Generator,804 - Solid Waste - Land Treatment	Resolved	\$0.00	\$0.00
		<i>EA Number:</i>		<i>Description of Resolution:</i>		Minor violations only - no penalty	

1/8/2015	WAH000042595	WA DOE	Notice of Violation	Exceeded 10-Day	Resolved w/o Penalty	\$0.00	\$0.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Letter describing training and compliance certification.		

State, Location *Washington, Seattle - Airport Way*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
7/3/2007		PSCAA Inspection	Warning Letter	Written Warning for odor	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Emerald worked closely with PSCAA to resolve all of the items noted in the Written Warning. The items relate to tracking of odors and impacts to neighboring businesses. The final report on this issue was submitted to PSCAA on November 14, 2007.		
10/1/2008		WDOE and Seattle Public Utilities/City of Seattle	Notice of Violation	Report from SPU: Request to include copy of spill plan with spill kits and ensure proper labeling of tanks.	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Complete requested corrective action within 30 days (by November 5, 2008).		
11/13/2008		PSCAA Inspection	Notice of Violation	NOV - penalty of \$1,000 issued in June 2009 and paid in July 2009.	Resolved	\$1,000.00	\$1,000.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Improved maintenance, staff training, evaluation of emissions control unit for batch treatment.		
9/2/2010		PSCAA Inspection	Warning Letter	Written Warning and Compliance Status Report	Resolved		
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Close access hatch to tank P-1 by installing pressure relief valve, seal processing tanks, provide historical information on boiler and carbon adsorber.		
8/5/2011		PSCAA Inspection	Notice of Violation	Notice of Violation - no O&M documents for scrubber tower. Proposed penalty of \$3500.	Resolved	\$3,500.00	\$1,600.00
			<i>EA Number:</i>	<i>Description of Resolution:</i>	Repair cracks in scrubber tower housing (completed 8/6/11). Facility's procedures related to scrubber operations and maintenance were updated. (Notice of Construction for replacement scrubber had been submitted in Feb 2012)		

9/28/2011	Washington State Department of Ecology	Notice of Violation	Request to clear drum jail (immediate). Inspection report with compliance certificate received 4/3/12. Requested actions include upgrade to waste analysis program, evaluation of containment system, and request for documentation of compliance with fire code limits for management of flammable liquids.	Resolved		
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Drum jail cleared. Some improvements made to north yard load/off-load area. Emerald requested an extension to the Compliance Certificate which resulted in a new response due date of May 18, 2012. May 18, 2012 submittal included copies of City of Seattle Fire Dept Permits, and explanation of Waste Analysis Program for the facility. Emerald also indicated an interest in pursuing an Agreed Order with Ecology regarding the inspection results, but that was not pursued. Containment system evaluation was completed June 11, 2012, with an engineer's report scheduled for completion no later than July 20, 2012.
5/22/2012	PSCAA	Warning Letter	Suggestions for corrective action, plus Written Warning dated 5/31/12	Resolved		
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Recommend placing P-trap on water drain between wastewater batch treatment scrubber and carbon adsorber (P-trap sized by scrubber vendor, installed 6/5/12). Written warning was for operation of new used oil processing scrubber prior to installation of corresponding carbon adsorber. Emerald had initiated operation due to the belief that the new scrubber alone would provide improved odor controls as opposed to the existing system. Full installation of scrubber with carbon adsorber was complete on 6/4/12.
12/6/2012	PSCAA	Warning Letter	Written Warning for Odor Impacting Neighboring Businesses	Resolved		
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Emerald was conducting a one-time process of cutting drums of solidified asphalt. Process will not be conducted in future.
1/28/2013	PSCAA	Notice of Violation	General Notice of Violation: Carbon adsorber monitoring was not conducted at frequency required under Order of Approval. Questions on ORP meter for scrubbers. \$8480 penalty from PSCAA assessed 8/26/13. Penalty paid by Emerald with check dated 8/20/13.	Resolved	\$8,480.00	\$8,480.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Adsorber monitoring to be conducted to establish breakthrough of carbon. Satisfactorily responded to questions regarding ORP meters.

4/30/2013	King County Wastewater Treatment Division	Notice of Violation	Compliance Order for exceedance of 4-methylphenol discharge limit in 4 consecutive monitoring months.	Resolved		
		<i>EA Number:</i>	<i>Description of Resolution:</i>	Emerald researched possible sources of the violation. One specific source was identified and redirected from wastewater treatment in December. A second source was identified in March and redirected at that time. Emerald evaluated other potential sources for the compound to ensure no further exceedances in 2013. Monitoring frequency for the compound was increased from once-monthly to three-times monthly June thru Nov 2013. In the meantime, King County modified discharge limit criteria to account for a 60/40 assumption of 3- and 4-methylphenol.		
5/15/2014	WDOE	Notice of Violation	Annual unannounced inspection. Discussion of designation practices, closure plan and cost estimate status, minor deficiencies noted during walk-through. General Compliance Certificate for two items.	Resolved		
		<i>EA Number:</i>	<i>Description of Resolution:</i>	Updated labeling requirements for Class 9 wastes, provided current closure plan and cost estimate information and corrected minor deficiencies. Compliance Certificate completed and returned 7/1/14		
6/20/2014	Puget Sound Clean Air Agency	Notice of Violation	Annual inspection. Dust noted within solidification building. Some odor noted within plant that was identified as Level 2. Scrubber placard had fallen off. General Notice of Violation issued 6/25/14. \$2,000 penalty issued 3/17/15 - paid.	Resolved	\$2,000.00	\$2,000.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>	Solidification building sprinkler system was turned on, and maintenance records were provided for system. Odor complaint log was checked and was noted as complete. Scrubber placard was re-attached and photo sent to PSCAA.		
2/23/2016	United States Coast Guard	Notice of Violation	No inspection - \$2500 penalty for release of approximately two gallons of bilge slops to Elliott Bay	Resolved	\$2,500.00	\$2,500.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>	See Emerald Incident report. All hoses retested and inspected.		
4/14/2016	King County (no inspection)	Notice of Violation	Self-Reported Discharge Violation for Zinc. Daily, monthly, and loading limits exceeded.	Pending		
		<i>EA Number:</i>	<i>Description of Resolution:</i>	Emerald implemented additional testing requirements for wastewater source that had caused the violation. Notice of Violation received 4/14/16. Compliance Order received 8/22/16 and penalty is \$27,079 (total for this violation combined with the sampling violation - see 5/11/16). Penalty paid. Compliance Order requires development of a Waste Acceptance Procedures Manual and an Equivalent Treatment Certification; both due 12/16/16 (submitted).		

5/11/2016	King County	Notice of Violation	Follow-up from zinc violation. Sampling point violation noted during walk-through - Emerald was collecting monthly cyanide samples from incorrect location.	Pending	\$27,079.00	\$27,079.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Violation corrected immediately. Notice of violation received 5/12/16. 14-day report submitted 6/6/16 (extension granted by King County). Procedure updated and training provided to staff. Compliance Order received 8/22/16, and penalty is \$27,079 (total for the sampling violation combined with the self-reported zinc violation). Emerald will not appeal.
6/27/2016	Puget Sound Clean Air Agency	Warning Letter	Annual inspection. Request for back-up information related to odor complaints on 4/11 and 5/25. Pressure drop on oil processing scrubber at "0" and some entries missing on log; "scrubber and adsorber not operated in good working order." Written warning received 7/15/16.	Resolved		
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Back-up information and response to written warning provided. Scrubber repairs completed. Coordinating engineer review of scrubber operating parameters.
8/1/2016	King County (self report)	Notice of Violation	Significant non-compliance for exceedance of 4-methylphenol monthly average in May, June, and July.	Resolved	\$900.00	\$900.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Investigation of sources of 4-methylphenol, and diversion of wastewaters known to contain 4-methylphenol over discharge limit. Evaluating systems for treatment of 4-methylphenol. Compliance Order received. Compliance monitoring for 4-methylphenol increased to weekly for four months. Penalty of \$900. Emerald does not plan to appeal.
8/17/2016	King County Wastewater Treatment Division	Notice of Violation	1) Three daily average discharge exceedances of zinc, 2) Three daily mass loading discharge exceedances for zinc, 3) exceedance of the monthly average of zinc, 4) Collecting the compliance sample from an incorrect location.	Resolved	\$38,459.00	\$38,459.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Paid Civil Penalty
8/19/2016	King County Wastewater Treatment Division	Notice of Violation	Samples taken during June and July 2016 indicate that wastewater discharged exceeded p-cresol maximum monthly average limit of 205 µg/L.	Resolved	\$900.00	\$0.00
		<i>EA Number:</i>	<i>Description of Resolution:</i>			Paid civil penalty

State, Location Washington, Seattle - E Marginal Way - Brighton

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
2/24/2017		Washington Department of Ecology	Compliance Advisory	1) Satellite accumulation drums did not have the start date of accumulation on the label, 2) A drum of hazardous waste had the label obscured, 3) Isle space not adequately maintained, 4) Failure to make timely waste determinations, 5) A drum of hazardous waste was not adequately closed, 6) Antifreeze labeling requirements were not met, 7) Training requirements were not met.8) Contingency plan sections were deficient, 9) A written dangerous waste training plan was inadequate.10) Containers that turned out to be hazardous waste were received at the facility.	Pending	\$0.00	\$0.00

EA Number:

Description of Resolution:

State, Location Washington, Seattle - E Marginal Way - Webster

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
3/21/2017		Washington Department of Ecology	Notice of Non-Compliance	Failure to conduct daily inspections of the waste antifreeze tank.	Pending	\$0.00	\$0.00

EA Number:

Description of Resolution:

State, Location Washington, Spokane BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
8/19/2008	WAH000025242	Washington State Department of ecology	Notice of Deficiency	012 - Inspection Records,013 - Conting Plan/EC/Alarms,701 - Manifest - Generator	Resolved	\$0.00	\$0.00

EA Number:

Description of Resolution:

Minor compliance violations only - no penalty

State, Location Washington, Tacoma

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
2/9/2017		Puget Sound Clean Air Agency	Warning Letter/Notice	Petroleum odor complaint.	Pending	\$0.00	\$0.00

EA Number: No. 2-009555

Description of Resolution:

3/29/2017		US EPA	Notice of Non-Compliance	The SPCC Plan was deficient because solvent tank not included in the plan.	Pending	\$0.00	\$0.00
-----------	--	--------	--------------------------	--	---------	--------	--------

EA Number:

Description of Resolution:

State, Location Washington, Vancouver

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
12/1/2008		City of Vancouver	Notice of Violation	NOV for exceeding industrial wastewater discharge limit for copper and lead. \$500 penalty.	Resolved	\$500.00	\$500.00
			EA Number:	Description of Resolution:	Operation that caused violation ceased.		
10/17/2016		City of Vancouver	Notice of Non-Compliance	Failure to obtain a Q3 discharge sample for analysis.	Resolved w/o Penalty	\$0.00	\$0.00
			EA Number:	Description of Resolution:	Additional sample collected early 4th quarter and results submitted to the City.		

State, Location West Virginia, Poca, WV (Charleston) BR

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
5/26/2010	WVR000001446	West Virginia Department of Environmental Protecti	Notice of Violation	Issued NOV for not modifying SWPPP after benchmark exceedances (closed) and issued NOV for not performing representative sampling (due to our stormwater shutoff valve) 999 - Other	Resolved		
			EA Number:	Description of Resolution:			

State, Location West Virginia, Wheeling

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
2/18/2010	WVD981034101	WVDEP	Notice of Violation	002 - Labeling	Resolved		
			EA Number:	Description of Resolution:	N/A		
12/8/2015	WVD981034101	US EPA Region III	Notice of Violation	Distributing PCBs into commerce when PCB contaminated used oil was transferred from a customer site to the facility without a manifest. The PCB contamination was unknown at the time of pick up.	Resolved	\$4,250.00	\$3,188.00
			EA Number:	Description of Resolution:	Entered into an administrative consent order and paid a civil penalty.		

State, Location Wisconsin, Kaukauna

Date Recieved	EPA ID	Agency	Enforcement Type	Alleged Violation	Status	Proposed Penalty	Penalty Paid
3/3/2010	WID981187297	USEPA Region 5	Notice of Violation	008 - 2ndary Cont Mgmt/Cracks,013 - Conting Plan/EC/Alarms,022 - Used Oil	Resolved	\$0.00	\$0.00
			EA Number:	Description of Resolution:	N/A		

11/20/2015	WID981187297	WI DNR	Notice of Non-Compliance	Failure to submit a manifest to the Department within 30 days of shipment and failure to inspect a tank bottom covered by fire protection material.	Pending	\$0.00	\$0.00
------------	--------------	--------	--------------------------	---	---------	--------	--------

EA Number:

Description of Resolution:

State, Location *Wisconsin, Madison BR*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
10/21/2009	WID117520049	USEPA Region 5	Notice of Violation	NOV was issued 19 months after inspection was conducted 008 - 2ndary Cont Mgmt/Cracks,013 - Conting Plan/EC/Alarms,702 - Manifest - Transporter	Resolved	\$0.00	\$0.00
			EA Number: LR-8J	Description of Resolution:	NOV		

State, Location *Wisconsin, Madison Oil*

<i>Date Recieved</i>	<i>EPA ID</i>	<i>Agency</i>	<i>Enforcement Type</i>	<i>Alleged Violation</i>	<i>Status</i>	<i>Proposed Penalty</i>	<i>Penalty Paid</i>
2/10/2010	WID117520049	Wisconsin Department of Natural Resources	Notice of Non-Compliance	WI DNR NON also served as the closeout of the notice of noncompliance 002 - Labeling,013 - Conting Plan/EC/Alarms,022 - Used Oil	Resolved	\$0.00	\$0.00
			EA Number: FID113082970	Description of Resolution:	NA		

EXHIBIT D

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-K

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended **December 31, 2016**
- OR**
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____
COMMISSION FILE NO. 001-34223

CLEAN HARBORS, INC.

(Exact name of registrant as specified in its charter)

Massachusetts
(State or other jurisdiction
of incorporation or organization)
42 Longwater Drive, Norwell, MA
(Address of principal executive offices)

04-2997780
(IRS Employer Identification No.)
02061-9149
(Zip Code)

Registrant's telephone number: (781) 792-5000

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class:	Name of each exchange on which registered:
Common Stock, \$.01 par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Securities Exchange Act of 1934:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding twelve months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer
(Do not check if a smaller reporting company) Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

On June 30, 2016 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of the voting and non-voting common stock of the registrant held by non-affiliates of the registrant was approximately \$2.7 billion, based on the closing price of such common stock as of that date on the New York Stock Exchange. Reference is made to Part III of this report for the assumptions on which this calculation is based.

On February 10, 2017, there were outstanding 57,276,933 shares of Common Stock, \$.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant's definitive proxy statement for its 2017 annual meeting of stockholders (which will be filed with the Commission not later than April 30, 2017) are incorporated by reference into Part III of this report.

CLEAN HARBORS, INC.

ANNUAL REPORT ON FORM 10-K

YEAR ENDED DECEMBER 31, 2016

TABLE OF CONTENTS

	<u>Page No</u>
<u>Part I</u>	
Item 1. Business	1
Item 1A. Risk Factors	14
Item 1B. Unresolved Staff Comments	22
Item 2. Properties	22
Item 3. Legal Proceedings	24
Item 4. Mine Safety Disclosures	24
<u>Part II</u>	
Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	25
Item 6. Selected Financial Data	27
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	28
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	48
Item 8. Financial Statements and Supplementary Data	49
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	101
Item 9A. Controls and Procedures	101
Item 9B. Other Information	103
<u>Part III</u>	
Item 10. Directors, Executive Officers and Corporate Governance	103
Item 11. Executive Compensation	103
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	103
Item 13. Certain Relationships and Related Transactions, and Director Independence	103
Item 14. Principal Accountant Fees and Services	103
<u>Part IV</u>	
Item 15. Exhibits and Financial Statement Schedules	104
Item 16. Form 10-K Summary	104
SIGNATURES	105

Disclosure Regarding Forward-Looking Statements

In addition to historical information, this annual report contains forward-looking statements, which are generally identifiable by use of the words "believes," "expects," "intends," "anticipates," "plans to," "estimates," "projects," or similar expressions. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those reflected in these forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in this report under Item 1A, "Risk Factors," and Item 7, "Management's Discussion and Analysis on Financial Condition and Results of Operations." Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's opinions only as of the date hereof. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements. Readers should also carefully review the risk factors described in other documents which we file from time to time with the Securities and Exchange Commission (the "SEC"), including the quarterly reports on Form 10-Q to be filed by us during 2017.

PART I

ITEM 1. BUSINESS

General

Clean Harbors, Inc. and its subsidiaries (collectively, "we," "Clean Harbors" or the "Company") is a leading provider of environmental, energy and industrial services throughout North America. We are also the largest re-refiner and recycler of used oil in the world and the largest provider of parts cleaning and related environmental services to commercial, industrial and automotive customers in North America.

During the fourth quarter of 2016, we changed the manner in which we manage our business, make operating decisions and assess our performance. These changes included combining the Safety-Kleen Environmental Services business and Kleen Performance Products business as a single operating segment called "Safety-Kleen," moving the Production Services business, previously included in our Oil and Gas Field Services operating segment, into our Industrial Services operating segment, and reassigning certain departments among our operating segments in line with management reporting changes. In addition, for purposes of segment disclosure within Note 18, "Segment Reporting," to our consolidated financial statements included in Item 8 of this report, we combined the Oil and Gas Field Services and Lodging Services operating segments under the heading "Oil, Gas and Lodging Services," as those individual operating segments do not meet the quantitative thresholds for separate disclosure.

We believe that this new organizational structure aligns our businesses for growth and efficiency. The amounts presented for all periods herein have been recast to reflect the impact of such changes. Our operations are now managed in six operating segments based primarily upon the nature of the various operations and services provided: Technical Services, Industrial Services, Field Services, Safety-Kleen, Oil and Gas Field Services, and Lodging Services.

- **Technical Services** — provides a broad range of hazardous material management services including the packaging, collection, transportation, treatment and disposal of hazardous and non-hazardous waste at our incinerator, landfill, wastewater and other treatment facilities.
- **Industrial and Field Services** — provides industrial and specialty services such as high-pressure and chemical cleaning, daylighting services, production servicing, decoking, pigging and material processing to refineries, chemical plants, oil sands facilities, pulp and paper mills, and other industrial facilities. These businesses also provide a wide variety of environmental cleanup services on customer sites or other locations on a scheduled or emergency response basis including tank cleaning, decontamination, remediation, and spill cleanup.
- **Safety-Kleen** — provides a broad range of environmental services such as parts cleaning, containerized waste services, used oil collection, and other complementary products and services, including vacuum services, allied products and other environmental services. In addition, Safety-Kleen manufactures, formulates, packages, blends, distributes and markets high-quality lubricants. We process used oil into high quality base and blended lubricating oils which, through our OilPlus™ closed loop initiative, are then sold to third-party customers, and provide recycling of oil in excess of our current re-refining capacity into recycled fuel oil which is then sold to third parties. Processing into base and blended lubricating oils takes place in our six owned and operated re-refineries, and recycling of oil into recycled fuel oil takes place in one of our used oil terminals. In 2016, we also increased our internal capabilities for blending and packaging of these oils.
- **Oil, Gas and Lodging Services** — provides fluid handling, surface rentals, seismic support services, and directional boring services to the energy sector serving oil and gas exploration and power generation. In addition, we provide lodges and remote workforce accommodation facilities throughout Western Canada. These include our open lodges,

[Table Of Contents](#)

operator camps, drill camps, manufacturing of modular units and wastewater processing plants, operating services and parts.

Clean Harbors, Inc. was incorporated in Massachusetts in 1980 and our principal office is located in Norwell, Massachusetts. We maintain a website at the following Internet address: <http://www.cleanharbors.com>. Through a link on this website to the SEC website, <http://www.sec.gov>, we provide free access to our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after electronic filing with the SEC. Our guidelines on corporate governance, the charters for our board committees, and our code of ethics for members of the board of directors, our chief executive officer and our other senior officers are also available on our website, and we will post on our website any waivers of, or amendments to, such code of ethics. Our website and the information contained therein or connected thereto are not incorporated by reference into this annual report.

Health and Safety

Health and Safety is our #1 priority—companywide. Employees at all levels of our Company share this philosophy and are committed to ensuring our safety goals are met. As an industry leader, our commitment to health and safety benefits everyone—our employees, our customers, the community, and the environment. In 2016 we continued with our very successful *Safety Starts With Me: Live It 3-6-5* program which is a key component in our overall safety program and along with our many other programs has continued to achieve low Total Recordable Incident Rate, or "TRIR;" Days Away, Restricted Activity and Transfer Rate, or "DART;" and Experience Modification Rate, or "EMR." For the year ended December 31, 2016, our Company wide TRIR, DART and EMR were 1.18, 0.72 and 0.67, respectively. For the year ended December 31, 2015, our Company wide TRIR, DART and EMR were 1.33, 0.83 and 0.54, respectively.

In order to protect our employees, continue to lower our incident rates, and satisfy our customers' demands to retain the best service providers with the lowest TRIR, DART and EMR rates, we are fully committed to continuously improving our health and safety performance. All employees recognize the importance of protecting themselves, their fellow employees, their customers, and all those around them from harm. This commitment is supported by the philosophies and Golden Rules of Safety that is the cornerstone of the Safety Starts with Me: Live It 3-6-5 program. Live It 3-6-5 is our dedication to the safety of our workers through each and every employee's commitment to our three Safety philosophies, our six Golden Rules of Safety and each employee's five personal reasons why they choose to be safe both at work, on the road and at home.

Compliance

We regard compliance with applicable environmental regulations as a critical component of our overall operations. We strive to maintain the highest professional standards in our compliance activities. Our compliance program has been developed for each of our waste management facilities and service centers under the direction of our compliance staff. The compliance staff is responsible for facilities permitting and regulatory compliance, compliance training, transportation compliance, and related record keeping. To ensure the effectiveness of our regulatory compliance program, our compliance staff monitors daily operational activities. We also have an Environmental Health and Safety Compliance Internal Audit Program designed to identify any weaknesses or opportunities for improvement in our ongoing compliance programs. We also perform periodic audits and inspections of the disposal facilities owned by other companies which we utilize.

Our facilities are frequently inspected and audited by regulatory agencies, as well as by customers. Although our facilities have been cited on occasion for regulatory violations, we believe that each of our facilities is currently in substantial compliance with applicable permit requirements.

Strategy

Our strategy is to develop and maintain ongoing relationships with a diversified group of customers that have recurring needs for environmental, energy or industrial services. We strive to be recognized as the premier supplier of a broad range of value-added services based upon quality, responsiveness, customer service, information technologies, breadth of service offerings and cost effectiveness.

The principal elements of our business strategy are to:

- **Expand Service Offerings and Geographic Coverage**—We believe our Technical Services, Industrial and Field Services, and Safety-Kleen segments have a competitive advantage, particularly in areas where we maintain service locations at or near a treatment, storage and disposal facility, or "TSDF." By opening additional service locations in close proximity to our TSDFs, we believe that we can increase our market share within these segments. We believe this will drive additional waste to our existing facilities, thereby increasing utilization and enhancing overall profitability. In addition, our management team continues to assess the competitive landscape in order to identify new

Table Of Contents

business opportunities and, at the end of 2016, included the Healthcare services and Daylighting businesses which will expand our services offerings to existing and potential customers.

- **Cross-Sell Across Segments**—We believe the breadth of our service offerings allows us to provide additional services to existing customers. In particular, we believe we can provide industrial and field services to customers that traditionally have only used our technical services and technical services to customers that use our industrial services or oil and gas field services. At the same time, we see a variety of cross-selling opportunities between our Technical Services, Industrial and Field Services and Safety-Kleen segments. Evidencing this strategy, we have been successfully cross selling the services of Safety-Kleen, such as parts washers, allied products, recycling services and the implementation of our OilPlus™ closed loop initiative, to legacy Clean Harbors customers. We believe leveraging our ability to cross-sell across all of our segments will drive additional revenue for our Company.
- **Capture Large-Scale Projects**—We provide turnkey offsite transportation and landfill or incineration disposal services for soil and other contaminated media generated from remediation activities. We also assist remediation contractors and project managers with support services including groundwater disposal, investigation derived waste disposal, rolloff container management, and many other related services. We believe this will drive incremental waste volume to our existing facilities, thereby increasing utilization and enhancing overall profitability.
- **Expand Throughput Capacity of Existing Waste Facilities**—We operate an extensive network of hazardous waste management facilities and have made substantial investments in these facilities, which provide us with significant operating leverage as volumes increase. In addition, there are opportunities to expand waste handling capacity at these facilities by modifying the terms of the existing permits and by adding equipment and new technology. Through selected permit modifications, we can expand the range of treatment services offered to our customers without the large capital investment necessary to acquire or build new waste management facilities.
- **Pursue Selective Acquisitions**—We actively pursue selective acquisitions in certain services or market sectors where we believe the acquisitions can enhance and expand our business, such as the oil collection and refinery markets. We believe that we can expand existing services, especially in our non-disposal services, through strategic acquisitions in order to generate incremental revenues from existing and new customers and to obtain greater market share. Evidencing this strategy, during 2016, we acquired seven businesses that will primarily complement the strategy to create a closed loop model as it relates to the sale of our oil products. For additional information on our acquisitions, see "Acquisitions and Other Business Transactions" below.
- **Execute Strategic Mergers and Divestitures**—To complement our acquisition strategy and focus on internal growth, we regularly review and evaluate our existing operations to determine whether our business model should change through the merger or divestiture of certain businesses. Accordingly, from time to time, we may merge or divest certain non-core businesses and reallocate our resources to businesses that better align with our long-term strategic direction. For instance, on September 1, 2016, we completed the sale of our catalyst services business, which was a non-core business previously included within our Industrial and Field Services segment.
- **Focus on Cost, Pricing and Productivity Initiatives**—We continually seek to increase efficiency and to reduce costs in our business through enhanced technology, process efficiencies and stringent expense management. For instance, in 2016 and in response to current and expected business conditions, we successfully undertook headcount reductions, branch consolidations, reduction in third-party rentals, greater internalization of maintenance costs, procurement and supply chain improvements and lowering reliance on outside transportation.

Acquisitions and Other Business Transactions

Acquisitions are an element of our business strategy that involves expansion through the acquisition of businesses that complement our existing company and create multiple opportunities for profitable growth.

Demonstrating our selective acquisition strategy, we acquired during 2016 seven businesses for a combined purchase price of \$205.0 million, paid in cash and subject to customary post-closing adjustments, which complement our strategy to create a closed loop model as it relates to the sale of our oil products. These acquisitions also provided us two additional oil re-refineries while also expanding our used motor oil collection network and providing greater blending and packaging capabilities. These acquisitions provided us with greater access to customers in the West Coast region of the United States and additional locations with Part B permits. Operations of these acquisitions are primarily being integrated across our Safety-Kleen segment, with certain operations also being integrated into our Technical Services and Industrial and Field Services segments.

In 2015, we completed the acquisition of Heckmann Environmental Services, Inc. ("HES") and Thermo Fluids Inc. ("TFI"), a wholly-owned subsidiary of HES. The acquisition was accomplished through a purchase by Safety-Kleen, Inc., a wholly-owned subsidiary of our Company, of all of the issued and outstanding shares of HES from Nuverra Environmental Solutions, Inc. HES is a holding company that does not conduct any operations. TFI provides environmental services, including

[Table Of Contents](#)

used oil recycling, used oil filter recycling, antifreeze products, parts washers and solvent recycling, and industrial waste management services, including vacuum services, remediation, lab pack and hazardous waste management. We acquired TFI for a purchase price of \$79.3 million. The acquisition expanded our environmental services customer base while also complementing the Safety-Kleen network and presence in the western United States.

For additional information relating to our acquisition activities during fiscal years 2016, 2015 and 2014, see Note 3, "Business Combinations," to our consolidated financial statements included in Item 8 of this report.

Other business transactions may consist of mergers or divestitures and is another element of our business strategy that involves review of our portfolio of assets to determine the extent to which they are contributing to our objectives and growth strategy.

On September 1, 2016, we completed the sale of our catalyst services business, which was a non-core business previously included within the Industrial Services operating segment, for approximately \$50.6 million (\$49.2 million net of cash retained by the catalyst services business) subject to customary post-closing conditions. For additional information relating to this divestiture, see Note 4, "Disposition of Business," to our consolidated financial statements included in Item 8 of this report.

Protecting the Environment and Corporate Sustainability

Our core business is to provide industry, government and the public a wide range of environmental, energy and industrial services that protect and restore North America's natural environment.

As a leading provider of environmental, energy and industrial services throughout North America, our first goal is to help our customers prevent the release of hazardous wastes into the environment. We also are the leading service provider in the recovery and decontamination of pollutants that have been released. This includes the safe destruction or disposal of hazardous materials in a manner that ensures these materials are no longer a danger to the environment. When providing these services, we are committed to the recycling, reuse and reclamation of these wastes whenever possible using a variety of methods more fully explained below in the sections describing our general operations. Our Safety-Kleen branded services exemplify our commitment to sustainability and providing environmental solutions to the marketplace. Where possible, liquids such as solvents, chemicals and used oil are recycled to our high-quality standards and made into useful products. Tolling programs provide a closed-loop cycle in which the customer's spent solvents are recycled to their precise specifications and returned directly to them.

We have also become the leading North American provider of services to protect the ozone layer from the destructive effects of chlorofluorocarbons, or "CFCs," which are ozone layer depleting substances and global warming compounds that have global warming potentials up to 10,000 times more powerful than carbon dioxide. Global-warming potential is a relative measure of how much heat a greenhouse gas traps in the atmosphere.

Since 2013, California Air Resources Board has issued over 7,900,000 emission reduction credits that were generated by destroying CFC's at Clean Harbors' El Dorado Arkansas incinerator. Over 7,900,000 metric tons of carbon dioxide emissions were avoided by destroying these greenhouse gases. That is equivalent to removing over 1,668,745 passenger vehicles from the road for one year.

One of our most highly visible public programs for various governmental and community entities involves the removal of thousands of tons of hazardous wastes, from households throughout the United States and Canada, that might otherwise be improperly disposed of or become dangerous to the communities where they are stored.

As we provide these wide-ranging services throughout North America, we are committed to ensuring that our own operations are environmentally responsible. Our sustainability efforts are guided by a formal policy, strategy and plan and we continue to build on our past efforts, such as implementing numerous energy efficiency improvements and various transportation initiatives.

Competitive Strengths

- **Leading Provider of Environmental, Energy and Industrial Services**—We are a leading provider of environmental, energy and industrial services and the largest operator of non-nuclear hazardous waste treatment facilities in North America. We provide multi-faceted and low cost services to a broad mix of customers. We attract and better serve our customers because of our capabilities and the size, scale and geographic location of our assets, which allow us to serve multiple locations.
- **Largest collector and recycler of used motor oil**— As the largest re-refiner and recycler of used oil in the world, we returned during 2016 approximately 176.3 million gallons of new re-refined oil, lubricants and byproducts back into the marketplace. In 2016, our re-refining process eliminated more than one million metric tons of greenhouse gas

[Table Of Contents](#)

("GHG"), which is the equivalent of growing more than 32 million trees for 10 years in an urban environment or taking over 200,000 passenger cars off the road for one year.

- **Large and Diversified Customer Base**—Our customers range from Fortune 500 companies to midsize and small public and private entities that span multiple industries and business types, including governmental entities. This diversification limits our credit exposure to any one customer and potential cyclicality to any one industry. As a percentage of our 2016 revenues, the top ten industries we service totaled approximately 69% and included chemical (13%), general manufacturing (13%), automotive (9%), refineries and oil sands (9%), government (6%), base oil, blenders and packagers (6%), utilities (4%), terminals and pipelines (3%), pharmaceutical and biotechnology (3%), and transportation (3%).
- **Stable and Recurring Revenue Base**—We have long-standing relationships with our customers. Our diversified customer base provides stable and recurring revenues as a significant portion of our revenues are derived from previously served customers with recurring needs for our services. In addition, switching costs for many of our customers are high. This is due to many customers' desire to audit disposal facilities prior to their qualification as approved sites and to limit the number of facilities to which their hazardous wastes are shipped in order to reduce their potential liability under United States and Canadian environmental regulations. We have been selected as an approved vendor by large and small generators of waste because we possess comprehensive collection, recycling, treatment, transportation, disposal, and waste tracking capabilities and have the expertise necessary to comply with applicable environmental laws and regulations. Those customers that have selected us as an approved vendor typically continue to use our services on a recurring basis.
- **Comprehensive Service Capabilities**—Our comprehensive service offerings allow us to act as a full-service provider to our customers. Our full-service orientation creates incremental revenue growth as customers seek to minimize the number of outside vendors and demand "one-stop shop" service providers.
- **Integrated Network of Assets**—We believe we operate, in the aggregate, the largest number of hazardous waste incinerators, landfills, treatment facilities and TSDFs in North America. Our broad service network enables us to effectively handle a waste stream from origin through disposal and to efficiently direct and internalize our waste streams to reduce costs. As our processing of wastes increases, our size allows us to increase our profit margins as we can internalize a greater volume of waste in our incinerators, landfills and other disposal facilities.
- **Regulatory Compliance**—We continue to make capital investments in our facilities to ensure that they are in compliance with current federal, state, provincial and local regulations. Companies that rely on in-house disposal may find the current regulatory requirements to be too capital intensive or complicated, and may choose to outsource many of their hazardous waste disposal needs.
- **Effective Cost Management**—Our significant scale allows us to maintain low costs through standardized compliance procedures, significant purchasing power, research and development capabilities and our ability to efficiently utilize logistics and transportation to economically direct waste streams to the most efficient facility. We also have the ability to transport and process with internal resources the substantial majority of all hazardous waste that we manage for our customers. In addition, our Safety-Kleen results are significantly impacted by the overall market pricing and product mix associated with base and blended oil products and, more specifically, the market prices of Group II base oils. Given the impact of lower base and blended oil pricing, we are now charging stop fees related to our used oil collection services which have allowed us to more effectively manage the profit spreads inherent in the business.
- **Proven and Experienced Management Team**—Our executive management team provides depth and continuity. Our 13 executive officers collectively have a significant amount of experience and expertise in the environmental, energy and industrial services industries. Our chief executive officer founded our Company in 1980, and since its formation has served as both the Chief Executive Officer and Chairman of the Board.

Operations

General

Seasonality and Cyclical Nature of Business. Our operations may be affected by seasonal fluctuations due to weather and budgetary cycles influencing the timing of customers' spending for products and services. Typically during the first quarter of each year there is less demand for our products, oil collection, recycling and environmental services due to the lower levels of activities by our customers as a result of the cold weather, particularly in the Northern and Midwestern regions of the United States and Canada. As a result, reduced volumes of waste are received at our facilities, higher operating costs are realized due to sub-freezing weather and high levels of snowfall, factory closings for year-end holidays reduce waste volume, and lower volumes of used oil are generated for collection by us.

[Table Of Contents](#)

Conversely, typically during the first quarter of each year there is more demand for our Industrial and Field Services and Oil, Gas and Lodging Services segments due to the cold weather, particularly in Alberta, Canada, and less demand during the warmer months. The main reason for this is that the areas we service in Alberta are easier to access when the cold conditions make the terrain more suitable for companies to deploy their equipment. During the warmer months, thawing and muddy conditions may impede deployment of equipment.

Geographical Information. For the year ended December 31, 2016, we generated \$2,213.4 million or 80.3% of our revenues in the United States and Puerto Rico, \$538.0 million or 19.5% of revenues in Canada, and less than 1% of revenues in other international locations. For the year ended December 31, 2015, we generated \$2,576.2 million or 78.7% of our revenues in the United States and Puerto Rico, \$695.0 million or 21.2% of revenues in Canada, and less than 1% of revenues in other international locations. For additional information about the geographical areas from which our revenues are derived and in which our assets are located, see Note 18, "Segment Reporting," to our consolidated financial statements included in Item 8 of this report.

Technical Services

These services involve the collection, transportation, treatment and disposal of hazardous and non-hazardous waste, and include resource recovery, physical treatment, fuel blending, incineration, landfill disposal, wastewater treatment, lab chemical disposal, explosives management and CleanPack® services. Our CleanPack services include the collection, identification and categorization, specialized packaging, transportation and disposal of laboratory chemicals and household hazardous waste. Our technical services are provided through a network of service centers from which a fleet of trucks are dispatched to pick up customers' waste either on a predetermined schedule or on demand, and to deliver the waste to permitted facilities, which are usually Company-owned. Our service centers also can dispatch chemists to a customer location for collection of chemical and laboratory waste for disposal.

Collection, Transportation and Logistics Management. As an integral part of our services, we collect industrial waste from customers and transport such waste to and between our facilities for treatment or bulking for shipment to final disposal locations. Customers typically accumulate waste in containers, such as 55-gallon drums, bulk storage tanks or 20-cubic-yard roll-off containers. In providing this service, we utilize a variety of specially designed and constructed tank trucks and semi-trailers as well as third-party transporters, including railroads.

Treatment and Disposal. We recycle, treat and dispose of hazardous and non-hazardous industrial waste. The waste handled includes substances which are classified as "hazardous" because of their corrosive, ignitable, infectious, reactive or toxic properties, and other substances subject to federal, state and provincial environmental regulation. We provide final treatment and disposal services designed to manage waste which cannot be otherwise economically recycled or reused. The waste that we handle comes in solid, sludge, liquid and gas form.

We operate a network of TSDFs that collect, temporarily store and/or consolidate compatible waste streams for more efficient transportation to final recycling, treatment or disposal destinations. These facilities hold special permits, such as Part B permits under the Resource Conservation and Recovery Act, or "RCRA," in the United States, which allow them to process, transfer and dispose of waste through various technologies including recycling, incineration, and landfill and wastewater treatment depending on each locations permitted and constructed capabilities.

Resource Recovery and Fuel Blending. We operate recycling systems for the reclamation and reuse of certain waste, particularly solvent-based waste generated by industrial cleaning operations, metal finishing and other manufacturing processes. Resource recovery involves the treatment of wastes using various methods, which effectively remove contaminants from the original material to restore its fitness for its intended purpose and to reduce the volume of waste requiring disposal.

We also operate a recycling facility that recycles refinery waste and spent catalyst. The recycled oil and recycled catalyst depending on market conditions are sold to third parties.

Incineration. Incineration is the preferred method for the treatment of organic hazardous waste, because it effectively destroys the contaminants at high temperatures. High temperature incineration effectively eliminates organic waste such as herbicides, halogenated solvents, pesticides, pharmaceutical and refinery waste, regardless of whether gases, liquids, sludge or solids. Federal and state incineration regulations require a destruction and removal efficiency of 99.99% for most organic waste and 99.9999% for polychlorinated biphenyls, or "PCB," and dioxins.

As of December 31, 2016, we had eight active incinerators operating in five incinerator facilities that offer a wide range of technological capabilities to customers. In the United States, we operate a fluidized bed thermal oxidation unit for maximum destruction efficiency of hazardous waste with an estimated annual practical capacity of 58,808 tons and three solids and liquids capable incinerator facilities with a combined estimated annual practical capacity of 317,387 tons. We also operate one hazardous waste liquid injection incinerator in Canada with total annual practical capacity of 115,526 tons. Our state-of-the-art

[Table Of Contents](#)

hazardous waste incinerator at our El Dorado, Arkansas site, which officially came online in early 2017, is expected to add approximately 70,000 tons of additional capacity to our Arkansas facility.

Our incinerator facilities in Kimball, Nebraska; Deer Park, Texas; El Dorado, Arkansas; and Aragonite, Utah, are designed to process liquid organic waste, sludge, solids, soil and debris. Our Deer Park facility has two kilns and a rotary reactor. Our El Dorado facility specializes in the treatment of bulk and containerized hazardous liquids, solids and sludge. Our new state-of-the-art hazardous waste incinerator at our El Dorado, Arkansas, site specializes in high-temperature incineration of regulated waste, such as industrial and laboratory chemicals, manufacturing byproducts, medical waste, fertilizers and other solid and liquid materials that would otherwise be hazardous to the environment and public health if not properly managed. Our facilities in Kimball and Deer Park have on-site landfills for the disposal of ash produced as a result of the incineration process.

Our incinerator facility in Lambton, Ontario, is a liquid injection incinerator, designed primarily for the destruction of liquid organic waste. Typical waste streams include wastewater with low levels of organics and other higher concentration organic liquid waste not amenable to conventional physical or chemical waste treatment.

Landfills. Landfills are primarily used for the disposal of inorganic waste. In the United States and Canada, we operate nine commercial landfills. Seven of our commercial landfills are designed and permitted for the disposal of hazardous waste and two of our landfills are operated for non-hazardous industrial waste disposal and, to a lesser extent, municipal solid waste. In addition to our commercial landfills, we also own and operate two non-commercial landfills that only accept waste from our on-site incinerators.

Of our seven commercial landfills used for disposal of hazardous waste, five are located in the United States and two are located in Canada. As of December 31, 2016, the useful economic lives of these landfills include approximately 27.5 million cubic yards of remaining capacity. This estimate of the useful economic lives of these landfills includes permitted airspace and unpermitted airspace that our management believes to be probable of being permitted based on our analysis of various factors. In addition to the capacity included in the useful economic lives of these landfills, there are approximately 31.9 million cubic yards of additional unpermitted airspace capacity included in the footprints of these landfills that may ultimately be permitted, although there can be no assurance that this unpermitted additional capacity will be permitted. In addition to the hazardous waste landfills, we operate two non-hazardous industrial landfills with 4.2 million cubic yards of remaining permitted capacity. These two facilities are located in the United States and have been issued operating permits under Subtitle D of RCRA. Our non-hazardous landfill facilities are permitted to accept commercial industrial waste, including waste from foundries, demolition and construction, machine shops, automobile manufacturing, printing, metal fabrications and recycling.

Wastewater Treatment. We operate eight wastewater treatment facilities that offer a range of wastewater treatment technologies. These wastewater treatment operations involve processing hazardous and non-hazardous waste through the use of physical and chemical treatment methods. These facilities treat a broad range of industrial liquid and semi-liquid waste containing heavy metals, organics and suspended solids.

Total Project Management. We also provide total project management services in areas such as chemical packing, on-site waste management, remediation, compliance training and emergency spill response, while leveraging the Clean Harbors network of Technical Services and Industrial and Field Services centers and capabilities.

Industrial and Field Services

Industrial Services. We provide a wide range of industrial maintenance services and specialty industrial services at refineries, mines, upgraders, chemical plants, pulp and paper mills, manufacturing, and power generation facilities. We provide these services throughout North America, which includes our presence in the oil sands region in Alberta, Canada as well as the gulf coast region of the United States.

Our crews handle as-needed in-plant services to support ongoing in-plant cleaning and maintenance services, including liquid/dry vacuum, hydro-blasting, dewatering and materials processing, water and chemical hauling and steam cleaning. We provide a variety of specialized industrial services including plant outage and turnaround services, decoking and pigging, chemical cleaning, high and ultra-high pressure water cleaning, daylighting and hydro excavation, pipeline inspection and coating services, and large tank and surface impoundment cleaning.

Our crews also handle oilfield transport and production services supporting drilling, completions and production programs. On the drilling and completions side, we provide vehicles and services for fluid hauling and disposal for ad hoc and turnkey operations. We also provide services and equipment for drilling site cleanups and support. On the production side, we provide complete turnarounds and tank cleaning services. Our downhole well equipment helps maintain and increase well productivity.

[Table Of Contents](#)

Field Services. We provide customers with highly skilled experts who utilize specialty equipment and resources to perform services at any chosen location. Our field service crews and equipment are dispatched on a planned or emergency basis, and perform services such as confined space entry for tank cleaning, site decontamination, large remediation projects, demolition, spill cleanup, railcar cleaning, product recovery and transfer, scarifying and media blasting and vacuum services. Additional services include used oil and oil products recycling. Other services include filtration and water treatment services.

We are a leader in providing response services for environmental emergencies of any scale from man-made disasters such as oil spills, and natural disasters such as hurricanes.

Safety-Kleen

Our Safety-Kleen service brand offers an array of environmental services and complementary products to a diverse range of customers including automobile repair shops, car and truck dealers, metal fabricators, machine manufacturers, fleet maintenance shops and other automotive, industrial and retail customers.

As the largest provider of parts cleaning services in North America, our Safety-Kleen business offers a complete line of specially designed parts washers to customer locations and then delivers recurring service that includes machine cleaning and maintenance and the disposal and replacement of clean solvent or aqueous fluids. We also sell allied products including degreasers, glass and floor cleaners, hand cleaners, absorbents, antifreeze, windshield washer fluid, mats and spill kits.

Utilizing our collection network, we provide the pickup and transportation of hazardous and non-hazardous containerized waste for recycling or disposal, primarily through the Clean Harbors network of recycling and waste treatment and disposal facilities. We also collect used oil which serves as feedstock for our oil re-refineries discussed below, although a portion of the used oil brought to the re-refineries is either not suitable for re-refining or cannot be re-refined because we do not have sufficient re-refining capacity at a specific point in time. That oil is processed into recycled fuel oil, or "RFO," and is then sold to various customers, such as asphalt plants, industrial plants, pulp and paper companies, and vacuum gas oil and marine diesel oil producers.

Our vacuum services provide the removal of solids, residual oily water and sludge and other fluids from customers' oil/water separators, sumps and collection tanks. We also remove and collect waste fluids found at large and small industrial locations, including metal fabricators, auto maintenance providers, and general manufacturers.

Utilizing used oil collected by Safety-Kleen branches, we manufacture, formulate, package, distribute and markets high-quality lubricants and allied products. We offer these services to business end-users and customers that can in turn market to retailers and end-consumers. The used oil collected by Safety-Kleen's branch network is processed or re-refined to convert into a variety of products, mostly base lubricating oils, and much smaller quantities of asphalt-like material, glycols and fuels. As the largest re-refiner of used oil in the world, we process the used oil collected through our six re-refineries located in East Chicago, Indiana; Newark, California; Wichita, Kansas; Tacoma, Washington; Fallon, Nevada, and Breslau, Ontario. Our primary goal is to produce and sell high-quality blended oils, which are created by combining our re-refined base and other base oils with performance additives in accordance with our proprietary formulations and American Petroleum Institute licenses. Our Performance Plus® brand and "green" proprietary brand EcoPower® sold under our Kleen Performance Products line of oil products are sold to on- and off-road corporate fleets, government entities, automotive service shops and industrial plants, which are serviced through our internal distribution network, as well as an extensive United States and Canada-wide independent distributor network. We also sell unbranded blended oils to distributors that resell them under their private label brands. In 2016, we implemented our OilPlus™ program resulting in the sale of our renewable oil products directly to our end customers. We sell the base oil that we do not blend and sell ourselves to independent blenders/packagegers that use it to blend their own branded or private label oils. With more than 200 million gallons of used oil processed annually, we were able to return in 2016 approximately 176.3 million gallons of new re-refined oil, lubricants and byproducts back into the marketplace.

Oil, Gas and Lodging Services

Oil and Gas Field Services. Consists of two lines of businesses; Seismic Services and Surface Rentals. These services support exploration and drilling programs for oil and gas companies.

Seismic Services provides integrated seismic and right-of-way services for efficient resource discovery and site preparation. These services include: (i) seismic surveying that minimizes costs, environmental impact, and time in field; (ii) mulching/line clearing that expedites additional geophysical activities and minimizes environmental impact; and (iii) shot-hole drilling that provides safe and efficient operations in every terrain, including hostile and inaccessible regions.

Surface Rentals services support oil and gas companies' drilling and well completion programs. Key to our services is our ability to provide solids control to support the drilling process. Our technologies help manage liquids, solids and semi-solid material during the drilling operation, and include centrifuges, tanks, and drilling fluid recovery. We also can provide container

[Table Of Contents](#)

rentals for the safe collection of drill cuttings and other wastes, as well as manage disposal for drilling fluids and solids. We also supply surface rental equipment to support drill sites by providing wellsite trailers, wastewater treatment systems and holding tanks, light towers, and generators and handling tools.

Lodging Services. Consists of three lines of businesses; Lodge Operations, Camps and Catering, and Manufacturing. Synergy is created among all three lines of businesses within Lodging Services itself, as well with other Clean Harbors divisions by providing turnkey remote accommodations and manufacturing support.

Lodge Operations operates fixed lodges ranging in sizes up to approximately 600 beds throughout Western Canada, primarily in the Fort McMurray area. These are open lodges, with amenities that include catering and housekeeping services, fully equipped common areas, fitness rooms and computer rooms, wireless internet and public phones, powered parking stalls, laundry facilities, and daily towel service.

Camps and Catering operates remote workforce accommodation facilities throughout Western Canada, currently in British Columbia, Saskatchewan and Alberta, with multiple accommodation types. These include both client and open camps, operator camps, and drill camps. In addition, we provide internally to the majority of our lodges and camps food services prepared by Red Seal Chefs, hospitality services, camp and lodge managers, and housekeeping. Furthermore, hospitality services are available as a standalone service to clients who have other accommodation arrangements.

Manufacturing operates through BCT Structures Inc., a custom manufacturer of modular buildings specializing in providing workforce housing, office complexes, schools, lavatories, multi-story buildings, affordable housing, kitchen facilities and other customized modular solutions for various industries.

Competition

The hazardous waste management industry in which we compete is highly competitive. The sources of competition vary by locality and by type of service rendered, with competition coming from national and regional waste services companies and hundreds of privately-owned firms. Veolia Environmental Services, or "Veolia," Waste Management, Inc., or "WM," U.S. Ecology, and Stericycle, Inc. are the principal national firms with which we compete. Each of these competitors is able to provide one or more of the environmental services we offer.

Under federal and state environmental laws in the United States, generators of hazardous wastes remain liable for improper disposal of such wastes. Although generators may hire various companies that have the proper permits and licenses, because of the generators' potential liability, they are very interested in the reputation and financial strength of the companies they use for the management of their hazardous wastes. We believe that our technical proficiency and reputation are important considerations to our customers in selecting and continuing to utilize our services.

We believe that the depth of our recycling, treatment and disposal capabilities and our ability to collect and transport waste products efficiently, quality of service, safety, and pricing are the most significant factors in the market for treatment and disposal services.

For our Technical Services segment, competitors include several major national and regional environmental services firms, as well as numerous smaller local firms. We believe the availability of skilled technical professional personnel, quality of performance, diversity of services, safety record and price are the key competitive factors in this service industry.

For our Industrial and Field Services segment, competitors vary by locality and by type of service rendered, with competition coming from national and regional service providers and hundreds of privately-owned firms that offer energy or industrial services. CEDA International Corporation and Newalta in Canada, and Philip Services Corporation, Hydrochem and Veolia in the United States, are the principal national firms with which we compete. Each of these competitors is able to provide one or more of the industrial and field services offered by us. We believe the availability of specialized equipment, skilled technical professional personnel, quality of performance, diversity of services, safety record and price are the key competitive factors in this industry.

For our Safety-Kleen segment, competitors vary by locality and by type of service rendered, with competition coming from Heritage-Crystal Clean and Veolia, along with several regional and local firms.

For our Oil, Gas and Lodging Services segment, competitors vary by locality and type of services provided, with competition coming from national, regional and local service providers. Some of these competitors are able to provide one or more of the oil and gas field services we offer. Others only provide a limited range of equipment or services tailored for local markets. Competition is based on a number of factors, including safety, quality, performance, reliability, service, price, response time, and, in some cases, breadth of service offering. Our primary competitors in our lodging business are Civeo, Black Diamond, Horizon North Logistics, Noralta, Royal Camps and William Scotsman.

[Table Of Contents](#)

The principal methods of competition for all of our services are price, quality, reliability of service rendered and technical proficiency. We believe that we offer a more comprehensive range of environmental, energy and industrial services than our competitors in major portions of the United States and Canada.

Employees

As of December 31, 2016, we employed approximately 12,400 active full-time employees, of which 711 in the United States and 524 in Canada were represented by labor unions. We believe that our relationship with our employees is satisfactory. As part of our commitment to employee safety and quality customer service, we have an extensive compliance program and trained environmental, health and safety staff. We adhere to a risk management program designed to reduce potential liabilities to us and to our customers.

Intellectual Property

We have invested significantly in the development of proprietary technology and also to establish and maintain an extensive knowledge of leading technologies and incorporate these technologies into the services we offer and provide to our customers. As of December 31, 2016, we held a total of 38 U.S. and 13 foreign issued or granted patents (which will expire between 2017 and 2031), 7 U.S. and 5 foreign pending patent applications, 69 U.S. and 53 foreign trademark registrations, and 6 U.S. and 10 foreign trademark applications. We also license software and other intellectual property from various third parties. We enter into confidentiality agreements with certain of our employees, consultants and corporate partners, and control access to software documentation and other proprietary information. We believe that we hold adequate rights to all intellectual property used in our business and that we do not infringe upon any intellectual property rights held by other parties.

Management of Risks

We adhere to a program of risk management policies and practices designed to reduce potential liability, as well as to manage customers' ongoing environmental exposures. This program includes installation of risk management systems at our facilities, such as fire suppression, employee training, environmental, auditing and policy decisions restricting the types of wastes handled. We evaluate all revenue opportunities and decline those that we believe involve unacceptable risks.

We dispose of wastes at our incinerator, wastewater treatment and landfill facilities, or at facilities owned and operated by other firms that we have audited and approved. We apply established technologies to the treatment, storage and recovery of hazardous wastes. We believe our operations are conducted in a safe and prudent manner and in substantial compliance with applicable laws and regulations.

Insurance and Financial Assurance

Our insurance programs cover the potential risks associated with our multifaceted operations from two primary exposures: direct physical damage and third-party liability. We maintain a casualty insurance program providing coverage for vehicles, employer's liability and commercial general liability in the aggregate amount of \$105.0 million, \$102.0 million and \$104.0 million, respectively, per year, subject to retentions of \$2.0 million per occurrence for auto and commercial general liability and \$1.0 million for employers' liability in the United States and \$2.0 million in Canada. We also have workers' compensation insurance whose limits are established by state statutes.

We have pollution liability insurance policies covering potential risks in three areas: as a contractor performing services at customer sites, as a transporter of waste, and as a processor of waste at our facilities. The contractor's pollution liability insurance has limits of \$20.0 million per occurrence and \$25.0 million in the aggregate, covering offsite remedial activities and associated liabilities.

For sudden and accidental in-transit pollution liability, our auto liability policy provides the primary \$5.0 million per occurrence of transportation pollution insurance. Our pollution liability policies provide an additional \$60.0 million per occurrence and \$85.0 million in the aggregate for a total of \$65.0 million per occurrence and \$90.0 million, respectively. A \$2.0 million deductible per occurrence applies to this coverage in the United States and Canada.

Federal and state regulations require liability insurance coverage for all facilities that treat, store or dispose of hazardous waste. RCRA, the Toxic Substances Control Act, and comparable state hazardous waste regulations typically require hazardous waste handling facilities to maintain pollution liability insurance in the amount of \$1.0 million per occurrence and \$2.0 million in the aggregate for sudden occurrences, and \$3.0 million per occurrence and \$6.0 million in the aggregate for non-sudden occurrences. Our liability insurance coverage meets or exceeds all federal and state regulations.

Our international operations are insured under locally placed insurance policies that are compulsory in a specific country. In addition, we have a global foreign liability policy that will provide excess and difference in condition coverage in international countries.

[Table Of Contents](#)

Under our insurance programs, coverage is obtained for catastrophic exposures as well as those risks required to be insured by law or contract. It is our policy to retain a significant portion of certain expected losses related primarily to employee benefit, workers' compensation, commercial general and vehicle liability. Provisions for losses expected under these programs are recorded based upon our estimates of the actuarial calculation of the aggregate liability for claims. We believe that policy cancellation terms are similar to those of companies in other industries.

Operators of hazardous waste handling facilities are also required by federal, state and provincial regulations to provide financial assurance for closure and post-closure care of those facilities should the facilities cease operation. Closure would include the cost of removing the waste stored at a facility which ceased operating and sending the material to another facility for disposal and the cost of performing certain procedures for decontamination of the facility. As of December 31, 2016, our total estimated closure and post-closure costs requiring financial assurance by regulators were \$442.3 million for our U.S. facilities and \$41.7 million for our Canadian facilities. We have obtained all of the required financial assurance for our facilities through a combination of surety bonds, funded trusts, letters of credit and insurance from a qualified insurance company. The financial assurance related to closure and post-closure obligations of our U.S. facilities will renew in 2017. Our Canadian facilities utilize surety bonds, which renew at various dates throughout 2017, as well as letters of credit.

Environmental Regulation

While our business has benefited substantially from increased governmental regulation of hazardous waste transportation, storage and disposal, the environmental services industry itself is the subject of extensive and evolving regulation by federal, state, provincial and local authorities. We are required to obtain federal, state, provincial and local permits or approvals for each of our hazardous waste facilities. Such permits are difficult to obtain and, in many instances, extensive studies, tests, and public hearings are required before the approvals can be issued. We have acquired all operating permits and approvals now required for the current operation of our business, and have applied for, or are in the process of applying for, all permits and approvals needed in connection with continued operation and planned expansion or modifications of our operations.

We make a continuing effort to anticipate regulatory, political and legal developments that might affect operations, but are not always able to do so. We cannot predict the extent to which any environmental legislation or regulation that may be enacted or enforced in the future may affect our operations.

United States Hazardous Waste Regulation

Federal Regulations. The most significant federal environmental laws affecting us are the Resource Conservation and Recovery Act, or "RCRA," the Comprehensive Environmental Response, Compensation and Liability Act, or "CERCLA," also known as the "Superfund Act," the Clean Air Act, the Clean Water Act, and the Toxic Substances Control Act, or "TSCA."

RCRA. RCRA is the principal federal statute governing hazardous waste generation, treatment, transportation, storage and disposal. Pursuant to RCRA, the EPA has established a comprehensive "cradle-to-grave" system for the management of a wide range of materials identified as hazardous waste. States that have adopted hazardous waste management programs with standards at least as stringent as those promulgated by the EPA have been delegated authority by the EPA to administer their facility permitting programs in lieu of the EPA's program.

Every facility that treats, stores or disposes of hazardous waste must obtain a RCRA permit from the EPA or an authorized state agency unless a specific exemption exists, and must comply with certain operating requirements (the Part B permitting process). RCRA also requires that Part B permits contain provisions for required on-site study and cleanup activities, known as "corrective action," including detailed compliance schedules and provisions for assurance of financial responsibility. See Note 9, "Closure and Post-Closure Liabilities," and Note 10, "Remedial Liabilities," to our consolidated financial statements included in Item 8 of this report for a discussion of our environmental liabilities. See "Insurance and Financial Assurance" above for a discussion of our financial assurance requirements.

The Superfund Act. The Superfund Act is the primary federal statute regulating the cleanup of inactive hazardous substance sites and imposing liability for cleanup on the responsible parties. It also provides for immediate response and removal actions coordinated by the EPA to releases of hazardous substances into the environment, and authorizes the government to respond to the release or threatened release of hazardous substances or to order responsible persons to perform any necessary cleanup. The statute provides for strict and, in certain cases, joint and several liability for these responses and other related costs, and for liability for the cost of damages to natural resources, to the parties involved in the generation, transportation and disposal of hazardous substances. Under the statute, we may be deemed liable as a generator or transporter of a hazardous substance which is released into the environment, or as the owner or operator of a facility from which there is a release of a hazardous substance into the environment. See Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Item 8 of this report for a description of the principal such proceedings in which we are now involved.

Table Of Contents

The Clean Air Act. The Clean Air Act was passed by Congress to control the emissions of pollutants into the air and requires permits to be obtained for certain sources of toxic air pollutants such as vinyl chloride, or criteria pollutants, such as carbon monoxide. In 1990, Congress amended the Clean Air Act to require further reductions of air pollutants with specific targets for non-attainment areas in order to meet certain ambient air quality standards. These amendments also require the EPA to promulgate regulations which (i) control emissions of 189 hazardous air pollutants; (ii) create uniform operating permits for major industrial facilities similar to RCRA operating permits; (iii) mandate the phase-out of ozone depleting chemicals; and (iv) provide for enhanced enforcement.

The Clean Water Act. This legislation prohibits discharge of pollutants into the waters of the United States without governmental authorization and regulates the discharge of pollutants into surface waters and sewers from a variety of sources, including disposal sites and treatment facilities. The EPA has promulgated "pretreatment" regulations under the Clean Water Act, which establish pretreatment standards for introduction of pollutants into publicly owned treatment works. In the course of the treatment process, our wastewater treatment facilities generate wastewater, which we discharge to publicly owned treatment works pursuant to permits issued by the appropriate governmental authorities. We are required to obtain discharge permits and conduct sampling and monitoring programs.

TSCA. We also operate a network of collection, treatment and field services (remediation) activities throughout North America that are regulated under provisions of TSCA. TSCA established a national program for the management of substances classified as polychlorinated biphenyls, or "PCBs," which include waste PCBs as well as RCRA wastes contaminated with PCBs. The rules set minimum design and operating requirements for storage, treatment and disposal of PCB wastes. Since their initial publication, the rules have been modified to enhance the management standards for TSCA-regulated operations including the decommissioning of PCB transformers and articles, detoxification of transformer oils, incineration of PCB liquids and solids, landfill disposal of PCB solids, and remediation of PCB contamination at customer sites.

Other Federal Laws. In addition to regulations specifically directed at our transportation, storage, and disposal facilities, there are a number of regulations that may "pass-through" to the facilities based on the acceptance of regulated waste from affected client facilities. Each facility that accepts affected waste must comply with the regulations for that waste, facility or industry. Examples of this type of regulation are National Emission Standards for Benzene Waste Operations and National Emissions Standards for Pharmaceuticals Production. Each of our facilities addresses these regulations on a case-by-case basis determined by its ability to comply with the pass-through regulations.

In our transportation operations, we are regulated by the U.S. Department of Transportation, the Federal Railroad Administration, the Federal Aviation Administration and the U.S. Coast Guard, as well as by the regulatory agencies of each state in which we operate or through which our vehicles pass.

Health and safety standards under the Occupational Safety and Health Act, or "OSHA," are also applicable to all of our operations.

State and Local Regulations. Pursuant to the EPA's authorization of their RCRA equivalent programs, a number of U.S. states have regulatory programs governing the operations and permitting of hazardous waste facilities. Accordingly, the hazardous waste treatment, storage and disposal activities of a number of our facilities are regulated by the relevant state agencies in addition to federal EPA regulation.

Some states classify as hazardous some wastes that are not regulated under RCRA. For example, Massachusetts considers used oil as "hazardous waste" while RCRA does not. Accordingly, we must comply with state requirements for handling state regulated wastes, and, when necessary, obtain state licenses for treating, storing, and disposing of such wastes at our facilities.

Our facilities are regulated pursuant to state statutes, including those addressing clean water and clean air. Local sewer discharge and flammable storage requirements are applicable to certain of our facilities. Our facilities are also subject to local siting, zoning and land use restrictions. We believe that each of our facilities is in substantial compliance with the applicable requirements of federal and state licenses which we have obtained. Once issued, such licenses have maximum fixed terms of a given number of years, which differ from state to state, ranging from three to ten years. The issuing state agency may review or modify a license at any time during its term. We anticipate that once a license is issued with respect to a facility, the license will be renewed at the end of its term if the facility's operations are in compliance with applicable requirements. However, there can be no assurance that regulations governing future licensing will remain static, or that we will be able to comply with such requirements.

Canadian Hazardous Waste Regulation

In Canada, the provinces retain control over environmental issues within their boundaries and thus have the primary responsibility for regulating management of hazardous wastes. The federal government regulates issues of national scope or where activities cross provincial boundaries.

[Table Of Contents](#)

Provincial Regulations. Most of Canada's industrial development and the major part of its population are located in four provinces: Ontario, Quebec, Alberta and British Columbia. These provinces have the most detailed environmental regulations. We operate major waste management facilities in each of these provinces, as well as waste transfer facilities in Nova Scotia and Manitoba.

The main provincial acts dealing with hazardous waste management are:

- Ontario—Environmental Protection Act;
- Quebec—Environmental Quality Act;
- Alberta—Environmental Protection and Enhancement Act; and
- British Columbia—Waste Management Act.

These pieces of legislation were developed by the provinces independently and, among other things, generally control the generation, characterization, transport, treatment and disposal of hazardous wastes. Regulations developed by the provinces under the relevant legislation are also developed independently, but are often quite similar in effect and sometimes in application. For example, there is some uniformity in manifest design and utilization.

Provincial legislation also provides for the establishment of waste management facilities. In this case, the facilities are also controlled by provincial statutes and regulations governing emissions to air, groundwater and surface water and prescribing design criteria and operational guidelines.

Waste transporters require a permit to operate under provincial waste management regulations and are subject to the requirements of the Federal Transportation of Dangerous Goods legislation. They are required to report the quantities and disposition of materials shipped.

Canadian Federal Regulations. The Canadian federal government has authority for those matters which are national in scope and in impact and for Canada's relations with other nations. The main federal laws governing hazardous waste management are:

- Canadian Environmental Protection Act (1999) ("CEPA 99"), and
- Transportation of Dangerous Goods Act.

Environment Canada is the federal agency with responsibility for environmental matters and the main legislative instrument is the Canadian Environmental Protection Act. This act charges Environment Canada and Health Canada with protection of human health and the environment and seeks to control the production, importation and use of substances in Canada and to control their impact on the environment.

The Export and Import of Hazardous Wastes Regulations under CEPA 99 control the export and import of hazardous wastes and hazardous recyclable materials. By reference, these regulations incorporate the Transportation of Dangerous Goods Act and Regulations, which address identification, packaging, marking and documentation of hazardous materials during transport. CEPA 99 requires that anyone proposing to export or import hazardous wastes or hazardous recyclable materials or to transport them through Canada notify the Minister of the Environment and obtain a permit to do so. Section 9 of CEPA 99 allows the federal government to enter into administrative agreements with the provinces and territories for the development and improvement of environmental standards. These agreements represent cooperation towards a common goal rather than a delegation of authority under CEPA 99. To facilitate the development of provincial and territorial agreements, the federal, provincial and territorial governments participate in the Canadian Council of Ministers of the Environment ("CCME"). The CCME comprises the 14 environment ministers from the federal, provincial and territorial governments, who normally meet twice a year to discuss national environmental priorities and to determine work to be carried out under the auspices of the CCME.

Canadian Local and Municipal Regulations. Local and municipal regulations seldom reference direct control of hazardous waste management activities. Municipal regulations and by-laws, however, control such issues as land use designation, access to municipal services and use of emergency services, all of which can have a significant impact on facility operation.

Compliance with Environmental Regulations

We incur costs and make capital investments in order to comply with the previously discussed environmental regulations. These regulations require that we remediate contaminated sites, operate our facilities in accordance with enacted regulations, obtain required financial assurance for closure and post-closure care of our facilities should such facilities cease operations, and make capital investments in order to keep our facilities in compliance with environmental regulations.

[Table Of Contents](#)

As further discussed in Note 9, "Closure and Post-Closure Liabilities," and Note 10, "Remedial Liabilities," to our consolidated financial statements included in Item 8 of this report, we have accrued environmental liabilities as of December 31, 2016, of \$186.3 million. For the years ended December 31, 2016 and 2015, we spent \$12.2 million and \$20.1 million, respectively, to address environmental liabilities.

As discussed more fully above under the heading "Insurance and Financial Assurance," we are required to provide financial assurance with respect to certain statutorily required closure, post-closure and corrective action obligations at our facilities. We have placed the required financial assurance primarily through a qualified insurance company.

As described in Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Item 8 of this report, we are involved in legal proceedings arising under environmental laws and regulations. Alleged failure to comply with laws and regulations may lead to the imposition of fines or the denial, revocation or delay of the renewal of permits and licenses by governmental entities. In addition, such governmental entities, as well as surrounding landowners, may claim that we are liable for environmental damages. Citizens groups have become increasingly active in challenging the grant or renewal of permits and licenses for hazardous waste facilities, and responding to such challenges has further increased the costs associated with establishing new facilities or expanding current facilities. A significant judgment against us, the loss of a significant permit or license, or the imposition of a significant fine could have a material effect on our business and future prospects.

ITEM 1A. RISK FACTORS

An investment in our securities involves certain risks, including those described below. You should consider carefully these risk factors together with all of the information included in this report before investing in our securities.

Risks Affecting All of Our Businesses

Our businesses are subject to operational and safety risks.

Provision of environmental, energy and industrial services to our customers by all four of our business segments involves risks such as equipment defects, malfunctions and failures, and natural disasters, which could potentially result in releases of hazardous materials, injury or death of our employees, or a need to shut down or reduce operation of our facilities while remedial actions are undertaken. Our employees often work under potentially hazardous conditions. These risks expose us to potential liability for pollution and other environmental damages, personal injury, loss of life, business interruption, and property damage or destruction. We must also maintain a solid safety record in order to remain a preferred supplier to our major customers.

While we seek to minimize our exposure to such risks through comprehensive training programs, vehicle and equipment maintenance programs, and insurance, such programs and insurance may not be adequate to cover all of our potential liabilities and such insurance may not in the future be available at commercially reasonable rates. If we were to incur substantial liabilities in excess of policy limits or at a time when we were not able to obtain adequate liability insurance on commercially reasonable terms, our business, results of operations and financial condition could be adversely affected to a material extent. Furthermore, should our safety record deteriorate, we could be subject to a potential reduction of revenues from our major customers.

Our businesses are subject to numerous statutory and regulatory requirements, which may increase in the future.

Our businesses are subject to numerous statutory and regulatory requirements, and our ability to continue to hold licenses and permits required for our businesses is subject to maintaining satisfactory compliance with such requirements. These requirements may increase in the future as a result of statutory and regulatory changes. Although we are very committed to compliance and safety, we may not, either now or in the future, be in full compliance at all times with such statutory and regulatory requirements. Consequently, we could be required to incur significant costs to maintain or improve our compliance with such requirements.

Certain adverse conditions have required, and future conditions might require, us to make substantial write-downs in our assets, which have adversely affected or would adversely affect our balance sheet and results of operations.

We review our long-lived tangible and intangible assets for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. We also test our goodwill and indefinite-lived intangible assets for impairment at least annually on December 31, or when events or changes in the business environment indicate that the carrying value of a reporting unit may exceed its fair value. Based on the results of those tests, we determined during the third quarter of 2016 that the then carrying amount of our Lodging Services reporting unit exceeded the estimated fair value of that unit and we therefore then recognized a goodwill impairment charge of \$34.0 million with respect to that unit.

[Table Of Contents](#)

During the second quarter of 2015, we determined that the then carrying amount of our Oil and Gas Field Services reporting unit exceeded the estimated fair value of that unit and we therefore then recognized a goodwill impairment charge of \$32.0 million with respect to that unit. During and as of the end of each of 2016 and 2015, we determined that no additional asset write-downs were required. However, if conditions in any of the businesses in which we compete were to deteriorate, we could determine that certain of our assets were impaired and we would then be required to write-off all or a portion of our costs for such assets. Any significant write-offs would adversely affect our balance sheet and results of operations.

Fluctuations in foreign currency exchange could affect our financial results.

We earn revenues, pay expenses, own assets and incur liabilities in countries using currencies other than the U.S. dollar. In fiscal 2016, we recorded approximately 20% of our revenues outside of the United States, primarily in Canada. Because our consolidated financial statements are presented in U.S. dollars, we must translate revenues, income and expenses as well as assets and liabilities into U.S. dollars at exchange rates in effect during or at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against other currencies in countries where we operate will affect our results of operations and the value of balance sheet items denominated in foreign currencies.

Failure to effectively manage acquisitions and divestitures could adversely impact our future results.

We continuously evaluate potential acquisition candidates and from time to time acquire companies that we believe will strategically fit into our business and growth objectives. In particular, we acquired in 2015 all of the outstanding shares of Thermo Fluids Inc. for approximately \$79.3 million in cash and in 2016, we acquired seven business for approximately \$205 million in cash, subject to customary post-closing adjustments. If we are unable to successfully integrate and develop acquired businesses, we could fail to achieve anticipated synergies and cost savings, including any expected increases in revenues and operating results, which could have a material adverse effect on our financial results. We also continually review our portfolio of assets to determine the extent to which they are contributing to our objectives and growth strategy. In particular, we divested our catalyst services business on September 1, 2016 for approximately \$50.6 million (\$49.2 million net of cash divested), subject to customary post-closing conditions.

Our acquisitions may expose us to unknown liabilities.

Because we have acquired, and expect generally to acquire, all the outstanding shares of most of our acquired companies, our investment in those companies are or will be subject to all of their liabilities other than their respective debts which we paid or will pay at the time of the acquisitions. If there are unknown liabilities or other obligations, our business could be materially affected. We may also experience issues relating to internal controls over financial reporting, issues that could affect our ability to comply with the Sarbanes-Oxley Act, or issues that could affect our ability to comply with other applicable laws.

A cyber security incident could negatively impact our business and our relationships with customers.

We use computers in substantially all aspects of our business operations and also mobile devices and other online activities to connect with our employees and customers. Such uses give rise to cyber security risks, including security breach, espionage, system disruption, theft and inadvertent release of information. Our business involves the storage and transmission of numerous classes of sensitive and/or confidential information and intellectual property including, but not limited to, private information about employees, and financial and strategic information about our Company and our business partners. Furthermore, as we pursue our strategy to grow through acquisitions and new initiatives that improve our operations and cost structure, we are also expanding and improving our information technologies, resulting in a larger technological presence and corresponding exposure to cyber security risk. If we fail to assess and identify cyber security risks associated with acquisitions and new initiatives, we may become increasingly vulnerable to such risks. Additionally, while we have implemented measures to prevent security breaches and cyber incidents, our preventative measures and incident response efforts may not be entirely effective. The theft, destruction, loss, misappropriation, or release of sensitive and/or confidential information or intellectual property, or interference with our information technology systems or the technology systems of third parties on which we rely, could result in business disruption, negative publicity, brand damage, violation of privacy laws, loss of customers, potential liability and competitive disadvantage.

Additional Risks of Our Technical Services Business

The hazardous waste management business conducted by our Technical Services segment is subject to significant environmental liabilities.

We have accrued environmental liabilities valued as of December 31, 2016, at \$186.3 million, substantially all of which we assumed in connection with certain acquisitions. We calculate our environmental liabilities on a present value basis in accordance with generally accepted accounting principles, which take into consideration both the amount of such liabilities and the timing when it is projected that we will be required to pay such liabilities. We anticipate our environmental liabilities will be payable over many years and that cash flows generated from our operations will generally be sufficient to fund the payment of such liabilities when required. However, events not now anticipated (such as future changes in environmental laws and regulations or their enforcement) could require that such payments be made earlier or in greater amounts than now estimated, which could adversely affect our financial condition and results of operations.

We may also assume additional environmental liabilities as part of future acquisitions. Although we will endeavor to accurately estimate and limit environmental liabilities presented by the businesses or facilities to be acquired, some liabilities, including ones that may exist only because of the past operations of an acquired business or facility, may prove to be more difficult or costly to address than we then estimate. It is also possible that government officials responsible for enforcing environmental laws may believe an environmental liability is more significant than we then estimate, or that we will fail to identify or fully appreciate an existing liability before we become legally responsible to address it.

If we become unable to obtain at reasonable cost the insurance, surety bonds, letters of credit and other forms of financial assurance required for our facilities and operations, our business and results of operations would be adversely affected.

We are required to provide substantial amounts of financial assurance to governmental agencies for closure and post-closure care of our licensed hazardous waste treatment facilities should those facilities cease operation, and we are also occasionally required to post surety, bid and performance bonds in connection with certain projects. As of December 31, 2016, our total estimated closure and post-closure costs requiring financial assurance by regulators were \$442.3 million for our U.S. facilities and \$41.7 million for our Canadian facilities. We have obtained all of the required financial assurance for our facilities through a combination of surety bonds, funded trusts, letters of credit and insurance from a qualified insurance company. The financial assurance related to closure and post-closure obligations of our U.S. facilities will renew in 2017. Our Canadian facilities utilize surety bonds, which renew at various dates throughout 2017, as well as letters of credit.

Our ability to continue operating our facilities and conducting our other operations would be adversely affected if we became unable to obtain sufficient insurance, surety bonds, letters of credit and other forms of financial assurance at reasonable cost to meet our regulatory and other business requirements. The availability of insurance, surety bonds, letters of credit and other forms of financial assurance is affected by our insurers', sureties' and lenders' assessment of our risk and by other factors outside of our control such as general conditions in the insurance and credit markets.

The hazardous waste management industry in which we participate is subject to significant economic and business risks.

The future operating results of our Technical Services segment may be affected by such factors as our ability to utilize our facilities and workforce profitably in the face of intense price competition, maintain or increase market share in an industry which has in the past experienced significant downsizing and consolidation, realize benefits from cost reduction programs, invest in new technologies for treatment of hazardous waste, generate incremental volumes of waste to be handled through our facilities from existing and acquired sales offices and service centers, obtain sufficient volumes of waste at prices which produce revenue sufficient to offset the operating costs of our facilities, minimize downtime and disruptions of operations, and develop our field services business. In particular, economic downturns or recessionary conditions in North America, and increased outsourcing by North American manufacturers to plants located in countries with lower wage costs and less stringent environmental regulations, have adversely affected and may in the future adversely affect the demand for our services. Our Technical Services business is also cyclical to the extent that it is dependent upon a stream of waste from cyclical industries such as chemical and petrochemical. If those cyclical industries slow significantly, the business that we receive from them would likely decrease.

The extensive environmental regulations to which we are subject may increase our costs and potential liabilities and limit our ability to expand our facilities.

Our operations and those of others in the environmental services industry are subject to extensive federal, state, provincial and local environmental requirements in both the United States and Canada, including those relating to emissions to air, discharged wastewater, storage, treatment, transport and disposal of regulated materials, and cleanup of soil and

[Table Of Contents](#)

groundwater contamination. For example, any failure to comply with governmental regulations governing the transport of hazardous materials could negatively impact our ability to collect, process and ultimately dispose of hazardous wastes generated by our customers. While increasing environmental regulation often presents new business opportunities for us, it often also results in increased operating and compliance costs. Efforts to conduct our operations in compliance with all applicable laws and regulations, including environmental rules and regulations, require programs to promote compliance, such as training employees and customers, purchasing health and safety equipment, and in some cases hiring outside consultants and lawyers. Even with these programs, we and other companies in the environmental services industry are routinely faced with governmental enforcement proceedings, which can result in fines or other sanctions and require expenditures for remedial work on waste management facilities and contaminated sites. Certain of these laws impose strict and, under certain circumstances, joint and several liability on current and former owners and operators of facilities that release regulated materials or that generate those materials and arrange for their disposal or treatment at contaminated sites. Such liabilities can relate to required cleanup of releases of regulated materials and related natural resource damages.

From time to time, we have paid fines or penalties in governmental environmental enforcement proceedings, usually involving our waste treatment, storage and disposal facilities. Although none of these fines or penalties that we have paid in the past has had a material adverse effect upon us, we might in the future be required to make substantial expenditures as a result of governmental proceedings which would have a negative impact on our earnings. Furthermore, regulators have the power to suspend or revoke permits or licenses needed for operation of our plants, equipment, and vehicles based on, among other factors, our compliance record, and customers may decide not to use a particular disposal facility or do business with us because of concerns about our compliance record. Suspension or revocation of permits or licenses would impact our operations and could have a material impact on our financial results. Although we have never had any of our facilities' operating permits revoked, suspended or non-renewed involuntarily, it is possible that such an event could occur in the future.

Some environmental laws and regulations impose liability and responsibility on present and former owners, operators or users of facilities and sites for contamination at such facilities and sites without regard to causation or knowledge of contamination. In the past, practices have resulted in releases of regulated materials at and from certain of our facilities, or the disposal of regulated materials at third-party sites, which may require investigation and remediation, and potentially result in claims of personal injury, property damage and damages to natural resources. In addition, we occasionally evaluate various alternatives with respect to our facilities, including possible dispositions or closures. Investigations undertaken in connection with these activities may lead to discoveries of contamination that must be remediated, and closures of facilities might trigger compliance requirements that are not applicable to operating facilities. We are currently conducting remedial activities at certain of our facilities and paying a portion of the remediation costs at certain sites owned by third parties. While, based on available information, we believe these remedial activities will not result in a material effect upon our operations or financial condition, these activities or the discovery of previously unknown conditions could result in material costs.

In addition to the costs of complying with environmental laws and regulations, we incur costs defending against environmental litigation brought by governmental agencies and private parties. We are now, and may in the future be, a defendant in lawsuits brought by parties alleging environmental damage, personal injury, and/or property damage, which may result in our payment of significant amounts.

Environmental and land use laws also impact our ability to expand our facilities. In addition, we are required to obtain governmental permits to operate our facilities, including all of our landfills. Even if we comply with all applicable environmental laws, we might not be able to obtain requisite permits from applicable governmental authorities to extend or modify such permits to fit our business needs.

If our assumptions relating to expansion of our landfills should prove inaccurate, our results of operations and cash flow could be adversely affected.

When we include expansion airspace in our calculation of available airspace, we adjust our landfill liabilities to the present value of projected costs for cell closure and landfill closure and post-closure. It is possible that our estimates or assumptions could ultimately turn out to be significantly different from actual results. In some cases we may be unsuccessful in obtaining an expansion permit or we may determine that an expansion permit that we previously thought was probable has become unlikely. To the extent that such estimates, or the assumptions used to make those estimates, prove to be significantly different than actual results, or our belief that we will receive an expansion permit changes adversely in a significant manner, our landfill assets, including the assets incurred in the pursuit of the expansion, may be subject to impairment testing. Furthermore, lower prospective profitability may result due to increased interest accretion and depreciation or asset impairments related to the removal of previously included expansion airspace. In addition, if our assumptions concerning expansion airspace should prove inaccurate, certain of our cash expenditures for closure of landfills could be accelerated and adversely affect our results of operations and cash flow.

Additional Risks of Our Industrial and Field Services Business

A significant portion of our Industrial and Field Services business depends upon the demand for cleanup of major spills and other remedial projects and regulatory developments over which we have no control.

Our operations can be affected by the commencement and completion of cleanup of major spills and other events, customers' decisions to undertake remedial projects, seasonal fluctuations due to weather and budgetary cycles influencing the timing of customers' spending for remedial activities, the timing of regulatory decisions relating to hazardous waste management projects, changes in regulations governing the management of hazardous waste, secular changes in the waste processing industry towards waste minimization and the propensity for delays in the demand for remedial services, and changes in the myriad of governmental regulations governing our diverse operations. We do not control such factors and, as a result, our revenue and income can vary from quarter to quarter, and past financial performance for certain quarters may not be a reliable indicator of future performance for comparable quarters in subsequent years.

Additional Risks of Our Safety-Kleen Business

Fluctuations in oil prices may negatively affect our Safety-Kleen business.

A significant portion of our Safety-Kleen business involves collecting used oil from certain of our customers, re-refining a portion of such used oil into base and blended lubricating oils, and then selling both such re-refined oil and the excess recycled oil which we do not currently have the capacity to re-refine, or "RFO," to other customers. Changes in the reported spot market prices of oil affect the prices at which we can sell our re-refined oil and RFO. If applicable rates increase or decrease, we typically will charge a higher or lower corresponding price for our re-refined oil and RFO. The price at which we sell our re-refined oil and RFO is also affected by changes in certain indices measuring changes in the price of heavy fuel oil, with increases and decreases in the indices typically translating into a higher or lower price for our RFO. The cost to collect used oil, including the amounts we pay to obtain a portion of our used oil and therefore ability to collect necessary volumes and the fuel costs of our oil collection fleet, typically also increases or decreases when the relevant indices increase or decrease. However, even though the prices we can charge for our re-refined oil and RFO and the costs to collect and re-refine used oil and process RFO typically increase and decrease together, there is no assurance that when our costs to collect and re-refine used oil and process RFO increase we will be able to increase the prices we charge for our re-refined oil and RFO to cover such increased costs, or that our costs to collect and re-refine used oil and process RFO will decline when the prices we can charge for re-refined oil and RFO decline. These risks are exacerbated when there are rapid fluctuations in these oil indices.

Environmental laws and regulations have adversely affected and may adversely affect Safety-Kleen's parts cleaning and other solvent related services.

In connection with its parts cleaning and other solvent related services, Safety-Kleen has been subject to fines and certain orders requiring it to take environmental remedial action. Safety-Kleen may also be subject to monetary fines, civil or criminal penalties, remediation, cleanup or stop orders, injunctions, orders to cease or suspend certain practices or denial of permits required for the operation of its facilities. The outcome of any proceeding and associated costs and expenses could have a material adverse impact on Safety-Kleen's financial condition and results of operations.

Recent and potential changes in environmental laws and regulations may also adversely affect in the future Safety-Kleen's parts cleaning and other solvent related services. Interpretation or enforcement of existing laws and regulations, or the adoption of new laws and regulations, may require Safety-Kleen to modify or curtail its operations or replace or upgrade its facilities or equipment at substantial cost, which we may not be able to pass on to our customers, and we may choose to indemnify our customers from any fines or penalties they may incur as a result of these new laws and regulations. On the other hand, in some cases if new laws and regulations are less stringent, Safety-Kleen's customers or competitors may be able to manage waste more effectively themselves, which could decrease the need for Safety-Kleen's services or increase competition, which could adversely affect Safety-Kleen's results of operations.

Safety-Kleen is subject to existing and potential product liability lawsuits.

Safety-Kleen has been named from time to time as a defendant in product liability lawsuits in various courts and jurisdictions throughout the United States. As of December 31, 2016, Safety-Kleen was involved in approximately 60 such proceedings (including cases which have been settled but not formally dismissed) wherein persons claim personal injury resulting from the use of its parts cleaning equipment or cleaning products. These proceedings typically involve allegations that the solvents used in Safety-Kleen's parts cleaning equipment contains contaminants or that Safety-Kleen's recycling process does not effectively remove the contaminants that become entrained in the solvents during their use. In addition, certain claimants assert that Safety-Kleen failed to warn adequately the product user of potential risks, including a historic failure to warn that such solvents contain trace amounts of toxic or hazardous substances such as benzene. Although Safety-Kleen maintains insurance that we believe will provide coverage for these claims (over amounts accrued for self-insured retentions and deductibles in certain limited cases), this insurance may not provide coverage for potential awards of punitive damages against Safety-Kleen. Although Safety-Kleen has vigorously defended and will continue to vigorously defend itself and the safety of its products against all of these claims, these lawsuits are subject to many uncertainties and outcomes cannot be predicted with assurance. Safety-Kleen may also be named in similar lawsuits, additional lawsuits in the future, including claims for which insurance coverage may not be available. If any one or more of these lawsuits were decided unfavorably against Safety-Kleen and the plaintiffs were awarded punitive damages, or if insurance coverage were not available for any such claim, our financial condition and results of operations could be materially and adversely affected. Additionally, if any one or more of these lawsuits were decided unfavorably against Safety-Kleen, such outcome may encourage more lawsuits against us.

Safety-Kleen is dependent on third parties for manufacturing the majority of its equipment.

Safety-Kleen does not manufacture the majority of the equipment, including parts washers, that Safety-Kleen places at customer sites. Accordingly, Safety-Kleen relies on a limited number of third-party suppliers for manufacturing this equipment. The supply of third-party equipment could be interrupted or halted by a termination of Safety-Kleen's relationships, a failure of quality control or other operational problems at such suppliers or a significant decline in their financial condition. If Safety-Kleen were not able to retain these providers or obtain its requests from them, Safety-Kleen may not be able to obtain alternate providers in a timely manner or on economically attractive terms and, as a result, Safety-Kleen may not be able to compete successfully for new business, complete existing engagements profitably or retain its existing customers. Additionally, if Safety-Kleen's third-party suppliers provide defective equipment, Safety-Kleen may be subject to reputational damage or product liability claims which may negatively impact its reputation, financial condition and results of operations. Further, Safety-Kleen generally does not have long-term contracts with its third-party suppliers, and as a result these suppliers may increase the price of the equipment they provide to Safety-Kleen, which may hurt Safety-Kleen's results of operations.

Additional Risks of Our Oil, Gas and Lodging Services Businesses

A large portion of our Oil and Gas Field Services business is dependent on the oil and gas industry in Western Canada, and declines in oil and gas exploration in that region have adversely affected and could in the future adversely affect our business.

Our Oil and Gas Field Services business generates a significant portion of its total revenues from customers in the oil and gas industry operating in Western Canada, although a majority of the services we provide to such customers relate to oil and gas refining which is less volatile than oil and gas exploration. Accordingly, declines in the general level of oil and gas exploration in Western Canada have had and could potentially have significant adverse effects on the revenues and profitability of our Oil and Gas Field Services business. Such declines have occurred and could potentially occur in the future if reductions in the commodity prices of oil and gas result in reduced oil and gas exploration and refining. Such declines could also be triggered by technological and regulatory changes, such as those affecting the availability and cost of alternative energy sources and other changes in industry and worldwide economic and political conditions.

Many of our major customers in the oil and gas industry conduct a significant portion of their operations in the Alberta oil sands. The Alberta oil sands contain large oil deposits, but extraction may involve significantly greater cost and environmental concerns than conventional drilling. While we believe our major involvement in the oil sands region will provide significant future growth opportunities, such involvement also increases the risk that our business will be adversely affected if future economic activity in the Alberta oil sands were to further decline. Major factors that could cause such a decline might include a prolonged reduction in the commodity price of oil and future changes in environmental restrictions and regulations. The downturn in worldwide economic conditions and in the commodity price of oil and gas which has occurred in recent years and continues to occur has caused certain of our customers to delay a number of large projects in the planning and early development phases within the oil sands region. In addition, customers are revisiting their operating budgets and challenging their suppliers to reduce costs and achieve better efficiencies in their work programs.

All of our major Canadian lodges are located on land subject to leases; if we were unable to renew a lease, we could be materially and adversely affected.

All of our major Canadian lodges are located on land subject to leases. Accordingly, while we own the accommodations assets and can move them to other locations, if necessary, we only own a leasehold in those properties. If we were found to be in breach of a lease, we could lose the right to use the property. In addition, unless we could extend the terms of these leases before their expiration, we would lose our right to operate our facilities located on these properties upon expiration of the leases. In that event, we would be required to remove our accommodations assets and remediate the sites. We may not be able to renew our leases upon expiration on similar terms, or at all, and if we were unable to renew leases on similar terms, it may have an adverse effect on our business. In addition, if we were to lose the right to use a lodge due to non-renewal of a lease, we would be unable to derive income from such lodge, which could materially and adversely affect us.

Due to the significant concentration of our Lodging Services business in the oil sands region of Alberta, Canada, adverse events in that region could negatively impact our business.

Because of the concentration of our Lodging Services business in the oil sands region of Alberta, Canada, we have increased exposure to political, economic, regulatory, environmental, labor, climate or natural disaster events or developments that could disproportionately impact our operations and financial results. Such events include, for example, the large forest fires which during 2016 occurred in the Fort McMurray area of Alberta.

Our Lodging Services business depends significantly on several major customers, and the loss of one or more such customers or the inability of one or more such customers to meet their obligations to us could adversely affect our results of operations.

Our Lodging Services business depends significantly on several major customers engaged primarily in oil and gas exploration. Declines in the general level of oil and gas exploration in the oil sands region resulting in decreased demand for our lodging services have occurred in recent periods and could occur in the future, and have had and could have in the future adverse effects on the revenues and profitability of our Lodging Services business. The loss of any one or more of such large customers or a sustained decrease in demand by any of them have resulted and could result in a substantial loss of revenues and have had and could have a material adverse effect on our results of operations. In addition, the concentration of our customers in oil and gas exploration may impact our overall exposure to credit risk, either positively or negatively, because our customers may be similarly affected by changes in economic and industry conditions. While we perform ongoing credit evaluations of our customers, we do not generally require collateral in support of our trade receivables. As a result, we are subject to risks of loss resulting from nonpayment or nonperformance by our customers.

We may be adversely affected if customers reduce their accommodations outsourcing.

The business and growth strategy of our Lodging Services business depends in large part on the continuation of a current trend toward outsourcing such services. Many oil and gas companies in our core markets own their own accommodations facilities, while others outsource all or part of their accommodations requirements. Customers have largely built their accommodations in the past but will outsource if they perceive that outsourcing may provide quality services at a lower overall cost or allow them to accelerate the timing of their projects. We cannot be certain that this trend will continue and not be reversed or that customers that have outsourced accommodations will not decide to perform these functions themselves or only outsource accommodations during the development or construction phases of their projects. In addition, labor unions representing customer employees and contractors have, in the past, opposed outsourcing accommodations to the extent that the unions believe that third-party accommodations negatively impact union membership and recruiting. The reversal or reduction in customer outsourcing of accommodations could negatively impact our financial results and growth prospects.

Increased operating costs and obstacles to cost recovery due to the pricing and cancellation terms of our lodging services contracts may constrain our ability to make a profit.

The profitability of our Lodging Services business can be adversely affected by cost increases for food, wages and other labor related expenses, insurance, fuel and utilities, especially to the extent we are unable to recover such increased costs through increases in the prices for our services due to general economic conditions, competitive conditions or contractual provisions in our customer contracts. Oil and natural gas prices have fluctuated significantly in the last several years, and substantial increases in the cost of fuel and utilities have historically resulted in cost increases for our lodges. From time to time we have also experienced increases in our food costs. While we believe a portion of these increases were attributable to fuel prices, we believe the increases also resulted from rising global food demand. In addition, food prices can fluctuate as a result of temporary changes in supply, including as a result of severe weather such as droughts, heavy rains and late freezes. While

[Table Of Contents](#)

our long-term contracts often provide for annual escalation in our room rates for food, labor and utility inflation, we may be unable to fully recover costs and such increases in costs would negatively impact our profitability on contracts that do not contain inflation protections.

Risks Relating to Our Level of Debt, Letters of Credit and Senior Unsecured Notes

Our substantial levels of outstanding debt and letters of credit could adversely affect our financial condition and ability to fulfill our obligations.

As of December 31, 2016, we had outstanding \$1.6 billion of senior unsecured notes and \$132.6 million of letters of credit. Our substantial levels of outstanding debt and letters of credit may:

- adversely impact our ability to obtain additional financing in the future for working capital, capital expenditures, acquisitions or other general corporate purposes or to repurchase the notes from holders upon any change of control;
- require us to dedicate a substantial portion of our cash flow to payment of interest on our debt and fees on our letters of credit, which reduces the availability of our cash flow to fund working capital, capital expenditures, acquisitions and other general corporate purposes;
- subject us to the risk of increased sensitivity to interest rate increases based upon variable interest rates, including borrowings (if any) under our revolving credit facility;
- increase the possibility of an event of default under the financial and operating covenants contained in our debt instruments; and
- limit our ability to adjust to rapidly changing market conditions, reduce our ability to withstand competitive pressures and make us more vulnerable to a downturn in general economic conditions of our business than our competitors with less debt.

Our ability to make scheduled payments of principal or interest with respect to our debt, including our outstanding notes, any revolving loans and our capital leases, and to pay fee obligations with respect to our letters of credit, will depend on our ability to generate cash and our future financial results. If we were unable to generate sufficient cash flow from operations in the future to service our debt and letter of credit fee obligations, we might be required to refinance all or a portion of our existing debt and letter of credit facilities or to obtain new or additional such facilities. However, we might not be able to obtain any such new or additional facilities on favorable terms or at all.

Despite our substantial levels of outstanding debt and letters of credit, we could incur substantially more debt and letter of credit obligations in the future.

Although our revolving credit agreement and the indentures governing our outstanding notes contain restrictions on the incurrence of additional debt (including, for this purpose, reimbursement obligations under outstanding letters of credit), these restrictions are subject to a number of qualifications and exceptions and the additional debt which we might incur in the future in compliance with these restrictions could be substantial. In particular, we had available at December 31, 2016, up to an additional approximately \$195.2 million for purposes of additional borrowings and letters of credit under our revolving credit facility. Our revolving credit agreement and the indentures governing our outstanding notes also allow us to borrow significant amounts of money from other sources. These restrictions also do not prevent us from incurring obligations (such as operating leases) that do not constitute “debt” or “indebtedness” as defined in the relevant agreements. To the extent we incur in the future additional debt and letter of credit or other obligations, the related risks would increase.

The covenants in our debt agreements restrict our ability to operate our business and might lead to a default under our debt agreements.

Our revolving credit agreement and the indentures governing our outstanding notes limit, among other things, our ability and the ability of our restricted subsidiaries to:

- incur or guarantee additional indebtedness (including, for this purpose, reimbursement obligations under letters of credit) or issue preferred stock;
- pay dividends or make other distributions to our stockholders;
- purchase or redeem capital stock or subordinated indebtedness;
- make investments;
- create liens;
- incur restrictions on the ability of our restricted subsidiaries to pay dividends or make other payments to us;

Table Of Contents

- sell assets, including capital stock of our subsidiaries;
- consolidate or merge with or into other companies or transfer all or substantially all of our assets; and
- engage in transactions with affiliates.

As a result of these covenants, we may not be able to respond to changes in business and economic conditions and to obtain additional financing, if needed, and we may be prevented from engaging in transactions that might otherwise be beneficial to us. Our revolving credit facility requires, and our future credit facilities may require, us to maintain certain financial ratios and satisfy certain other financial condition tests. Our ability to meet these financial ratios and tests can be affected by events beyond our control, and we may not be able to meet those tests. The breach of any of these covenants could result in a default under our revolving credit facility or future credit facilities. Upon the occurrence of an event of default, the lenders could elect to declare all amounts outstanding under such credit facilities, including accrued interest or other obligations, to be immediately due and payable. If amounts outstanding under such credit facilities were accelerated, our assets might not be sufficient to repay in full that indebtedness and our other indebtedness.

Our revolving credit agreement and the indentures governing our outstanding notes also contain cross-default and cross-acceleration provisions. Under these provisions, a default or acceleration under one instrument governing our debt may constitute a default under our other debt instruments that contain cross-default and cross-acceleration provisions, which could result in the related debt and the debt issued under such other instruments becoming immediately due and payable. In such event, we would need to raise funds from alternative sources, which funds might not be available to us on favorable terms, on a timely basis or at all. Alternatively, such a default could require us to sell assets and otherwise curtail operations to pay our creditors. The proceeds of such a sale of assets, or curtailment of operations, might not enable us to pay all of our liabilities.

Other Risks Relating to Our Common Stock

The Massachusetts Business Corporation Act and our By-Laws contain certain anti-takeover provisions.

Sections 8.06 and 7.02 of the Massachusetts Business Corporation Act provide that Massachusetts corporations which are publicly-held must have a staggered board of directors and that written demand by holders of at least 40% of the outstanding shares of each relevant voting group of stockholders is required for stockholders to call a special meeting unless such corporations take certain actions to affirmatively "opt-out" of such requirements. In accordance with these provisions, our By-Laws provide for a staggered board of directors which consists of three classes of directors of which one class is elected each year for a three-year term, and require that written application by holders of at least 25% (which is less than the 40% which would otherwise be applicable without such a specific provision in our By-Laws) of our outstanding shares of common stock is required for stockholders to call a special meeting. In addition, our By-Laws prohibit the removal by the stockholders of a director except for cause. These provisions could inhibit a takeover of our Company by restricting stockholders' action to replace the existing directors or approve other actions which a party seeking to acquire us might propose. A takeover transaction would frequently afford stockholders an opportunity to sell their shares at a premium over then market prices.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

Our principal executive offices are in Norwell, Massachusetts, where we lease approximately 151,000 square feet under arrangements expiring in 2022. We also have regional administrative offices in Texas, South Carolina, Seattle and Alberta, Canada. Our properties are sufficient and suitable for our current needs.

We have a network of more than 475 service locations across 48 states, eight Canadian provinces, Puerto Rico and Mexico. Those service locations include service centers, satellite locations, branches, active hazardous waste management properties, lodging facilities and oil processing facilities. The service centers and branches are the principal sales and service centers from which we provide our environmental, energy and industrial services. The active hazardous waste management properties include incinerator facilities, commercial and non-commercial landfills, wastewater treatment facilities, treatment, storage and disposal facilities ("TSDFs"), solvent recovery management and recycling facilities, locations specializing in polychlorinated biphenyls ("PCBs") management, oil accumulation centers, oil terminals and oil re-refineries. Some of our properties offer multiple capabilities. The following sets forth certain information as of December 31, 2016 regarding our properties.

Service Centers, Satellite Locations and Branches

We have approximately 370 service centers, satellite locations and branches throughout the United States and Canada

[Table Of Contents](#)

which serve as principal sales and service centers from which we provide parts cleaning services, containerized waste services, oil collection services and other environmental services.

Active Hazardous Waste Management Properties

Incinerator Facilities. We own five operating incinerator facilities that have a total of eight incinerators with 491,721 tons of total practical capacity and an average utilization rate for 2016 of 88.8%. Our practical capacity is not based on a theoretical 24-hour, seven-day operation, but rather is determined as the production level at which our incinerators can operate with an acceptable degree of efficiency, taking into consideration factors such as longer term customer demand, permanent staffing levels, operating shifts, holidays, scheduled maintenance and mix of product. Capacity utilization is calculated by dividing actual production pounds by practical capacity at each incinerator.

	<u># of Incinerators</u>	<u>Practical Capacity (Tons)</u>	<u>Utilization Rate Year Ended December 31, 2016</u>
Arkansas	2	85,072	92.1%
Nebraska	1	58,808	77.0%
Utah	1	66,815	75.8%
Texas	3	165,500	92.5%
Ontario, Canada	1	115,526	94.5%
	<u>8</u>	<u>491,721</u>	88.8%

Our incinerators offer a wide range of technological capabilities to customers through this network. We provide incineration in the United States through one fluidized bed thermal oxidation unit and three solids and liquids-capable incinerator facilities and we operate in Canada one active hazardous waste liquid injection incinerator. Our state-of-the-art hazardous waste incinerator at our El Dorado, Arkansas site, which officially came online in early 2017, is expected to add approximately 70,000 tons of additional capacity to our Arkansas facility.

Commercial and Non-Commercial Landfills. In the United States and Canada, we operate nine commercial landfills with approximately 31.8 million cubic yards of remaining highly probable airspace. Seven of our commercial landfills are designed and permitted for the disposal of hazardous wastes and two landfills are operated for nonhazardous industrial waste disposal and, to a lesser extent, municipal solid waste. In addition to our commercial landfills, we also own and operate two non-commercial landfills that only accept waste from our on-site incinerators. See "Landfill Accounting" within Note 2, "Significant Accounting Policies," to our consolidated financial statements included in Item 8 of this report for additional information on our commercial and non-commercial landfills.

Wastewater Treatment Facilities. We operate a total of eight facilities, of which six are owned and two are leased, that offer a range of wastewater treatment technologies and customer services. Wastewater treatment consists primarily of three types of services: hazardous wastewater treatment, sludge dewatering or drying, and non-hazardous wastewater treatment.

Treatment, Storage and Disposal Facilities. We operate 22 TSDFs, of which 20 are owned and two are leased, in the United States and Canada. Our TSDFs facilitate the movement of materials among our network of service centers and treatment and disposal facilities. Transportation may be accomplished by truck, rail, barge or a combination of modes, with our own assets or in conjunction with third-party transporters. Specially designed containment systems, vehicles and other equipment permitted for hazardous and industrial waste transport, together with drivers trained in transportation and waste handling procedures, provide for the movement of customer waste streams.

Solvent Recovery Management and Recycling Operations. We own two facilities specializing in solvent recovery management.

PCB Management Facilities and Oil Storage or Recycling Capabilities. We operate six facilities, of which four are owned and two are leased, specializing in PCB management or providing oil recycling capabilities.

Lodging Facilities

Lodge Operations. We operate six fixed lodges, all of which are owned and located on sites in Alberta, Canada that are leased under long-term operating agreements.

[Table Of Contents](#)

Camps. We operate various camp facilities that can grow and shrink in size and location. Generally, we have ongoing operations at 1-2 larger facilities that we expect to operate on a multi-year basis. Additionally, we operate five office complexes, six mini-camps, and approximately 50 single and double occupancy drill camps. All of our camp facilities are owned and located on various sites throughout Western Canada. Sites for the larger facilities are generally leased, whereas sites for our smaller facilities are generally provided by our customers.

Oil Processing, Blending and Packaging Facilities

Oil Accumulation Centers. We operate a total of nine accumulation centers, of which eight are owned and one is leased, used for accumulating waste oil from our branches.

Oil Terminals. We operate a total of 42 oil terminals, of which 29 are owned and 13 are leased, which collect or process used oil prior to delivery to re-refineries or distribution as RFO.

Oil Recycling and Re-refining Facilities. With our recent acquisitions we now own six oil re-refineries, five in the United States and one in Canada. With more than 200 million gallons of used oil processed annually, we were able to return in 2016 176.3 million gallons of new re-refined oil, lubricants and byproducts back into the marketplace.

Oil Packaging and Blending Facilities. We operate a total of four oil packaging and blending facilities, of which two are owned and two are leased and used for blending and packaging oil from our branches.

ITEM 3. LEGAL PROCEEDINGS

See Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Item 8 of this report for a description of legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Common Stock

Our common stock trades on the New York Stock Exchange (the "NYSE") under the symbol CLH. The following table sets forth the high and low sales prices of our common stock for the indicated periods as reported by the NYSE.

	2016		2015	
	High	Low	High	Low
First Quarter	\$ 49.97	\$ 37.09	\$ 58.44	\$ 44.70
Second Quarter	\$ 54.54	\$ 46.40	\$ 59.29	\$ 50.65
Third Quarter	\$ 53.79	\$ 44.91	\$ 54.31	\$ 43.00
Fourth Quarter	\$ 58.23	\$ 43.03	\$ 48.05	\$ 39.89

On February 10, 2017, the closing price of our common stock on the NYSE was \$54.87 and there were 294 stockholders of record of our common stock, excluding stockholders whose shares were held in nominee, or "street," name. We estimate that approximately 22,400 additional stockholders beneficially held shares in street name on that date.

We have never declared nor paid any cash dividends on our common stock, and we do not intend to pay any dividends on our common stock in the foreseeable future. We intend to retain our future earnings, if any, for use in the operation and expansion of our business and payment of our outstanding debt, and for our stock repurchase program. In addition, our current credit agreement and indentures limit the amount we could pay as cash dividends on, or for repurchase of, our common stock. See "Liquidity and Capital Resources" under Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" for additional information.

Issuer Purchases of Equity Securities

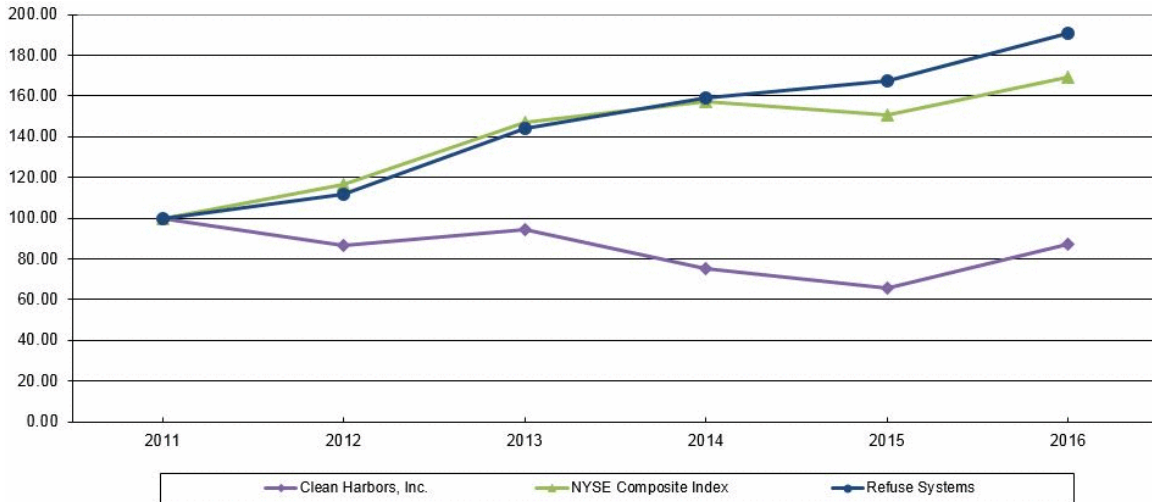
Period	Total Number of Shares Purchased (1)	Average Price Paid Per Share (2)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (3)
October 1, 2016 through October 31, 2016	1,672	\$ 47.75	—	\$ 105,963,952
November 1, 2016 through November 30, 2016	111,716	\$ 49.99	111,300	\$ 100,398,445
December 1, 2016 through December 31, 2016	8,860	\$ 55.85	5,000	\$ 100,123,458
Total	122,248	\$ 50.38	116,300	\$ 100,123,458

- (1) Includes 5,948 shares withheld by us from employees to satisfy employee tax obligations upon vesting of restricted shares granted under our long-term equity incentive programs.
- (2) The average price paid per share of common stock repurchased under our stock repurchase program includes commissions paid to the brokers.
- (3) On March 13, 2015, our board of directors authorized the repurchase of up to \$300 million of our common stock. We have funded and intend to fund the repurchases through available cash resources. The stock repurchase program authorizes us to purchase our common stock on the open market from time to time in a manner that complies with applicable U.S. securities laws. The number of shares purchased and the timing of the purchases has depended and will depend on a number of factors, including share price, cash required for business plans, trading volume and other conditions. We have no obligation to repurchase stock under this program and may suspend or terminate the repurchase program at any time.

**COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN
AMONG CLEAN HARBORS, INC.,
NYSE COMPOSITE INDEX, AND CUSTOM PEER GROUP**

Performance Graph

The following graph compares the five-year return from investing \$100 in each of our common stock, the NYSE Composite Index, and an index of environmental services companies (custom peer group) compiled by CoreData. The environmental services group used by CoreData includes all companies whose listed line-of-business is SIC Code 4953 (refuse systems), and assumes reinvestment of dividends on the ex-dividend date. An index compares relative performance since a particular starting date. In this instance, the starting date was December 30, 2011, when our common stock closed at \$63.73 per share.



ASSUMES \$100 INVESTED ON JAN. 01, 2012

ASSUMES DIVIDENDS REINVESTED

Securities Authorized For Issuance Under Equity Compensation Plans

See Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters," for a description of the securities which are authorized for issuance under our equity compensation plans.

ITEM 6. SELECTED FINANCIAL DATA

The following summary of consolidated financial information has been derived from the audited consolidated financial statements included in Item 8, "Financial Statements and Supplementary Data," of this report and in the annual reports we previously filed with the SEC. This information should be reviewed in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and the financial statements and notes thereto included in Item 8, "Financial Statements and Supplementary Data," of this report.

(in thousands except per share amounts)	For the Year Ended December 31,				
	2016	2015	2014	2013	2012
Income Statement Data:					
Total revenues	\$ 2,755,226	\$ 3,275,137	\$ 3,401,636	\$ 3,509,656	\$ 2,187,908
Net (loss) income (1)	\$ (39,873)	\$ 44,102	\$ (28,328)	\$ 95,566	\$ 129,674
(Loss) earnings per share: (1)(2)					
Basic	\$ (0.69)	\$ 0.76	\$ (0.47)	\$ 1.58	\$ 2.41
Diluted	\$ (0.69)	\$ 0.76	\$ (0.47)	\$ 1.57	\$ 2.40
Other Financial Data:					
Adjusted EBITDA (3)	\$ 400,354	\$ 504,167	\$ 521,919	\$ 510,105	\$ 373,767

(in thousands)	At December 31,				
	2016	2015	2014	2013	2012
Balance Sheet Data:					
Total assets	\$ 3,681,920	\$ 3,431,428	\$ 3,689,423	\$ 3,936,430	\$ 3,819,338
Long-term obligations (including current portion)	1,633,272	1,382,543	1,380,681	1,385,516	1,389,223
Stockholders' equity (2)	1,084,241	1,096,282	1,262,871	1,475,639	1,432,072

(1) The 2016 results include a \$34.0 million goodwill impairment charge in our Lodging Services reporting unit and a \$16.9 million pre-tax gain on the sale of a non-core line of business within our Industrial and Field Services segment. The 2015 results include a \$32.0 million goodwill impairment charge in our Oil and Gas Field Services reporting units, and the 2014 results include a \$123.4 million goodwill impairment charge in our Kleen Performance Products reporting unit. In 2016, we did not record any income tax benefit as a result of the goodwill impairment charge. In 2015 and 2014, we recorded income tax benefits of \$2.0 million and \$2.7 million, respectively, as a result of the goodwill impairment charges. See Note 4, "Disposition of Business" and Note 7, "Goodwill and Other Intangible Assets," to our consolidated financial statements included in Item 8 of this report for additional information regarding these 2016 and 2015 items. The 2012 results include a \$26.4 million loss on early extinguishment of debt in connection with a redemption and repurchase of our \$520.0 million previously outstanding senior secured notes and a benefit for income taxes of \$1.9 million primarily due to a decrease in unrecognized tax benefits of \$52.4 million (net of interest and penalties of \$29.3 million) resulting from expiring statute of limitation periods related to a historical Canadian debt restructuring transaction.

(2) We issued 6.9 million shares of our common stock in December 2012 upon the closing of a public offering for aggregate net proceeds of \$369.3 million.

(3) The following is a reconciliation of net (loss) income to Adjusted EBITDA for the following periods (in thousands):

	For the Year Ended December 31,				
	2016	2015	2014	2013	2012
Net (loss) income	\$ (39,873)	\$ 44,102	\$ (28,328)	\$ 95,566	\$ 129,674
Accretion of environmental liabilities	10,177	10,402	10,612	11,541	9,917
Depreciation and amortization	287,002	274,194	276,083	264,449	161,646
Goodwill impairment charges	34,013	31,992	123,414	—	—
Other (income) expense, net	(6,195)	1,380	(4,380)	(1,705)	802
Loss on early extinguishment of debt	—	—	—	—	26,385
Gain on sale of business	(16,884)	—	—	—	—
Interest expense, net	83,525	76,553	77,668	78,376	47,287
Pre-tax, non-cash acquisition accounting inventory adjustments	—	—	—	13,559	—
Provision (benefit) for income taxes	48,589	65,544	66,850	48,319	(1,944)
Adjusted EBITDA	\$ 400,354	\$ 504,167	\$ 521,919	\$ 510,105	\$ 373,767

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

We are North America's leading provider of environmental, energy and industrial services. We believe we operate, in the aggregate, the largest number of hazardous waste incinerators, landfills, treatment facilities and TSDFs in North America. We serve a diverse customer base, including a majority of the Fortune 500, across the chemical, energy, manufacturing and additional markets, as well as numerous government agencies. These customers rely on us to deliver a broad range of services including but not limited to end-to-end hazardous waste management, emergency spill response, industrial cleaning and maintenance, and recycling services. We are also the largest re-refiner and recycler of used oil in the world and the largest provider of parts cleaning and related environmental services to commercial, industrial and automotive customers in North America.

During the fourth quarter of 2016, we changed the manner in which we manage our business, make operating decisions and assess our performance. These changes included combining the Safety-Kleen Environmental Services business and Kleen Performance Products business as a single operating segment called "Safety-Kleen," moving the Production Services business, previously included in our Oil and Gas Field Services operating segment, into our Industrial Services operating segment, and reassigning certain departments among our operating segments in line with management reporting changes. In addition, for purposes of segment disclosure within Note 18, "Segment Reporting," to our consolidated financial statements included in Item 8 of this report, we combined the Oil and Gas Field Services and Lodging Services operating segments under the heading "Oil, Gas and Lodging Services," as those individual operating segments do not meet the quantitative thresholds for separate disclosure.

We believe that this new organizational structure aligns our businesses for growth and efficiency. The amounts presented for all periods herein have been recast to reflect the impact of such changes. Our operations are now managed in six operating segments based primarily upon the nature of the various operations and services provided: Technical Services, Industrial Services, Field Services, Safety-Kleen, Oil and Gas Field Services, and Lodging Services.

Performance of our segments is evaluated on several factors of which the primary financial measure is Adjusted EBITDA as described more fully below. The following is a discussion of how management evaluates its segments in regards to other factors including key performance indicators that management uses to assess the segments' results, as well as certain macroeconomic trends and influences that impact each reportable segment:

- **Technical Services** - Technical Services segment results are predicated upon the demand by our customers for waste services directly attributable to waste volumes generated by them and project work contracted by our Technical Services segment and/or other segments for which waste handling and/or disposal is required. In managing the business and evaluating performance, management tracks the volumes of waste handled and disposed of through our owned incinerators and landfills as well as the utilization of such incinerators. Levels of activity and ultimate performance associated with this segment can be impacted by inherent seasonality in the business and weather conditions, market conditions and overall levels of industrial activity, efficiency of our operations, competition and market pricing of our services and the management of our related operating costs.
- **Industrial and Field Services** - Industrial and Field Services segment results are impacted by the demand for planned and unplanned industrial related cleaning and maintenance services at customer sites and the requirement for environmental cleanup services on a scheduled or emergency basis, including response to national events such as major oil spills, natural disasters or other events where immediate and specialized services are pertinent. Management considers the number of plant sites where services are contracted and expected site turnaround schedules to be indicators of the business' performance along with the existence of local or national events.
- **Safety-Kleen** - Safety-Kleen segment results are significantly impacted by the overall market pricing and product mix associated with base and blended oil products and, more specifically, the market prices of Group II base oils, which historically have correlated with overall crude oil prices. Costs incurred in connection with the collection of used oils, which are raw materials associated with the segment's products, can also be volatile. Starting in 2015, we began charging for collection of used oils, which has allowed us to more effectively manage the profit spreads inherent in the business. The implementation of our OilPlus™ closed loop initiative resulting in the sale of our renewable oil products directly to our end customers will also impact future operating results. In addition, this segment's results are also impacted by the number of parts washers serviced by the business and the ability to attract small quantity waste producers as customers and integrate them into the Clean Harbors waste network.

[Table Of Contents](#)

- **Oil, Gas and Lodging Services** - Oil, Gas and Lodging Services segment results are dependent upon levels of oil and gas related exploration, drilling and refining activity in North America. The levels of such exploration, drilling and refining activity are largely dependent upon the number of oil rigs in operation, which also drives the demand and related pricing for lodging and camp accommodations. In addition, global and North American Crude oil prices on which such activity levels are strongly predicated have significantly declined since a high of \$106.57 in 2013 to a low of \$30.32 in 2016. This oil price volatility and future price uncertainty has resulted in lower customer spending and activity levels which have negatively impacted the business' results. To mitigate the decrease in demand experienced in the manufacturing operation of our lodging business, we have targeted more non-traditional markets such as schools, hospitals, and other municipal structures to offer our modular unit accommodations and related services. The majority of the segment's operations are in Canada, and therefore the impact of US to Canadian dollar foreign currency translation also significantly impacts the segment's results.

Highlights

Total revenues for 2016 were \$2.76 billion, compared with \$3.28 billion in 2015. Decreases in total revenues were primarily related to lower levels of emergency response projects, continued weakness in crude oil markets which significantly and negatively impacted our business activity in Western Canada, reductions in commodity pricing, weakening of the Canadian dollar and an overall slowdown in industrial production. Direct revenues recorded by Safety-Kleen increased in 2016 as compared to 2015 primarily due to our recent acquisitions and increased revenues from used oil collection resulting from the successful management of our charge-for-oil program. The weakening Canadian dollar and related effects of foreign currency translation on our Canadian business operations also negatively impacted direct revenues by approximately \$20.0 million in 2016 as compared to 2015. Changes in segment revenues are more fully described in our Segment Performance section below.

We reported income from operations in 2016 of \$69.2 million, compared with \$187.6 million in 2015. We reported a net loss in 2016 of \$39.9 million, compared to net income of \$44.1 million in 2015. Net loss in 2016 included a \$34.0 million goodwill impairment charge recorded on our Lodging Services reporting unit and a \$16.9 million pre-tax gain on the sale of a non-core line of business within our Industrial and Field Services segment. Net income in 2015 included a \$32.0 million goodwill impairment charge recorded on our Oil and Gas Field Services reporting unit. Adjusted EBITDA, which is the primary financial measure by which our segments are evaluated, decreased to \$400.4 million for 2016 from \$504.2 million for 2015. The decreased levels of Adjusted EBITDA in 2016 was attributable to lower revenue amounts as described above, partially offset by significant cost reduction initiatives we successfully undertook in fiscal year 2016. Additional information, including a reconciliation of Adjusted EBITDA to net (loss) income, appears below under the heading "*Adjusted EBITDA.*"

[Table Of Contents](#)

Segment Performance

The primary financial measure by which we evaluate the performance of our segments is Adjusted EBITDA. The following table sets forth certain financial information associated with our results of operations for the years ended December 31, 2016, 2015 and 2014.

	Summary of Operations (in thousands)							
	Year Ended December 31,			2016 over 2015		2015 over 2014		
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change	
Direct Revenues⁽¹⁾:								
Technical Services	\$ 1,056,735	\$ 1,139,080	\$ 1,205,383	\$ (82,345)	(7.2)%	\$ (66,303)	(5.5)%	
Industrial and Field Services	582,215	989,953	749,096	(407,738)	(41.2)	240,857	32.2	
Safety-Kleen	996,083	941,689	1,079,462	54,394	5.8	(137,773)	(12.8)	
Oil, Gas and Lodging Services	119,883	207,139	373,275	(87,256)	(42.1)	(166,136)	(44.5)	
Corporate Items	310	(2,724)	(5,580)	3,034	111.4	2,856	51.2	
Total	2,755,226	3,275,137	3,401,636	(519,911)	(15.9)	(126,499)	(3.7)	
Cost of Revenues⁽²⁾:								
Technical Services	710,338	769,625	791,824	(59,287)	(7.7)	(22,199)	(2.8)	
Industrial and Field Services	468,603	762,992	592,535	(294,389)	(38.6)	170,457	28.8	
Safety-Kleen	645,275	649,317	788,717	(4,042)	(0.6)	(139,400)	(17.7)	
Oil, Gas and Lodging Services	108,688	174,272	259,596	(65,584)	(37.6)	(85,324)	(32.9)	
Corporate Items	(47)	600	9,124	(647)	(107.8)	(8,524)	(93.4)	
Total	1,932,857	2,356,806	2,441,796	(423,949)	(18.0)	(84,990)	(3.5)	
Selling, General and Administrative Expenses:								
Technical Services	75,221	77,718	85,429	(2,497)	(3.2)	(7,711)	(9.0)	
Industrial and Field Services	62,421	65,514	58,295	(3,093)	(4.7)	7,219	12.4	
Safety-Kleen	131,262	120,110	125,198	11,152	9.3	(5,088)	(4.1)	
Oil, Gas and Lodging Services	14,487	21,163	22,802	(6,676)	(31.5)	(1,639)	(7.2)	
Corporate Items	138,624	129,659	146,197	8,965	6.9	(16,538)	(11.3)	
Total	422,015	414,164	437,921	7,851	1.9	(23,757)	(5.4)	
Adjusted EBITDA								
Technical Services	271,176	291,737	328,130	(20,561)	(7.0)	(36,393)	(11.1)	
Industrial and Field Services	51,191	161,447	98,266	(110,256)	(68.3)	63,181	64.3	
Safety-Kleen	219,546	172,262	165,547	47,284	27.4	6,715	4.1	
Oil, Gas and Lodging Services	(3,292)	11,704	90,877	(14,996)	(128.1)	(79,173)	(87.1)	
Corporate Items	(138,267)	(132,983)	(160,901)	(5,284)	(4.0)	27,918	17.4	
Total	\$ 400,354	\$ 504,167	\$ 521,919	\$ (103,813)	(20.6)%	\$ (17,752)	(3.4)%	

(1) Direct revenue is revenue allocated to the segment performing the provided service.

(2) Cost of revenue is shown exclusive of items presented separately on the statements of operations, which consist of (i) accretion of environmental liabilities and (ii) depreciation and amortization.

Direct Revenues

There are many factors which have impacted and continue to impact our revenues. These factors include, but are not limited to: overall industrial activity, general conditions of the energy related industries, competitive industry pricing, the effects of fuel prices on our fuel recovery fees, acquisitions, the level of emergency response projects and foreign currency translation.

Technical Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Direct revenues	\$ 1,056,735	\$ 1,139,080	\$ 1,205,383	\$ (82,345)	(7.2)%	\$ (66,303)	(5.5)%

Technical Services direct revenues for the year ended December 31, 2016 decreased \$82.3 million from the comparable period in 2015 primarily due to decreased revenues associated with our waste disposal services whereby waste is disposed of through our incinerator and landfill facilities network. This direct revenue decrease was impacted by lower waste volumes in our landfills, which decreased 34% primarily due to lower industrial and energy related waste streams, as well as project deferrals and lower customer spending related to waste projects and remediation activities. The utilization rate at our incinerators was 88.8% for the year ended December 31, 2016, compared with 90.9% in the comparable period of 2015. The decrease in utilization rate was primarily due to waste streams as discussed above, and a greater number of turnaround days at our incinerator facilities in 2016.

Technical Services direct revenues for the year ended December 31, 2015 decreased \$66.3 million from the comparable period in 2014 primarily due to decreased revenues associated with our waste disposal services whereby waste is disposed of through our incinerator and landfill facilities network. This direct revenue decrease was impacted by lower waste volumes disposed of in our landfills, which decreased 28.6% primarily due to lower oil and gas production waste streams and project delays. Pricing attributable to our recycled products and fuel recovery revenues was also negatively impacted by overall lower market rates. The utilization rate at our incinerators was 90.9% for year ended December 31, 2015, compared with 91.2% in the comparable period of 2014.

Industrial and Field Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Direct revenues	\$ 582,215	\$ 989,953	\$ 749,096	\$ (407,738)	(41.2)%	\$ 240,857	32.2%

Industrial and Field Services direct revenues for the year ended December 31, 2016 decreased \$407.7 million from the comparable period in 2015. The decrease was primarily due to the large emergency response projects associated with our Field Services business in 2015 which did not reoccur in 2016. Those large emergency response projects accounted for revenues of \$313.8 million in 2015. In addition, for the year ended December 31, 2016, lower activity levels and pricing pressures across North America reduced customer spending on maintenance and turnaround projects, resulting in a decrease in revenues of \$98.1 million from the comparable period in 2015. Inclusive in the year-over-year changes within this segment was the negative impact of foreign currency translation on our Canadian operations of approximately \$7.5 million for the year ended December 31, 2016 from the comparable period in 2015.

Industrial and Field Services direct revenues for the year ended December 31, 2015 increased \$240.9 million from the comparable period in 2014. The increase was primarily due to revenues associated with our Field Services business, which included large emergency response service projects in 2015 which did not occur in 2014. Those large emergency response projects accounted for revenues of \$313.8 million in 2015. The significant level of emergency response projects during 2015 included services primarily in response to outbreaks of avian flu and oil spill related incidents. This increase was offset by \$72.9 million which was primarily related to lower activity levels and pricing pressures across North America resulting in reduced customer spending on maintenance and turnaround projects in the year ended December 31, 2015 from the comparable period in 2014. Inclusive in the year-over-year changes within this segment was also the negative impact of foreign currency translation on our Canadian operations of approximately \$31.8 million as a result of the weakening Canadian dollar in the year ended December 31, 2015 from the comparable period in 2014.

[Table Of Contents](#)

Safety-Kleen

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Direct revenues	\$ 996,083	\$ 941,689	\$ 1,079,462	\$ 54,394	5.8%	\$ (137,773)	(12.8)%

Safety-Kleen direct revenues for the year ended December 31, 2016 increased \$54.4 million from the comparable period in 2015. This increase was derived from acquisitions which accounted for \$72.9 million of incremental revenue and a continued shift from a pay-for-oil to a charge-for-oil program which began in 2015 and accounted for \$56.6 million of incremental revenue in 2016. These items were partially offset by decreases in base and blended oil pricing, which accounted for a \$73.0 million decrease to direct revenues in the year ended December 31, 2016 from the comparable period in 2015. Inclusive in the year-over-year changes within the Safety-Kleen segment was also the negative impact of foreign currency translation on our Canadian operations of approximately \$4.6 million in the year ended December 31, 2016 from the comparable period in 2015.

Safety-Kleen direct revenues for the year ended December 31, 2015 decreased \$137.8 million from the comparable period in 2014 primarily due to a decrease in base and blended pricing of \$134.1 million. Inclusive in the year-over-year changes within this segment was also the negative impact of foreign currency translation on our Canadian operations of approximately \$19.6 million as a result of the weakening Canadian dollar in the year ended December 31, 2015 from the comparable period in 2014.

Oil, Gas and Lodging Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Direct revenues	\$ 119,883	\$ 207,139	\$ 373,275	\$ (87,256)	(42.1)%	\$ (166,136)	(44.5)%

Oil, Gas and Lodging Services direct revenues for the year ended December 31, 2016 decreased \$87.3 million from the comparable period in 2015 primarily due to lower pricing, business activity and rig counts serviced consistent with overall market conditions. Lower exploration budgets of our customers, project cancellations, and reduced customer spending also negatively impacted results in 2016. Rig count serviced decreased approximately 40% for the year ended December 31, 2016 from the comparable period in 2015. Inclusive in the year-over-year changes within this segment was also the negative impact of foreign currency translation on our Canadian operations of approximately \$3.5 million for the year ended December 31, 2016 from the comparable period in 2015.

Oil, Gas and Lodging Services direct revenues for the year ended December 31, 2015 decreased \$166.1 million from the comparable period in 2014 primarily due to decreases in the occupancy rates at our fixed lodges, business activity and rig counts serviced consistent with overall market conditions. Occupancy rates at our primary fixed lodges for the year ended December 31, 2015 were 33%, compared to 61% in the comparable period in 2014. Rig count serviced by our Oil and Gas Field Services segment decreased approximately 32% in the year ended December 31, 2015 from the comparable period in 2014. Inclusive in the year-over-year changes within this segment was also the negative impact of foreign currency translation on our Canadian operations of approximately \$23.5 million as a result of the weakening Canadian dollar in the year ended December 31, 2015 from the comparable period in 2014.

Cost of Revenues

We believe that our ability to manage operating costs is important to our ability to remain price competitive. We continue to upgrade the quality and efficiency of our services through the development of new technology and continued modifications at our facilities, and implementation of strategic sourcing and logistics solutions as well as other cost reduction initiatives in an effort to improve our operating margins.

Technical Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Cost of revenues	\$ 710,338	\$ 769,625	\$ 791,824	\$ (59,287)	(7.7)%	\$ (22,199)	(2.8)%
As a % of Direct Revenue	67.2%	67.6%	65.7%		(0.4)%		1.9 %

[Table Of Contents](#)

Technical Services cost of revenues for the year ended December 31, 2016 decreased \$59.3 million from the comparable period in 2015 primarily due to lower overall activity levels. Specific cost reductions included decreases in equipment and supply costs of \$25.0 million, labor and transportation related cost of \$23.6 million, and \$10.7 million of costs spread across multiple expense categories. As a percentage of direct revenue, our costs remained consistent for the year ended December 31, 2016 as compared to 2015.

Technical Services cost of revenues for the year ended December 31, 2015 decreased \$22.2 million from the comparable period in 2014 primarily due to decreases in transportation related costs of \$22.5 million. As a percentage of direct revenue, our costs increased 1.9% for the year ended December 31, 2015 as compared to 2014, primarily due to lower revenue levels associated with higher margin businesses such as landfills in 2015.

Industrial and Field Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Cost of revenues	\$ 468,603	\$ 762,992	\$ 592,535	\$ (294,389)	(38.6)%	\$ 170,457	28.8 %
As a % of Direct Revenue	80.5%	77.1%	79.1%		3.4 %		(2.0)%

Industrial and Field Services cost of revenues for the year ended December 31, 2016 decreased \$294.4 million from the comparable period in 2015 primarily due to the costs associated with large emergency response projects which did not reoccur in 2016. Costs of revenues as a percentage of direct revenue increased 3.4% for the year ended December 31, 2016 from the comparable period in 2015. The increase as a percentage of direct revenue was primarily attributable to the lack of large emergency response projects in 2016. When such large projects occur, the business is able to greater leverage its costs structure, resulting in higher profit margins.

Industrial and Field Services cost of revenues for the year ended December 31, 2015 increased \$170.5 million from the comparable period in 2014 primarily due to the costs associated with large scale emergency response projects which did not occur in 2014. Costs of revenues as a percentage of direct revenue decreased 2.0% for the year ended December 31, 2015 from the comparable period in 2014 primarily due to the increased overall revenue levels experienced during 2015, which outpaced increases in cost structure, as well as improved margin on emergency response and unplanned turnaround projects in our Industrial and Field Services business.

Safety-Kleen

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Cost of revenues	\$ 645,275	\$ 649,317	\$ 788,717	\$ (4,042)	(0.6)%	\$ (139,400)	(17.7)%
As a % of Direct Revenue	64.8%	69.0%	73.1%		(4.2)%		(4.1)%

Safety-Kleen cost of revenues for the year ended December 31, 2016 decreased \$4.0 million from the comparable period in 2015 primarily due to decreased costs of used oil inventory consumed during 2016. During 2015, the segment recognized \$27.1 million of charges for high-priced inventory relating to used oil collected prior to the full implementation of our charge-for-oil program which did not reoccur in 2016. This decrease was partially offset by increased labor related costs of \$21.6 million primarily related to our recent acquisitions and implementation of the closed loop initiative. As a percentage of direct revenue, these costs decreased 4.2% in the year ended December 31, 2016 from the comparable period in 2015 primarily due to successful management of our charge-for-oil program.

Safety-Kleen cost of revenues for the year ended December 31, 2015 decreased \$139.4 million from the comparable period in 2014 primarily due to decreases in costs attributable to used oil collections in the amounts of \$176.9 million. This cost reduction was partially offset by the increased cost of used oil inventory consumed during 2015. During 2015, the segment recognized charges for high priced inventory relating to used oil collected, which increased \$32.0 million in 2015 from 2014. As a percentage of direct revenue, this cost decreased 4.1% in the year ended December 31, 2015 from 2014. The improved margins were most significantly impacted by the lower used oil collection costs implemented in 2015.

[Table Of Contents](#)*Oil, Gas and Lodging Services*

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Cost of revenues	\$ 108,688	\$ 174,272	\$ 259,596	\$ (65,584)	(37.6)%	\$ (85,324)	(32.9)%
As a % of Direct Revenue	90.7%	84.1%	69.5%		6.6 %		14.6 %

Oil, Gas and Lodging Services cost of revenues for the year ended December 31, 2016 decreased \$65.6 million from the comparable period in 2015. This change was primarily due to decreases in labor and equipment related costs of \$48.4 million and catering and material costs of \$13.8 million during the year ended December 31, 2016 from the comparable period in 2015. These decreases were the result of overall lower demand for our services as overall activity in the regions in which this business operates declined. As a percentage of direct revenue, these costs increased 6.6% in the year ended December 31, 2016 from the comparable period in 2015, as certain fixed costs incurred in the operations of these businesses could not be reduced proportionately to the pricing and activity declines which occurred.

Oil, Gas and Lodging Services cost of revenues for the year ended December 31, 2015 decreased \$85.3 million from the comparable period in 2014. This change was primarily due to decreases in labor and equipment related costs of \$57.9 million and catering and material costs of \$21.8 million during the year ended December 31, 2015 from the comparable period in 2014. These decreases were the result of overall lower demand for our services as overall activity in the regions in which this business operates declined. As a percentage of direct revenue, these costs increased 14.6% as certain fixed costs incurred in the operations of these businesses could not be reduced proportionate to the pricing and activity declines which occurred.

Selling, General and Administrative Expenses

Selling, General and Administrative expenses represent costs incurred in aspects of our business which are not directly attributable to the sale of our services and/or products. We strive to manage such costs commensurate with the overall performance of our segments and corresponding revenue levels. We believe that our ability to properly align these costs with overall business performance is reflective of our strong management of the businesses and further promotes our ability to remain competitive in the marketplace.

Technical Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
SG&A	\$ 75,221	\$ 77,718	\$ 85,429	\$ (2,497)	(3.2)%	\$ (7,711)	(9.0)%
As a % of Direct Revenue	7.1%	6.8%	7.1%		0.3 %		(0.3)%

Technical Services selling, general and administrative expenses for the year ended December 31, 2016 decreased \$2.5 million from the comparable period in 2015 primarily due to a decrease in variable compensation of \$2.1 million. As a percentage of direct revenue, our costs remained consistent for the year ended December 31, 2016 as compared to 2015.

Technical Services selling, general and administrative expenses for the year ended December 31, 2015 decreased \$7.7 million from the comparable period in 2014 primarily due to decreases in variable compensation of \$2.7 million and changes in estimates for environmental liabilities of \$3.6 million which did not reoccur in 2015. As a percentage of direct revenue, our costs remained consistent for the year ended December 31, 2015 as compared to 2014.

Industrial and Field Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
SG&A	\$ 62,421	\$ 65,514	\$ 58,295	\$ (3,093)	(4.7)%	\$ 7,219	12.4 %
As a % of Direct Revenue	10.7%	6.6%	7.8%		4.1 %		(1.2)%

Industrial and Field Services selling, general and administrative expenses for the year ended December 31, 2016 decreased \$3.1 million from the comparable period in 2015 primarily due to decreases in professional fees and variable compensation of approximately \$2.5 million. As a percentage of direct revenue, selling, general and administrative expenses increased 4.1% in the year ended December 31, 2016 from the comparable period in 2015 primarily due to the decreased overall revenue level experienced during 2016.

[Table Of Contents](#)

Industrial and Field Services selling, general and administrative expenses for the year ended December 31, 2015 increased \$7.2 million from the comparable period in 2014 primarily due to increases in professional fees and marketing costs of \$3.9 million and \$3.3 million spread across multiple expense categories. As a percentage of direct revenue, selling, general and administrative expense decreased 1.2% in the year ended December 31, 2015 from the comparable period in 2014 primarily due to the increased revenue attributable to this segment which was achieved without significant incremental SG&A related costs.

Safety-Kleen

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
SG&A	\$ 131,262	\$ 120,110	\$ 125,198	\$ 11,152	9.3%	\$ (5,088)	(4.1)%
As a % of Direct Revenue	13.2%	12.8%	11.6%		0.4%		1.2 %

Safety-Kleen selling, general and administrative expenses for the year ended December 31, 2016 increased \$11.2 million from the comparable period in 2015 primarily due to increases in labor related costs of \$6.3 million as a result of our recent acquisitions and changes in estimates for environmental liabilities of \$2.3 million which did not reoccur in 2016. As a percentage of direct revenue, our costs remained consistent for the year ended December 31, 2016 as compared to 2015.

Safety-Kleen selling, general and administrative expenses for the year ended December 31, 2015 decreased \$5.1 million from the comparable period in 2014 primarily due to decreases in marketing costs of \$4.8 million. As a percentage of direct revenue, our costs increased 1.2% primarily due to the decreased revenue levels experienced during 2015 which outpaced decreases in SG&A expenses.

Oil, Gas and Lodging Services

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
SG&A	\$ 14,487	\$ 21,163	\$ 22,802	\$ (6,676)	(31.5)%	\$ (1,639)	(7.2)%
As a % of Direct Revenue	12.1%	10.2%	6.1%		1.9 %		4.1 %

Oil, Gas and Lodging Services selling, general and administrative expenses for the year ended December 31, 2016 decreased \$6.7 million from the comparable period in 2015 primarily due to decreases in labor related costs of \$4.0 million and legal costs of \$1.3 million. As a percentage of direct revenue, selling, general and administrative expenses increased 1.9% in the year ended December 31, 2016 from the comparable period in 2015 as a result of lower overall revenues.

Oil, Gas and Lodging Services selling, general and administrative expenses for the year ended December 31, 2015 decreased \$1.6 million from the comparable period in 2014 primarily due to decreases in salaries and benefits of \$3.1 million partially offset by an increase in professional fees of \$1.0 million. As a percentage of direct revenue, selling, general and administrative expenses increased 4.1% in the year ended December 31, 2015 from the comparable period in 2014 as a result of lower overall revenues which outpaced decreases in SG&A expenses.

Corporate Items

	For the years ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
SG&A	\$ 138,624	\$ 129,659	\$ 146,197	\$ 8,965	6.9%	\$ (16,538)	(11.3)%

Corporate Items selling, general and administrative expenses for the year ended December 31, 2016 increased \$9.0 million from the comparable period in 2015 primarily due to an increase in severance related costs of \$7.0 million and changes in estimates for environmental liabilities of \$6.9 million which did not reoccur in 2015. These negative impacts on a year-over-year basis were partially offset by decreases in labor related costs of \$5.4 million related to cost saving initiatives implemented throughout the year.

Corporate Items selling, general and administrative expenses for the year ended December 31, 2015 decreased \$16.5 million from the comparable period in 2014 primarily due to decreases in variable compensation and related payroll taxes of \$11.7 million and labor related costs of \$3.0 million.

Adjusted EBITDA

Management considers Adjusted EBITDA to be a measurement of performance which provides useful information to both management and investors. Adjusted EBITDA should not be considered an alternative to net income or other measurements under generally accepted accounting principles ("GAAP"). Adjusted EBITDA is not calculated identically by all companies and, therefore our measurements of Adjusted EBITDA may not be comparable to similarly titled measures reported by other companies.

We use Adjusted EBITDA to enhance our understanding of our operating performance, which represents our views concerning our performance in the ordinary, ongoing and customary course of our operations. We historically have found it helpful, and believe that investors have found it helpful, to consider an operating measure that excludes certain expenses relating to transactions not reflective of our core operations.

The information about our operating performance provided by this financial measure is used by our management for a variety of purposes. We regularly communicate Adjusted EBITDA results to our lenders and to our board of directors and discuss with the board our interpretation of such results. We also compare our Adjusted EBITDA performance against internal targets as a key factor in determining cash bonus compensation for executives and other employees, largely because we believe that this measure is indicative of how the fundamental business is performing and is being managed.

We also provide information relating to our Adjusted EBITDA so that analysts, investors and other interested persons have the same data that we use to assess our core operating performance. We believe that Adjusted EBITDA should be viewed only as a supplement to the GAAP financial information. We also believe, however, that providing this information in addition to, and together with, GAAP financial information permits the foregoing persons to obtain a better understanding of our core operating performance and to evaluate the efficacy of the methodology and information used by management to evaluate and measure such performance on a standalone and a comparative basis.

The following is a reconciliation of net (loss) income to Adjusted EBITDA for the following periods (in thousands):

	Year Ended December 31,		
	2016	2015	2014
Net (loss) income	\$ (39,873)	\$ 44,102	\$ (28,328)
Accretion of environmental liabilities	10,177	10,402	10,612
Depreciation and amortization	287,002	274,194	276,083
Goodwill impairment charges	34,013	31,992	123,414
Other (income) expense, net	(6,195)	1,380	(4,380)
Gain on sale of business	(16,884)	—	—
Interest expense, net	83,525	76,553	77,668
Provision for income taxes	48,589	65,544	66,850
Adjusted EBITDA	\$ 400,354	\$ 504,167	\$ 521,919

Depreciation and Amortization

(in thousands)	Year Ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Depreciation of fixed assets and landfill amortization	\$ 246,960	\$ 233,998	\$ 239,410	\$ 12,962	5.5 %	\$ (5,412)	(2.3)%
Permits and other intangibles amortization	40,042	40,196	36,673	(154)	(0.4)%	3,523	9.6 %
Total depreciation and amortization	\$ 287,002	\$ 274,194	\$ 276,083	\$ 12,808	4.7 %	\$ (1,889)	(0.7)%

Depreciation and amortization increased \$12.8 million for the year ended December 31, 2016 from the comparable period in 2015 primarily due to a larger fixed asset base resulting from our recent acquisitions.

Depreciation of fixed assets and landfill amortization decreased \$5.4 million for the year ended December 31, 2015 from the comparable period in 2014 primarily due to lower landfill volumes generated in the year ended December 31, 2015 which resulted in \$2.9 million of lower amortization in those periods. Permits and other intangibles amortization increased \$3.5 million for the year ended December 31, 2015 from the comparable period in 2015 primarily due to an increased intangible base as a result of our acquisition of TFI in April 2015.

Goodwill impairment charges

(in thousands)	Year Ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Goodwill impairment charges	\$ 34,013	\$ 31,992	\$ 123,414	\$ 2,021	6.3%	\$ (91,422)	74.1%

During the year ended December 31, 2016, we recorded a \$34.0 million goodwill impairment charge in our Lodging Services reporting unit. During the year ended December 31, 2015, we recorded a \$32.0 million goodwill impairment charge in our Oil and Gas Field Services reporting unit. During the year ended December 31, 2014, we recorded a \$123.4 million goodwill impairment charge in our Kleen Performance Products reporting unit. For additional information regarding our 2016 and 2015 goodwill impairment charges, see Note 7 under item 8, "Financial Statements and Supplementary Data," under the heading "Goodwill and Other Intangible Assets" and the discussion under the goodwill heading within our "Critical Accounting Policies and Estimates" below.

Gain on sale of business

(in thousands)	Year Ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Gain on sale of business	\$ 16,884	\$ —	\$ —	16,884	100%	\$ —	—%

During the year ended December 31, 2016, we recorded a \$16.9 million gain on the sale of a non-core line of business within our Industrial and Field Services segment. For additional information regarding this gain on sale of business, see Note 4, under item 8, "Financial Statements and Supplementary Data" under the heading "Disposition of Business."

Other Income (Expense), net

(in thousands)	Year Ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Other income (expense), net	\$ 6,195	\$ (1,380)	\$ 4,380	\$ 7,575	(548.9)%	\$ (5,760)	(131.5)%

Other income (expense), net increased \$7.6 million for the year ended December 31, 2016 as compared to 2015 primarily due to gains recognized on sales of fixed assets. For the year ended December 31, 2015, other income (expense), net decreased \$5.8 million from the comparable period in 2014 primarily due to losses recognized on sales of fixed assets which occurred in 2015 and 2014 gains on the sale of investments which did not reoccur in 2015.

Provision for Income Taxes

(in thousands)	Year Ended December 31,			2016 over 2015		2015 over 2014	
	2016	2015	2014	\$ Change	% Change	\$ Change	% Change
Provision for income taxes	\$ 48,589	\$ 65,544	\$ 66,850	\$ (16,955)	(25.9)%	\$ (1,306)	(2.0)%

The income tax provision for the year ended December 31, 2016 decreased \$17.0 million from the comparable period in 2015 primarily due to lower earnings in the United States. The effective tax rate for the years ended December 31, 2016 and 2015 was 557.5% and 59.8% respectively. The variation in the effective income tax rates for the year ended December 31, 2016 as compared to a more customary relationship between pre-tax income and the provision for income taxes, was primarily due to the recognition of a \$12.9 million valuation allowance related to net operating loss carryforwards generated by certain Canadian subsidiaries in 2016, as well as an additional \$9.7 million valuation allowance recorded as a result of a change in the likelihood of realizing benefit from foreign tax credits and other net deferred tax assets. Additionally the \$34.0 million goodwill impairment charge in our Lodging Services reporting unit recorded in 2016 is a non-deductible tax item and therefore no tax benefit was recorded on this loss and further caused the 2016 effective tax rate to vary from a more typical relationship between income before taxes and the recorded provision for income taxes. The 2015 provision and related effective rate was also impacted by the \$32.0 million goodwill impairment charge in our Oil and Gas Field Services reporting unit for which a \$2.0 million tax benefit was recorded. The income tax provision remained consistent over the year ended December 31, 2015 from the comparable period in 2014.

Liquidity and Capital Resources

(in thousands)	For the years ended December 31,		
	2016	2015	2014
Net cash from operating activities	\$ 259,624	\$ 396,383	\$ 297,366
Net cash used in investing activities	(361,777)	(350,642)	(258,294)
Net cash from (used in) financing activities	220,235	(90,179)	(93,945)

Net cash from operating activities

Net cash from operating activities for the year ended December 31, 2016 was \$259.6 million, a decrease of \$136.8 million compared with net cash from operating activities for the year ended December 31, 2015. The change primarily resulted from lower income generated in 2016 and the impacts of changes in net working capital related to increases in inventory as a result of our closed loop initiative, as well as decreases to accounts payable as compared to the prior year.

Net cash from operating activities for the year ended December 31, 2015 was \$396.4 million, an increase of \$99.0 million compared with cash from operating activities for the year ended December 31, 2014. The change was primarily the result of improved management of working capital in 2015, more specifically from the timing of accounts receivable collections and decreased levels of inventories and supplies as compared to the prior year.

Net cash used in investing activities

Net cash used in investing activities for the year ended December 31, 2016 was \$361.8 million, an increase of \$11.1 million, compared with cash used in investing activities for the year ended December 31, 2015. The change was primarily driven by an increase in cash paid for acquisitions in 2016 partially offset by proceeds from the sale of a non-core line of business within our Industrial and Field Services segment, increased proceeds from the sales of fixed assets and lower capital expenditures in 2016.

Net cash used in investing activities for the year ended December 31, 2015 was \$350.6 million, an increase of \$92.3 million, compared with cash used in investing activities for the year ended December 31, 2014. The change was primarily driven by an increase in cash paid for acquisitions in 2015 and decrease in proceeds from investment sales that occurred in 2014 and did not reoccur in 2015.

Net cash from (used in) financing activities

Net cash from financing activities for the year ended December 31, 2016 was \$220.2 million, an increase of \$310.4 million, compared with cash used in financing activities for the year ended December 31, 2015. The change was primarily due to the issuance of \$250.0 million in aggregate principal amount of 5.125% senior notes due 2021 which we completed on March 17, 2016, as well as lower repurchases of common stock in 2016 as compared to 2015.

Net cash used in financing activities for the year ended December 31, 2015 was \$90.2 million, an increase of \$3.8 million, compared with net cash used in financing activities for the year ended December 31, 2014. The change was primarily due to a decrease in repurchases of common stock and a reduction in payments on capital leases in 2015 as compared to 2014, partially offset by changes in and from the timing of uncashed checks.

Working Capital

At December 31, 2016, cash and cash equivalents totaled \$307.0 million, compared to \$184.7 million at December 31, 2015. At December 31, 2016, cash and cash equivalents held by foreign subsidiaries totaled \$51.6 million and were readily convertible into other currencies including U.S. dollars. At December 31, 2016, the cash and cash equivalents balance for our U.S. operations was \$255.4 million, and our U.S. operations had net operating cash flows of \$239.2 million for the year ended December 31, 2016. Additionally, we have a \$400.0 million revolving credit facility, of which approximately \$195.2 million was available to borrow at December 31, 2016. Based on the above and our current plans, we believe that our U.S. operations have adequate financial resources to satisfy their liquidity needs without being required to repatriate earnings from foreign subsidiaries. Accordingly, although repatriation to the U.S. of foreign earnings would generally be subject to U.S. income taxation, net of any available foreign tax credits, we have not recorded any deferred tax liability related to such repatriation since we intend to permanently reinvest foreign earnings outside the U.S.

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing, and financing activities. Our primary ongoing cash requirements will be to fund operations, capital expenditures, interest payments and investments in line with our business strategy. We believe our future operating cash flows will be sufficient to meet our future operating and internal investing cash needs as well as any cash needs relating to our stock repurchase program. Furthermore, our existing cash

[Table Of Contents](#)

balances and availability of additional borrowings under our revolving credit facility provide additional potential sources of liquidity should they be required.

Financing Arrangements

The financing arrangements and principal terms of our \$800.0 million principal amount of 5.25% senior unsecured notes due 2020 and \$845.0 million principal amount of 5.125% senior unsecured notes due 2021 which were outstanding at December 31, 2016, and our \$400.0 million revolving credit facility, are discussed further in Note 11, "Financing Arrangements," to our consolidated financial statements included in Item 8 of this report.

As of December 31, 2016, we were in compliance with the covenants of all of our debt agreements, and we believe we will continue to meet such covenants.

Environmental Liabilities

(in thousands)	As of December 31,		2016 over 2015	
	2016	2015	\$ Change	% Change
Closure and post-closure liabilities	\$ 58,331	\$ 56,249	\$ 2,082	3.7 %
Remedial liabilities	128,007	131,992	(3,985)	(3.0)%
Total environmental liabilities	\$ 186,338	\$ 188,241	\$ (1,903)	(1.0)%

Total environmental liabilities as of December 31, 2016 were \$186.3 million, a decrease \$1.9 million compared to the liabilities as of December 31, 2015. This decrease was primarily due to expenditures of \$12.2 million partially offset by accretion of \$10.2 million.

We anticipate our environmental liabilities, substantially all of which we assumed in connection with our acquisitions, will be payable over many years and that cash flow from operations will generally be sufficient to fund the payment of such liabilities when required. However, events not anticipated (such as future changes in environmental laws and regulations) could require that such payments be made earlier or in greater amounts than currently anticipated, which could adversely affect our results of operations, cash flow and financial condition.

During each of 2016, 2015 and 2014, we benefited from reductions in our environmental liabilities due to changes in estimates recorded to the statement of income. The benefits over these years were primarily due to the successful introduction of new technology for remedial activities, favorable results from environmental studies of the on-going remediation, including favorable regulatory approvals, and lower project costs realized by utilizing internal labor and equipment. The principal changes in estimates were from the following items:

In 2016, the net reduction in our environmental liabilities from changes in estimates recorded to the statement of operations was \$4.3 million and primarily related to reduced remedial spending at one of our locations as a result of new technologies and cost savings realized during the completed cell closure at one of our landfills.

In 2015, the net reduction in our environmental liabilities from changes in estimates recorded to the statement of operations was \$11.3 million and primarily related to reductions in the estimates for remedial activities at four locations. Events which occurred during 2015 and resulted in the changes in estimates were attributable to favorable outcomes from negotiations among potentially responsible parties (or "PRPs") in which we participate of \$3.8 million, work performed by external third-party consultants whom we engaged to aid in estimating our future remedial activity costs at certain sites of \$4.7 million, and receiving Provincial approval for a planned expansion of one of our landfills in Canada which will remediate our previously recognized obligations of \$2.5 million.

In 2014, the net reduction in our environmental liabilities from changes in estimates recorded to the statement of operations was \$3.4 million and primarily related to reductions in the estimates associated with future monitoring costs of certain sites and favorable settlement of negotiations among PRPs in which we participate.

[Table Of Contents](#)**Contractual Obligations**

The following table has been included to assist understanding our debt and similar obligations as of December 31, 2016 and our ability to meet such obligations (in thousands):

Contractual Obligations	Total	Payments Due by Period			
		Less than 1 year	1-3 years	4-5 years	After 5 years
Closure, post-closure and remedial liabilities	\$ 478,699	\$ 21,015	\$ 49,402	\$ 33,328	\$ 374,954
Long-term obligations, at par	1,645,000	—	—	1,645,000	—
Interest on long-term obligations	341,768	85,306	170,612	85,850	—
Operating leases	172,335	39,156	57,898	36,171	39,110
Total contractual obligations	\$ 2,637,802	\$ 145,477	\$ 277,912	\$ 1,800,349	\$ 414,064

The undiscounted value of closure, post closure and remedial liabilities of \$478.7 million is equivalent to the present value of \$186.3 million based on discounting of \$188.1 million and the undiscounted remainder of \$104.3 million to be accrued for closure and post-closure liabilities over the remaining site lives.

The following table has been included to assist in understanding our other contractual obligations as of December 31, 2016 and our ability to meet such obligations (in thousands):

Other Commercial Commitments	Total	Payments Due by Period			
		Less than 1 year	1-3 years	4-5 years	After 5 years
Standby letters of credit	\$ 132,597	\$ 132,597	\$ —	\$ —	\$ —

We obtained the standby letters of credit described in the above table primarily as security for financial assurances we have been required to provide to regulatory bodies for our hazardous waste facilities and which would be called only in the event that we fail to satisfy closure, post-closure and other obligations under the permits issued by those regulatory bodies for such licensed facilities. See Note 11, "Financing Arrangements," to our consolidated financial statements included in Item 8 of this report for further discussion of our standby letters of credit and other financing arrangements.

Off-Balance Sheet Arrangements

Except for our obligations under operating leases and letters of credit described above under "Contractual Obligations" and performance obligations incurred in the ordinary course of business, we are not party to any off-balance sheet arrangements involving guarantee, contingency or similar obligations to entities whose financial statements are not consolidated with our results, and that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that would be material to investors in our securities.

Capital Expenditures

We anticipate that 2017 capital spending, net of disposals, will be in the range of \$160.0 million to \$170.0 million. However, changes in environmental regulations could require us to make significant capital expenditures for our facilities and adversely affect our results of operations and cash flow.

Stockholder Matters

On March 13, 2015, our board of directors authorized the repurchase of up to \$300 million of our common stock. We have funded and intend to continue to fund the repurchases through available cash resources. The repurchase program authorizes us to purchase our common stock on the open market from time to time in a manner that complies with applicable U.S. securities laws. The number of shares purchased and the timing of the purchases has depended and will depend on a number of factors including share price, cash required for business plans, trading volume and other conditions. We have no obligation to repurchase stock under this program and may suspend or terminate the program at any time. During the years ended December 31, 2016, 2015 and 2014, we repurchased and retired a total of approximately 0.5 million shares, 1.4 million shares and 2.0 million, respectively, of our common stock for total costs of approximately \$22.2 million, \$73.3 million and \$104.3 million, respectively. Through December 31, 2016, we have repurchased and retired a total of approximately 3.8 million shares of our common stock for approximately \$199.9 million under this program. As of December 31, 2016, an additional \$100.1 million remained available for repurchase of shares under this program.

Critical Accounting Policies and Estimates

The preparation of our financial statements requires us to make estimates and judgments that affect the reported amounts of our assets, liabilities, revenues and expenses, and related disclosures of contingent liabilities. The following are the areas that we believe require the greatest amount of judgments or estimates in the preparation of the financial statements: revenue allowance, allowance for doubtful accounts, accounting for landfills, non-landfill closure and post-closure liabilities, remedial liabilities, goodwill, permits and other intangible assets, insurance accruals, legal matters, and provision for income taxes. Our management reviews critical accounting estimates with the Audit Committee of our Board of Directors on an ongoing basis and as needed prior to the release of our annual financial statements. See also Note 2, "Significant Accounting Policies," to our consolidated financial statements included in Item 8 of this report, which discusses the significant assumptions used in applying our accounting policies.

Revenue Allowance. Due to the nature of our business and the invoices that result from the services we provide, customers may withhold payments and attempt to renegotiate amounts invoiced. In addition, for some of the services we provide, our invoices are based on quotes that can either generate credits or debits when the actual revenue amount is known. Accordingly, based on our industry knowledge and historical trends, we record a revenue allowance. Increases in overall sales volumes and the expansion of our customer base in recent years have also increased the volume of additions and deductions to the allowance during the year, as well as increased the amount of the allowance at the end of the year.

Our revenue allowance is intended to cover the net amount of revenue adjustments that may need to be credited to customers' accounts in future periods. We determine the appropriate total revenue allowance by evaluating the following factors on a customer-by-customer basis as well as on a consolidated level: historical collection trends, age of outstanding receivables, existing economic conditions and other information as deemed applicable. Revenue allowance estimates can differ materially from the actual adjustments, but historically our revenue allowance has been sufficient to cover the net amount of the reserve adjustments recorded in subsequent reporting periods.

Allowance for Doubtful Accounts. We establish an allowance for doubtful accounts to cover accounts receivable that may not be collectible. In establishing the allowance for doubtful accounts, we analyze the collectability of accounts that are large or past due. A considerable amount of judgment is required to make this assessment, based on detailed analysis of the aging of our receivables, the creditworthiness of our customers, our historical bad debts and other adjustments and current economic trends, for instance, seen in the oil and gas markets in Western Canada. Accounts receivable written off in subsequent periods can differ materially from the allowance for doubtful accounts provided, but historically our provision has been adequate.

Landfill Accounting. We amortize landfill improvements and certain landfill-related permits over their estimated useful lives. The units-of-consumption method is used to amortize land, landfill cell construction, asset retirement costs and remaining landfill cells and sites. We also utilize the units-of-consumption method to record closure and post-closure obligations for landfill cells and sites. Under the units-of-consumption method, we include future estimated construction and asset retirement costs, as well as costs incurred to date, in the amortization base of the landfill assets. Additionally, where appropriate, as discussed below, we include probable expansion airspace yet to be permitted in the calculation of the total remaining useful life of the landfill. If we determine that expansion capacity should no longer be considered in calculating the recoverability of a landfill asset, we may be required to recognize an asset impairment or incur significantly higher amortization expense. If at any time we make the decision to abandon the expansion effort, the capitalized costs related to the expansion effort are expensed immediately.

Landfill Assets. Landfill assets include the costs of landfill site acquisition, permits and cell construction incurred to date. These amounts are amortized under the units-of-consumption method such that the asset is completely amortized when the landfill ceases accepting waste.

Landfill Capacity. Landfill capacity, which is the basis for the amortization of landfill assets and for the accrual of final closure and post-closure obligations, represents total permitted airspace plus unpermitted airspace that management believes is probable of ultimately being permitted based on established criteria. Our management applies the following criteria for evaluating the probability of obtaining a permit for future expansion airspace at existing sites, which provides management a basis to evaluate the likelihood of success of unpermitted expansions:

- Personnel are actively working to obtain the permit or permit modifications (land use, state and federal) necessary for expansion of an existing landfill, and progress is being made on the project.
- Management expects to submit the application within the next year and to receive all necessary approvals to accept waste within the next five years.

Table Of Contents

- At the time the expansion is included in management's estimate of the landfill's useful economic life, it is probable that the required approvals will be received within the normal application and processing time periods for approvals in the jurisdiction in which the landfill is located.
- We or the other owner of the landfill has a legal right to use or obtain the right to use the land associated with the expansion plan.
- There are no significant known political, technical, legal or business restrictions or other issues that could impair the success of such expansion.
- A financial feasibility analysis has been completed and the results demonstrate that the expansion will have a positive financial and operational impact such that management is committed to pursuing the expansion.
- Additional airspace and related additional costs, including permitting, final closure and post-closure costs, have been estimated based on the conceptual design of the proposed expansion.

As of December 31, 2016, there were two unpermitted expansions at two locations included in management's landfill calculation, which represented 17.7% of our remaining airspace at that date. If actual expansion airspace is significantly different from management's estimate of expansion airspace, the amortization rates used for the units-of-consumption method would change, therefore impacting our profitability. If we determine that there is less actual expansion airspace at a landfill, this would increase amortization expense recorded and decrease profitability, while if we determine a landfill has more actual expansion airspace, amortization expense would decrease and profitability would increase.

Landfill Final Closure and Post-Closure Liabilities. The balance of landfill final closure and post-closure liabilities at December 31, 2016 and 2015 was \$30.6 million and \$32.0 million, respectively. We have material financial commitments for the costs associated with requirements of the EPA and the comparable regulatory agency in Canada for landfill final closure and post-closure activities. In the United States, the landfill final closure and post-closure requirements are established under the standards of the EPA, and are implemented and applied on a state-by-state basis. We develop estimates for the cost of these activities based on our evaluation of site-specific facts and circumstances, such as the existence of structures and other landfill improvements that would need to be dismantled, the amount of groundwater monitoring and leachate management expected to be performed, and the length of the post-closure period as determined by the applicable regulatory agency. Included in our cost estimates are our interpretation of current regulatory requirements and proposed regulatory changes. Such estimates may change in the future due to various circumstances including, but not limited to, permit modifications, changes in legislation or regulations, technological changes and results of environmental studies. We perform zero-based reviews of these estimated liabilities at least every five years or sooner if the occurrence of a significant event is likely to change the timing or amount of the currently estimated expenditures. We consider a significant event to be a new regulation or an amendment to an existing regulation, a new permit or modification to an existing permit, or a change in the market price of a significant cost item. Our cost estimates are calculated using internal sources as well as input from third-party experts. These costs are measured at estimated fair value using present value techniques, and therefore changes in the estimated timing of closure and post-closure activities would affect the liability, the value of the related asset, and our results of operations.

Final closure costs are the costs incurred after the site ceases to accept waste, but before the landfill is certified as closed by the applicable state or provincial regulatory agency. These costs generally include the costs required to cap the final cell of the landfill (if not included in cell closure), to dismantle certain structures for landfills and other landfill improvements and regulation-mandated groundwater monitoring, and for leachate management. Post-closure costs involve the maintenance and monitoring of a landfill site that has been certified closed by the applicable regulatory agency. These costs generally include groundwater monitoring and leachate management. Regulatory post-closure periods are generally 30 years after landfill closure. Final closure and post-closure obligations are accrued on a units-of-consumption basis, such that the present value of the final closure and post-closure obligations are fully accrued at the date the landfill discontinues accepting waste.

Non-Landfill Closure and Post-Closure Liabilities. The balance of our non-landfill closure and post-closure liabilities at December 31, 2016 and 2015 was \$27.7 million and \$24.2 million, respectively. We base estimates for non-landfill closure and post-closure liabilities on our interpretations of existing permit and regulatory requirements for closure and post-closure maintenance and monitoring. Our cost estimates are calculated using internal sources as well as input from third-party experts. We use probability scenarios to estimate when future operations will cease and inflate the current cost of closing the non-landfill facility on a probability weighted basis using the appropriate inflation rate and then discounting the future value to arrive at an estimated present value of closure and post-closure costs. The estimates for non-landfill closure and post-closure liabilities are inherently uncertain due to the possibility that permit and regulatory requirements will change in the future, impacting the estimation of total costs and the timing of the expenditures. We review non-landfill closure and post-closure liabilities for changes to key assumptions that would impact the amount of the recorded liabilities. Changes that would prompt us to revise a liability estimate include changes in legal requirements that impact our expected closure plan or scope of work, in the market price of a significant cost item, in the probability scenarios as to when future operations at a location might cease, or

[Table Of Contents](#)

in the expected timing of the cost expenditures. Changes in estimates for non-landfill closure and post-closure events immediately impact the required liability and the value of the corresponding asset. If a change is made to a fully-consumed asset, the adjustment is charged immediately to expense. When a change in estimate relates to an asset that has not been fully consumed, the adjustment to the asset is recognized in income prospectively as a component of amortization. Historically, material changes to non-landfill closure and post-closure estimates have been infrequent.

Remedial Liabilities. The balance of our remedial liabilities at December 31, 2016 and 2015 was \$128.0 million and \$132.0 million, respectively. See Note 10, "Remedial Liabilities," to our consolidated financial statements included in Item 8 of this report for the changes to the remedial liabilities during the years ended December 31, 2016 and 2015. Remedial liabilities are obligations to investigate, alleviate and/or eliminate the effects of a release (or threat of a release) of hazardous substances into the environment and may also include corrective action under RCRA. Our remediation obligations can be further characterized as Long-term Maintenance, One-Time Projects, Legal and Superfund. Legal liabilities are typically comprised of litigation matters that involve potential liability for certain aspects of environmental cleanup and can include third-party claims for property damage or bodily injury allegedly arising from or caused by exposure to hazardous substances originating from our activities or operations or, in certain cases, from the actions or inactions of other persons or companies. Superfund liabilities are typically claims alleging that we are a potentially responsible party ("PRP") and/or are potentially liable for environmental response, removal, remediation and cleanup costs at/or from either a facility we own or a site owned by a third-party. As described in Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Item 8 of this report, Superfund liabilities also include certain liabilities payable to governmental entities for which we are potentially liable to reimburse the sellers in connection with our 2002 acquisition of substantially all of the assets of the Chemical Services Division (the "CSD assets") of Safety-Kleen Corp. Long-term Maintenance liabilities include the costs of groundwater monitoring, treatment system operations, permit fees and facility maintenance for inactive operations. One-Time Projects liabilities include the costs necessary to comply with regulatory requirements for the removal or treatment of contaminated materials.

Amounts recorded related to the costs required to remediate a location are determined by internal engineers and operational personnel and incorporate input from external third parties. The estimates consider such factors as the nature and extent of environmental contamination (if any); the terms of applicable permits and agreements with regulatory authorities as to cleanup procedures and whether modifications to such permits and agreements will likely need to be negotiated; the cost of performing anticipated cleanup activities based upon current technology; and in the case of Superfund and other sites where other parties will also be responsible for a portion of the cleanup costs, the likely allocation of such costs and the ability of such other parties to pay their share. Each quarter, our management discusses if any events have occurred or milestones have been met that would warrant the creation of a new remedial liability or the revision of an existing remedial liability. Such events or milestones include identification and verification as a PRP, receipt of a unilateral administrative order under Superfund or requirement for RCRA interim corrective measures, completion of the feasibility study under Superfund or the corrective measures study under RCRA, new or modifications to existing permits, changes in property use, or a change in the market price of a significant cost item. Remedial liabilities are inherently difficult to estimate and there is a risk that the actual quantities of contaminants could differ from the results of the site investigation, which could materially impact the amount of our liability. It is also possible that chosen methods of remedial solutions will not be successful and funds will be required for alternative solutions.

Remedial liabilities are discounted only when the timing of the payments is estimable and the amounts are determinable, with the exception of remedial liabilities assumed as part of an acquisition that are measured at fair value.

We establish reserves for estimated environmental liabilities based on acceptable technologies when we determine the liability is appropriate. Introductions of new technologies are subject to successful demonstration of the effectiveness of the alternative technology and regulatory approval. We routinely review and evaluate the sites for which we have established estimated environmental liabilities reserves to determine if there should be changes in the established reserves. The changes in estimates are reflected as adjustments in the ordinary course of business in the period when we determine that an adjustment is appropriate as new information becomes available. Upon demonstration of the effectiveness of the alternative technology and applicable regulatory approval, we update our estimated cost of remediating the affected sites.

Goodwill and Other Long-Lived Assets. Goodwill is not amortized but is reviewed for impairment annually as of December 31 or when events or changes in the business environment indicate the carrying value of a reporting unit may exceed its fair value. This review is performed by comparing the fair value of each reporting unit to its carrying value, including goodwill. If the fair value is less than the carrying amount, a Step II analysis of the fair value of all the elements of the reporting unit is performed to determine if and to what degree goodwill is impaired. The loss, if any, is measured as the excess of the carrying value of the goodwill over the value of the goodwill implied by the results of the Step II analysis.

[Table Of Contents](#)

We determine our reporting units by identifying the components of each operating segment, and then in some circumstances aggregate components having similar economic characteristics based on quantitative and/or qualitative factors. In the fourth quarter of 2016, we reassigned certain components among our operating segments to be in line with management reporting changes. There were no changes to our reporting units as a result of these changes that impacted goodwill measurement. As of December 31, 2016, we have determined that we have seven reporting units. Technical Services, Industrial Services, Field Services, Kleen Performance Products, SK Environmental Services, Oil and Gas Field Services and Lodging Services, each of which constitutes a reporting unit. As a result of impairment charges recognized in the third quarter of 2016 and second quarter of 2015 discussed more fully below, no goodwill was recorded by the Oil and Gas Field Services reporting unit or the Lodging Services reporting unit as of December 31, 2016.

We conducted our annual impairment test of goodwill for all of our reporting units to which goodwill is allocated as of December 31, 2016 and determined that no adjustment to the carrying value of goodwill for any reporting unit was then necessary. In all cases except for our Industrial Services and Kleen Performance Products reporting units, the estimated fair values of each reporting unit significantly exceeded its carrying value. The annual impairment test fair value for all of our reporting units is determined using an income approach (a discounted cash flow analysis) which incorporates several underlying estimates and assumptions with varying degrees of uncertainty. The discounted cash flow analyses include estimated cash flows for a discrete five year future period and for a terminal period thereafter. In all instances, we corroborate our estimated fair values by also considering other factors such as the fair value of comparable companies to businesses contained in our reporting units. As part of the annual test we also perform a reconciliation of the total estimated fair values of all reporting units to our market capitalization.

In conducting our December 31, 2016 goodwill impairment test, we determined that the estimated fair value of our Kleen Performance Products reporting unit exceeded its carrying value by 15.0%. Significant assumptions included in the discounted cash flow model utilized to estimate the reporting unit's fair value were a compounded annual revenue growth assumption of approximately 8% over a five-year discrete period and 2% thereafter and lower estimated EBITDA margins in the near term, with improvement over the discrete period resulting in estimated margins consistent with historical performance of the business by the end of the discrete period. A weighted average cost of capital assumption equal to 11% was utilized to discount the estimated future cash flows of the business in order to estimate its current fair value. Goodwill allocated to the Kleen Performance Products reporting unit as of December 31, 2016 was \$64.3 million.

In performing the annual goodwill impairment test as of December 31, 2016, the estimated fair value of the Industrial Services reporting unit exceeded its carrying value by 12%. Significant assumptions were used in developing the discounted cash flows utilized to estimate the fair value of the Industrial Services reporting unit. These significant assumptions included a compounded annual revenue growth assumption of approximately 6% over a five-year discrete period with 3% thereafter and lower estimated EBITDA margins in the near term, with improvement over the discrete period resulting in estimated margins consistent with historical performance of the business by the end of the discrete period. A weighted average cost of capital assumption of 10% was used to discount the estimated future cash flows of the business in order to estimate its fair value. Goodwill allocated to the Industrial Services reporting unit at December 31, 2016 was \$24.5 million.

During the quarter ended September 30, 2016, certain events and changes in circumstances arose which led management to conclude that the fair value of the Lodging Services reporting unit might be less than its carrying value, and therefore an interim goodwill impairment test was conducted. The primary events and changes in circumstances which led to this conclusion were:

- Macroeconomic conditions for service companies operating in western Canada's oil sands region deteriorated in 2016 primarily due to persistently low oil and gas prices. Persistently low prices have caused Lodging Services' main customers to significantly reduce, defer, or cancel oil and gas projects that are in, or had been planned for, this region during periods of more robust commodity pricing
- Government regulatory delays related to oil and gas pipeline projects have reduced management's confidence that these projects will move forward in a timely manner or in the form that had been originally contemplated by their planners. These projects represented a significant portion of Lodging Services' future growth in terms of the demand they would mean for temporary accommodation from the Lodging Services reporting unit. While some of these projects have made recent advancements towards successful government approval, the lack of meaningful progress to date does not provide sufficient positive evidence that a recovery will be significant enough to improve Lodging Services' previously forecasted outlook.
- There have been consecutive historical quarters where business results were significantly less than internal forecasts, and previous actual results, for the Lodging Services reporting unit.

[Table Of Contents](#)

- During the quarter ended September 30, 2016, management's near-term outlook was clarified in regards to the business' projections and the impacts of large scale forest fires which took place in the Fort McMurray area of Alberta, Canada, where we have significant Lodging Services operations.
- Due to the factors listed above, management significantly lowered its 2016 forecasts and long-range plans relative to the Lodging Services reporting unit.

Significant judgments and unobservable inputs categorized as Level III in the fair value hierarchy are inherent in the impairment test performed for Lodging Services and include assumptions about the amount and timing of expected future cash flows, growth rates, profit margins and the determination of appropriate discount rates. In performing the Step I test as of September 30, 2016 and using revised long-term projections that were developed for all reporting units during the quarter ended September 30, 2016, some of the significant assumptions inherent in the long-term projections changed from those which were used in performing our annual goodwill impairment test as of December 31, 2015. Based on information known as of September 30, 2016, we reduced the average estimated annual revenue earned by the Lodging Services reporting unit 18.2% from fiscal year 2017 through fiscal year 2020 due to the aforementioned macroeconomic events. Compared to our December 31, 2015 impairment assessment, estimated EBITDA margins were lowered from 29.7% to 19.1% due to lower anticipated pricing as demand for our services was lower. Lower revenue and EBITDA margin estimates also resulted in lower current expectations for future cash flows, which lengthened our assumptions around the recovery from the current business downturn as compared to our assumptions utilized in our previous annual test. The changes in these estimates and business assumptions had a significant negative impact on our estimates of future anticipated cash flows used in our impairment test and therefore on our estimates of the fair value of the Lodging Services reporting unit.

For purposes of the September 30, 2016 goodwill impairment test, the discount rate was decreased from 13.0% in the prior test to 11.0%, or 200 basis points, primarily due to lower debt borrowing rates and equity returns across the evaluated peer group, which put downward pressure on the Lodging Services reporting unit's estimated weighted average cost of capital. We also assessed a range of different discount rate assumptions, and noted a change of 50 basis points to the previous discount rate would decrease the estimated fair value of the reporting unit by \$6 million to \$8 million. A larger discount rate assumption would not have changed the resulting impairment charge as the entire goodwill balance associated with the reporting unit would already be impaired based upon a reduction of 50 basis points to the previously assumed discount rate. If the discount rate utilized in the Step I test were reduced by another 200 basis points to 9%, then the results of the Step I test would have provided an estimated fair value for Lodging Services which exceeded its then carrying value. The results of the Step I test therefore indicated that the previously estimated fair value of the reporting unit was less than its carrying value, and we therefore performed a Step II test to determine if and in what amount goodwill was impaired. The results of the Step II test indicated that as of September 30, 2016, the total amount of goodwill was impaired and therefore a \$34.0 million impairment charge was recorded to reduce the recorded goodwill value to \$0.

During the second quarter of 2015, certain events and changes in circumstances arose which led management to conclude that the fair value of the Oil and Gas Field Services reporting unit more likely than not had reduced to an amount less than its carrying value and therefore an interim impairment test was conducted relative to goodwill recorded by the Oil and Gas Field Services reporting unit. The primary events and changes in circumstances which led to this conclusion were:

- The second quarter is the period of time where greater levels of communication with customers and the receipt of bids and proposals for project work take place and provide management with more clarity into levels of activity and other economic and business indicators for the latter half of the fiscal year and into the first quarter of the following year. During the quarter ended June 30, 2015, it became apparent that oil and gas exploration and production activity would continue to be lower than in prior periods and than we had previously anticipated. This was evidenced by reduced volume in bid and proposal requests from customers and communications indicating the reduction in customer budgets in these areas as well as lower than anticipated pricing for our services.
- Market and industry reports to which management looks in projecting business conditions and establishing forecast information evidenced more pessimistic views in the near term. The continued depressed price of oil without any upward momentum since December 2014, as well as declining and expected continued decline in rig count for the remainder of 2015, resulted in lower estimates of industry activity in the second half of 2015 and early 2016.
- In recognition of lower than anticipated business results and less optimistic market indicators, management significantly lowered its 2015 forecasts relative to the Oil and Gas Field Services reporting unit.

[Table Of Contents](#)

Significant judgments and unobservable inputs categorized as Level III in the fair value hierarchy are inherent in the impairment tests performed and include assumptions about the amount and timing of expected future cash flows, growth rates, profit margins and the determination of appropriate discount rates. In performing the Step I test as of June 30, 2015 relating to the fair value of our Oil and Gas Field Services reporting unit, certain of these significant assumptions changed from those utilized in performing our annual goodwill impairment test as of December 31, 2014. Based upon information known as of June 30, 2015, we reduced the estimates and assumptions around the 2015 fiscal year annual revenue growth from 1% of growth to a contraction in 2015 revenues of 24%. This decrease resulted largely from projects which were expected to occur in the second half of 2015 but had then been canceled or reduced, as well as updated outlooks on pricing of our services. EBITDA margins relative to 2015 were also reduced from estimates of 13% utilized in the most recent annual test to 6%. Prior to June 30, 2015, we had assumed greater EBITDA margin expansion driven by more positive revenue growth which increased estimated future cash flows. The reduction in margin assumptions utilized in the June 30, 2015 Step I test was based upon the lower levels of revenue then forecasted for 2015, lower pricing of our services and less than anticipated cost savings from cost cutting measures which had been planned but had not fully materialized as of June 30, 2015. These lower revenue and margin estimates associated with 2015 resulted in lower expectations and cash flows in 2015 and also decreases in expected revenues and cash flows in future periods, thus lengthening our assumptions around the recovery from the current business downturn as compared to assumptions utilized in prior tests.

The changes in these estimates and business assumptions had significant negative impact on our estimates of future anticipated cash flows used in our impairment test and therefore on our estimate of the fair value of the Oil and Gas Field Services reporting unit. Discount rate assumptions utilized in the June 30, 2015 test were consistent with those used in the December 31, 2015 annual test. The results of the Step I test conducted as of June 30, 2015 indicated that the estimated fair value of that reporting unit was less than its carrying value, and we therefore performed a Step II test to determine if and in what amount goodwill recorded by our Oil and Gas Field Services segment was impaired. The results of the Step II test indicated that as of June 30, 2015, the total amount of goodwill recorded by that reporting unit was impaired and therefore a \$32.0 million impairment charge was recorded and is reflected in our 2015 operating results.

During the third quarter of 2014, we obtained evidence that indicated the carrying value of our Kleen Performance reporting unit may have exceeded its estimated fair value and therefore an interim goodwill impairment test was performed. As a result of that test, we recorded a \$123.4 million impairment charge related to goodwill recorded by our Kleen Performance operating segment. The factors contributing to this goodwill impairment charge principally related to decreases in market prices of oil products sold by our Kleen Performance Products business which took place during the third quarter of 2014. These decreasing market prices negatively impacted the profitability of our Kleen Performance operating segment and further resulted in lower assumptions for future revenues and profits of the business. These factors adversely affected the estimated fair value of the reporting unit as of September 30, 2014 and ultimately led to the recognition of the goodwill impairment charge.

See further information related to the goodwill impairment charges recorded in Note 7, "Goodwill and Other Intangible Assets," to our consolidated financial statements included in Item 8 of this report.

Indefinite-lived intangible assets are not amortized but are reviewed for impairment annually as of December 31, or when events or changes in the business environment indicate that the carrying value may be impaired. If the fair value of the asset is less than the carrying amount, we perform a quantitative test to determine the fair value. The impairment loss, if any, is measured as the excess of the carrying value of the asset over its fair value. The fair value of the indefinite-lived intangibles exceeded their carrying values at December 31, 2016. However, we will continue to closely monitor the performance of our indefinite-lived intangible assets, and future events might result in an impairment of indefinite-lived intangible assets.

Our long-lived assets are carried on our financial statements based on their cost less accumulated depreciation or amortization. Long-lived assets with finite lives are reviewed for impairment whenever events or changes in circumstances indicate that their carrying value may not be entirely recoverable. When such factors and circumstances exist, our management compares the projected undiscounted future cash flows associated with the related asset or group of assets over their estimated useful lives against their respective carrying amounts. The impairment loss, if any, is measured as the excess of the carrying amount over the fair value of the asset and is recorded in the period in which the determination is made. Any resulting impairment losses recorded by us would have an adverse impact on our results of operations.

In consideration of the goodwill impairments for our Oil and Gas Field Services and Lodging Services reporting units and continued lower than historical results and overall slowdown in the oil and gas related industries, we continue to monitor the carrying value of those reporting units' long-lived assets and assess the risk of asset impairment. As of December 31, 2016, our Oil and Gas Field Services and Lodging Services reporting units had property, plant and equipment, net of \$88.2 million and \$93.8 million, respectively, and intangible assets of \$5.5 million and \$5.4 million, respectively. As a result of analyses

[Table Of Contents](#)

performed as of December 31, 2016, we concluded that no events or circumstances have arisen which would indicate that the carrying values of those asset groups are not recoverable.

We will continue to evaluate all of our goodwill and other long-lived assets impacted by economic downturns most predominantly in the oil and energy related markets in which we operate. If further economic difficulties resulting from depressed oil and gas related pricing and lower overall activity levels, particularly in our Canadian operations, continue for a significant foreseeable period of time and thus future operating results are significantly less than current expectations, additional impairment charges may be recognized. The market conditions which could lead to such future impairments are currently most prevalent in our Oil and Gas Field Services, Lodging Services and Industrial Services operations.

Legal Matters. As described in Note 17, "Commitments and Contingencies," to our consolidated financial statements included in Item 8 of this report, we are subject to legal proceedings which relate to our past acquisitions or which have arisen in the ordinary course of business. Accruals are established for legal matters when, in our opinion, it is probable that a liability exists and the liability can be reasonably estimated. As of December 31, 2016, we had reserves of \$22.0 million consisting of (i) \$18.2 million related to pending legal or administrative proceedings, including Superfund liabilities, which were included in the \$186.3 million accrued environmental liabilities as of December 31, 2016 for closure, post-closure and remediation as described above, and (ii) \$3.8 million primarily related to federal and state enforcement actions, which were included in accrued expenses on the consolidated balance sheets. We also estimate that it is "reasonably possible," as that term is defined ("more than remote but less than likely"), that the amount of such total liabilities could be as much as \$1.9 million more. Actual expenses incurred in future periods could differ materially from accruals established.

Provision for Income Taxes. Our income tax expense, deferred tax assets and liabilities and reserves for unrecognized tax benefits reflect management's best estimate of future taxes to be paid. We are subject to income taxes in both the United States and in foreign jurisdictions. Significant judgments and estimates are required in determining the consolidated income tax expense. We do not accrue U.S. tax for foreign earnings that we consider to be permanently reinvested outside the United States. Consequently, we have not provided any U.S. tax on the unremitted earnings of our foreign subsidiaries. As of December 31, 2016, the amount of earnings for which no U.S. tax has been provided was \$238.5 million. It is not practicable to estimate the amount of additional tax that might be payable on those earnings if repatriated.

Deferred income taxes arise from temporary differences between the tax and financial statement recognition of revenue and expense. In evaluating our ability to recover our deferred tax assets within the jurisdiction from which they arise, we consider all available positive and negative evidence. We establish a valuation allowance when, based on an evaluation of objective verifiable evidence, we believe it is more likely than not that some portion or all of our deferred tax assets will not be realized. Such evidence considered includes historical results, future reversals of existing taxable temporary differences and expectations for future taxable income (exclusive of the reversal of temporary differences and carryforwards), as well as the implementation of feasible and prudent tax planning strategies. As of December 31, 2016, we have recorded a valuation allowance related to foreign tax credit carryforwards, state and foreign net operating loss carryforwards and other deferred tax assets of \$55.2 million. If operating results improve or decline on a continual basis in a particular jurisdiction or other factors impacting our conclusions as to the likelihood that these deferred tax assets being realized were to change, our decision regarding the need for a valuation allowance could also change, resulting in either the initial recognition or reversal of a valuation allowance. Any such future recognition or reversal of a valuation allowance could have a significant impact on income tax expense in the period recognized and subsequent periods.

A liability for uncertain tax positions is recorded to the extent a tax position taken or expected to be taken in a tax return does not meet certain recognition or measurement criteria. We record interest and penalties on these uncertain tax positions as applicable as a component of income tax expense.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In the normal course of business, we are exposed to market risks, including changes in interest rates and certain foreign currency rates, primarily the Canadian dollar. Our philosophy in managing interest rate risk is to borrow at fixed rates for longer time horizons to finance non-current assets and (to the extent, if any, required) at variable rates for working capital and other short-term needs. We therefore have not entered into derivative or hedging transactions relating to interest rate risk, nor have we entered into transactions to finance off-balance sheet debt. The following table provides information regarding our fixed rate borrowings at December 31, 2016 (in thousands):

Scheduled Maturity Dates	2017	2018	2019	2020	2021	Thereafter	Total
Senior unsecured notes due 2020	\$ —	\$ —	\$ —	\$ 800,000	\$ —	\$ —	\$ 800,000
Senior unsecured notes due 2021	—	—	—	—	\$ 845,000	—	\$ 845,000
Long term obligations, at par	\$ —	\$ —	\$ —	\$ 800,000	\$ 845,000	\$ —	\$ 1,645,000
Weighted average interest rate on fixed rate borrowings							5.2%

In addition to the fixed rate borrowings described in the above table, we had at December 31, 2016, variable rate instruments that included a revolving credit facility with maximum borrowings of up to \$400.0 million (with a \$325.0 million sub-limit for letters of credit). Interest payments are due in the amount of \$21.0 million each related to the \$800.0 million senior unsecured notes payable semi-annually on February 1 and August 1 of each year, and in the amount of \$21.7 million each related to the \$845.0 million senior unsecured notes payable semi-annually on June 1 and December 1 of each year.

We view our investment in our foreign subsidiaries as long-term; thus, we have not entered into any hedging transactions between any two foreign currencies or between any of the foreign currencies and the U.S. dollar. Given this significant investment in Canada and the fluctuations that have and can occur between the U.S. Dollar and Canadian Dollar exchange rates, significant movements in cumulative translation adjustment amounts recorded as a component of other comprehensive income (loss) can occur in any given period.

During 2016, our Canadian subsidiaries transacted approximately 13% of their business in U.S. dollars and at any period end had cash on deposit in U.S. dollars and outstanding U.S. dollar accounts receivable related to those transactions. Those cash and receivable accounts are vulnerable to foreign currency transaction gains or losses. Exchange rate movements also affect the translation of Canadian generated profits and losses into U.S. dollars. Had the Canadian dollar been 10.0% stronger or weaker against the U.S. dollar, we would have reported increased or decreased net income of \$10.1 million and \$6.5 million for the years ended December 31, 2016 and 2015, respectively.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Clean Harbors, Inc.
Norwell, Massachusetts

We have audited the accompanying consolidated balance sheets of Clean Harbors, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive income (loss), cash flows and stockholders' equity for each of the three years in the period ended December 31, 2016. Our audits also included the financial statement schedule listed in the Index at Item 15. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Clean Harbors, Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 22, 2017 expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
February 22, 2017

CLEAN HARBORS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(dollars in thousands)

	As of December 31,	
	2016	2015
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 306,997	\$ 184,708
Accounts receivable, net of allowances aggregating \$29,249 and \$31,426, respectively	496,226	496,004
Unbilled accounts receivable	36,190	25,940
Deferred costs	18,914	18,758
Inventories and supplies	178,428	149,521
Prepaid expenses and other current assets	56,116	46,265
Total current assets	1,092,871	921,196
Property, plant and equipment, net	1,611,827	1,532,467
Other assets:		
Goodwill	465,154	453,105
Permits and other intangibles, net	498,721	506,818
Other	13,347	17,842
Total other assets	977,222	977,765
Total assets	<u>\$ 3,681,920</u>	<u>\$ 3,431,428</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 229,534	\$ 241,183
Deferred revenue	64,397	61,882
Accrued expenses	190,721	193,660
Current portion of closure, post-closure and remedial liabilities	20,016	20,395
Total current liabilities	504,668	517,120
Other liabilities:		
Closure and post-closure liabilities, less current portion of \$6,220 and \$7,229, respectively	52,111	49,020
Remedial liabilities, less current portion of \$13,796 and \$13,166, respectively	114,211	118,826
Long-term obligations	1,633,272	1,382,543
Deferred taxes, unrecognized tax benefits and other long-term liabilities	293,417	267,637
Total other liabilities	2,093,011	1,818,026
Commitments and contingent liabilities (See Note 17)		
Stockholders' equity:		
Common stock, \$.01 par value:		
Authorized 80,000,000 shares; issued and outstanding 57,297,978 and 57,593,201 shares, respectively	573	576
Shares held under employee participation plan	(469)	(469)
Additional paid-in capital	725,670	738,401
Accumulated other comprehensive loss	(214,326)	(254,892)
Accumulated earnings	572,793	612,666
Total stockholders' equity	1,084,241	1,096,282
Total liabilities and stockholders' equity	<u>\$ 3,681,920</u>	<u>\$ 3,431,428</u>

The accompanying notes are an integral part of these consolidated financial statements.

CLEAN HARBORS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands except per share amounts)

	For the years ended December 31,		
	2016	2015	2014
Revenues:			
Service revenues	\$ 2,280,809	\$ 2,744,272	\$ 2,639,796
Product revenues	474,417	530,865	761,840
Total revenues	<u>2,755,226</u>	<u>3,275,137</u>	<u>3,401,636</u>
Cost of revenues: (exclusive of items shown separately below)			
Service revenues	1,543,210	1,898,907	1,790,377
Product revenues	389,647	457,899	651,419
Total cost of revenues	<u>1,932,857</u>	<u>2,356,806</u>	<u>2,441,796</u>
Selling, general and administrative expenses	422,015	414,164	437,921
Accretion of environmental liabilities	10,177	10,402	10,612
Depreciation and amortization	287,002	274,194	276,083
Goodwill impairment charges	34,013	31,992	123,414
Income from operations	<u>69,162</u>	<u>187,579</u>	<u>111,810</u>
Other income (expense), net	6,195	(1,380)	4,380
Gain on sale of business	16,884	—	—
Interest expense, net of interest income of \$784, \$626, and \$819, respectively	<u>(83,525)</u>	<u>(76,553)</u>	<u>(77,668)</u>
Income before provision for income taxes	<u>8,716</u>	<u>109,646</u>	<u>38,522</u>
Provision for income taxes	48,589	65,544	66,850
Net (loss) income	<u>\$ (39,873)</u>	<u>\$ 44,102</u>	<u>\$ (28,328)</u>
(Loss) earnings per share:			
Basic	<u>\$ (0.69)</u>	<u>\$ 0.76</u>	<u>\$ (0.47)</u>
Diluted	<u>\$ (0.69)</u>	<u>\$ 0.76</u>	<u>\$ (0.47)</u>
Shares used to compute (loss) earnings per share — Basic	<u>57,532</u>	<u>58,324</u>	<u>60,311</u>
Shares used to compute (loss) earnings per share — Diluted	<u>57,532</u>	<u>58,434</u>	<u>60,311</u>

The accompanying notes are an integral part of these consolidated financial statements.

CLEAN HARBORS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

	<u>For the years ended December 31,</u>		
	<u>2016</u>	<u>2015</u>	<u>2014</u>
Net (loss) income	\$ (39,873)	\$ 44,102	\$ (28,328)
Other comprehensive income (loss):			
Unrealized (losses) gains on available-for-sale securities (net of taxes of \$214, \$0 and \$183, respectively)	(321)	—	976
Reclassification adjustment for gains on available-for-sale securities included in net income (net of taxes of \$0, \$0, \$508, respectively)	—	—	(2,880)
Foreign currency translation adjustments (including a tax benefit of \$16.8 million in 2016)	40,728	(144,050)	(88,725)
Unfunded pension liability (net of taxes of \$57, \$7 and \$248, respectively)	159	—	(657)
Other comprehensive income (loss)	<u>40,566</u>	<u>(144,050)</u>	<u>(91,286)</u>
Comprehensive income (loss)	<u>\$ 693</u>	<u>\$ (99,948)</u>	<u>\$ (119,614)</u>

The accompanying notes are an integral part of these consolidated financial statements.

[Table Of Contents](#)

CLEAN HARBORS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	For the years ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net (loss) income	\$ (39,873)	\$ 44,102	\$ (28,328)
Adjustments to reconcile net (loss) income to net cash from operating activities:			
Depreciation and amortization	287,002	274,194	276,083
Goodwill impairment charges	34,013	31,992	123,414
Allowance for doubtful accounts	6,907	4,793	8,917
Amortization of deferred financing costs and debt discount	3,537	3,280	3,289
Accretion of environmental liabilities	10,177	10,402	10,612
Changes in environmental liability estimates	(4,254)	(11,345)	(3,367)
Deferred income taxes	15,184	1,930	32,320
Other (income) expense, net	(5,685)	1,380	(4,380)
Stock-based compensation	10,481	8,550	8,800
Excess tax benefit of stock-based compensation	(1,198)	(71)	(878)
Net tax benefit (deficiency) on stock-based awards	1,165	(82)	816
Gain on sale of business	(16,884)	—	—
Environmental expenditures	(12,170)	(20,130)	(20,245)
Changes in assets and liabilities:			
Accounts receivable and unbilled accounts receivables	(15,009)	55,271	(14,342)
Inventories and supplies	(16,080)	14,059	(21,339)
Other current assets	(8,036)	48,760	(19,030)
Accounts payable	(3,503)	(16,299)	(52,026)
Other current and long-term liabilities	13,850	(54,403)	(2,950)
Net cash from operating activities	<u>259,624</u>	<u>396,383</u>	<u>297,366</u>
Cash flows used in investing activities:			
Additions to property, plant and equipment	(219,384)	(257,196)	(257,613)
Proceeds from sales of fixed assets	20,817	6,195	8,164
Acquisitions, net of cash acquired	(206,915)	(94,345)	(16,187)
Additions to intangible assets including costs to obtain or renew permits	(2,831)	(5,296)	(6,519)
Purchase of available-for-sale securities	(598)	—	—
Proceeds on sale of business, net of cash	47,134	—	—
Proceeds from sales of investments	—	—	13,861
Net cash used in investing activities	<u>(361,777)</u>	<u>(350,642)</u>	<u>(258,294)</u>
Cash flows from (used in) financing activities:			
Change in uncashed checks	(3,177)	(14,630)	15,069
Proceeds from exercise of stock options	627	397	—
Issuance of restricted shares, net of shares remitted	(2,819)	(2,159)	(2,793)
Repurchases of common stock	(22,188)	(73,347)	(104,341)
Excess tax benefit of stock-based compensation	1,198	71	878
Deferred financing costs paid	(4,031)	—	—
Repayment of long-term obligations	—	—	(5,000)
Proceeds from employee stock purchase plan	—	—	4,364
Payments on capital leases	—	(511)	(2,122)
Issuance of senior unsecured notes, including premium	250,625	—	—
Net cash from (used in) financing activities	<u>220,235</u>	<u>(90,179)</u>	<u>(93,945)</u>
Effect of exchange rate change on cash	<u>4,207</u>	<u>(17,733)</u>	<u>(8,321)</u>
Increase (decrease) in cash and cash equivalents	122,289	(62,171)	(63,194)
Cash and cash equivalents, beginning of year	184,708	246,879	310,073
Cash and cash equivalents, end of year	<u>\$ 306,997</u>	<u>\$ 184,708</u>	<u>\$ 246,879</u>
Supplemental information:			
Cash payments for interest and income taxes:			
Interest paid	\$ 88,669	\$ 73,926	\$ 75,408
Income taxes paid	29,255	52,970	42,022

Non-cash investing and financing activities:			
Property, plant and equipment accrued	9,214	32,677	23,563
Transfer of inventory to property, plant and equipment	—	—	1,324
Accrued business combination adjustments	—	—	355
Receivable for estimated purchase price adjustment	1,910	1,000	—

The accompanying notes are an integral part of these consolidated financial statements.

CLEAN HARBORS, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock		Shares Held Under Employee Participation Plan	Additional Paid-in Capital	Accumulated Other Comprehensive loss	Accumulated Earnings	Total Stockholders' Equity
	Number of Shares	\$0.01 Par Value					
Balance at January 1, 2014	60,672	\$ 607	\$ (469)	\$ 898,165	\$ (19,556)	\$ 596,892	\$ 1,475,639
Net loss	—	—	—	—	—	(28,328)	(28,328)
Other comprehensive loss	—	—	—	—	(91,286)	—	(91,286)
Stock-based compensation	—	—	—	8,800	—	—	8,800
Issuance of restricted shares, net of shares remitted	113	1	—	(2,794)	—	—	(2,793)
Repurchases of common stock	(1,973)	(20)	—	(104,321)	—	—	(104,341)
Net tax benefit on stock-based awards	—	—	—	816	—	—	816
Employee stock purchase plan	91	1	—	4,363	—	—	4,364
Balance at December 31, 2014	58,903	\$ 589	\$ (469)	\$ 805,029	\$ (110,842)	\$ 568,564	\$ 1,262,871
Net income	—	—	—	—	—	44,102	44,102
Other comprehensive loss	—	—	—	—	(144,050)	—	(144,050)
Stock-based compensation	—	—	—	8,550	—	—	8,550
Issuance of restricted shares, net of shares remitted	100	1	—	(2,160)	—	—	(2,159)
Exercise of stock options	12	—	—	397	—	—	397
Repurchases of common stock	(1,422)	(14)	—	(73,333)	—	—	(73,347)
Net tax benefit on stock-based awards	—	—	—	(82)	—	—	(82)
Balance at December 31, 2015	57,593	\$ 576	\$ (469)	\$ 738,401	\$ (254,892)	\$ 612,666	\$ 1,096,282
Net loss	—	—	—	—	—	(39,873)	(39,873)
Other comprehensive income	—	—	—	—	40,566	—	40,566
Stock-based compensation	—	—	—	10,481	—	—	10,481
Issuance of restricted shares, net of shares remitted	136	1	—	(2,820)	—	—	(2,819)
Exercise of stock options	22	—	—	627	—	—	627
Repurchases of common stock	(453)	(4)	—	(22,184)	—	—	(22,188)
Net tax benefit on stock-based awards	—	—	—	1,165	—	—	1,165
Balance at December 31, 2016	57,298	\$ 573	\$ (469)	\$ 725,670	\$ (214,326)	\$ 572,793	\$ 1,084,241

The accompanying notes are an integral part of these consolidated financial statements.

CLEAN HARBORS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) OPERATIONS

Clean Harbors, Inc., through its subsidiaries (collectively, the "Company"), is a leading provider of environmental, energy and industrial services throughout North America.

(2) SIGNIFICANT ACCOUNTING POLICIES

The accompanying consolidated financial statements of the Company reflect the application of certain significant accounting policies as described below:

Principles of Consolidation

The accompanying consolidated statements include the accounts of Clean Harbors, Inc. and its majority-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions, which are evaluated on an ongoing basis, that affect the amounts reported in the Company's consolidated financial statements and accompanying notes. Management bases its estimates on historical experience and on various other assumptions it believes to be reasonable at the time under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities and disclosure, if any, of contingent assets and liabilities and reported amounts of revenues and expenses. Actual results could differ from those estimates and judgments.

Reclassifications

During the fourth quarter of 2016, the Company changed the manner in which it manages its business, makes operating decisions and assesses the Company's performance. These changes included combining the Safety-Kleen Environmental Services business and Kleen Performance Products business into a single operating segment called "Safety-Kleen," moving the Production Services business, previously included in the Company's Oil and Gas Field Services operating segment, into the Company's Industrial Services operating segment, and reassigning certain departments among the Company's operating segments in line with management reporting changes. In addition, for purposes of segment disclosure within Note 18, "Segment Reporting," the Company combined the Oil and Gas Field Services and Lodging Services operating segments and has shown such financial information on a combined basis under the heading "Oil, Gas and Lodging Services," as those individual operating segments do not meet the quantitative thresholds for separate disclosure. The amounts presented for all historical periods herein have been recast to reflect the impact of such changes. These reclassifications and adjustments had no effect on consolidated net income, comprehensive income (loss), cash flows or stockholders' equity for any of the periods presented.

Fair Value Valuation Hierarchy

The Company defines fair value as the price that would be received to sell an asset or be paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company applies the following fair value hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement. Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 utilizes quoted market prices in markets that are not active, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. Level 3 inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date.

The Company's financial instruments consist of cash and cash equivalents, accounts and unbilled receivable, accounts payable and accrued liabilities and long-term debt obligations. Due to the short-term nature of these instruments, with the exception of long-term debt obligations, their estimated fair value approximates carrying value. Senior unsecured notes are recorded at par.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

Cash, Cash Equivalents and Uncashed Checks

Cash and cash equivalents consist primarily of cash on deposit, money market accounts or short-term investments with original maturities of three months or less. The fair value of cash equivalents is considered a Level 1 measure according to the fair value hierarchy and is adjusted to fair value based on quoted market prices. The Company's cash management program with its revolving credit lender allows for the maintenance of a zero balance in the U.S. bank disbursement accounts that are used to issue vendor and payroll checks. The program can result in checks outstanding in excess of bank balances in the disbursement accounts. When checks are presented to the bank for payment, cash deposits in amounts sufficient to fund the checks are made, at the Company's discretion, either from funds provided by other accounts or under the terms of the Company's revolving credit facility. Therefore, until checks are presented for payment, there is no right of offset by the bank and the Company continues to have control over cash relating to both released as well as unreleased checks. Checks that have been written to vendors or employees but have not yet been presented for payment at the Company's bank are classified as uncashed checks as part of accounts payable and added back to cash balances.

Marketable Securities

The Company has classified its marketable securities as available-for-sale and, accordingly, carries such securities at fair value. Unrealized gains and losses are reported, net of tax, as a component of other comprehensive income (loss).

Allowances for Doubtful Accounts

On a regular basis, the Company evaluates its accounts receivable and establishes the allowance for doubtful accounts based on an evaluation of certain criteria and evidence of collection certainty including historical collection trends, current economic trends and changes in customer payment patterns. Past-due receivable balances are written off when the Company's internal collection efforts have been deemed unsuccessful in collecting the outstanding balance due.

Credit Concentration

Concentration of credit risks in accounts receivable is limited due to the large number of customers comprising the Company's customer base throughout North America. The Company maintains policies over credit extension that include credit evaluations, credit limits and collection monitoring procedures on a customer-by-customer basis. However, the Company generally does not require collateral before services are performed. As of December 31, 2016 and 2015, no individual customer accounted for more than 10% of accounts receivable. During each of the years ended December 31, 2016, 2015 and 2014, no individual customer accounted for more than 10% of total revenues.

Unbilled Receivables

The Company recognizes unbilled accounts receivable for service and disposal transactions rendered but not invoiced to the customer as of the end of the period.

Deferred Costs Relating to Deferred Revenue

Commissions and other incremental direct costs, primarily costs of materials, relating to deferred revenue from the Company's parts cleaning services, containerized waste services and vacuum services are capitalized and deferred. The deferred costs are included in current assets in the consolidated balance sheet and charged to expense when the related revenues are recognized.

Inventories and Supplies

Inventories are stated at the lower of cost or market. The cost of oil and oil products is principally determined on a first-in, first-out ("FIFO") basis. The cost of supplies and drums, solvent and solution and other inventories is determined on a FIFO or a weighted average cost basis. Costs for oil and oil products, solvent and repair parts include purchase costs, fleet and fuel costs, direct labor, transportation costs and production related costs. The Company continually reviews its inventories for obsolete or unsalable items and adjusts its carrying value to reflect estimated realizable values.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist primarily of prepayments for various services, refundable deposits, and income taxes receivable.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)*Property, Plant and Equipment (excluding landfill assets)*

Property, plant and equipment are stated at cost and include amounts capitalized under capital lease obligations. Expenditures for major renewals and improvements which extend the life or usefulness of the asset are capitalized. Items of an ordinary repair or maintenance nature are charged directly to operating expense as incurred. During the construction and development period of an asset, the costs incurred, including applicable interest costs, are classified as construction-in-progress.

The Company depreciates and amortizes the cost of these assets, using the straight-line method as follows:

Asset Classification	Estimated Useful Life
Buildings and building improvements	
Buildings	30–42 years
Leasehold and building improvements	2–45 years
Camp equipment	8–15 years
Vehicles	3–15 years
Equipment	
Capitalized software and computer equipment	3–5 years
Solar equipment	30 years
Containers and railcars	15–20 years
All other equipment	8–25 years
Furniture and fixtures	5–8 years

Leasehold and building improvements have a weighted average life of 9.6 years.

Camp equipment consists of industrial lodging facilities that are utilized to provide lodging services to downstream oil and gas companies in Western Canada.

Solar equipment consists of a solar array that is used to provide electric power for a continuously operating groundwater decontamination pump and treatment system at a closed and capped landfill located in New Jersey.

The Company recognizes an impairment in the carrying value of long-lived assets when the expected future undiscounted cash flows derived from the assets, or group of assets, are less than their carrying value. For the years ended December 31, 2016, 2015 and 2014, the Company did not record impairment charges related to long-lived assets. The Company will continue to assess all of its long-lived assets for impairment as necessary.

Goodwill

Goodwill is comprised of the purchase price of business acquisitions in excess of the fair value assigned at acquisition to the net tangible and identifiable intangible assets acquired. Goodwill is not amortized but is reviewed for impairment annually as of December 31, or when events or changes in the business environment indicate that the carrying value of the reporting unit may exceed its fair value, by comparing the fair value of each reporting unit to its carrying value, including goodwill. If the fair value is less than the carrying amount, a Step II goodwill impairment test is performed to determine if goodwill is impaired. The loss, if any, is measured as the excess of the carrying value of the goodwill over the implied value of the goodwill. See Note 7, "Goodwill and Other Intangible Assets," for additional information related to the Company's goodwill impairment tests and the goodwill impairment charges recorded in 2016 and 2015.

Permits and other intangibles

Permits and intangible assets, such as legal fees, site surveys, engineering costs and other expenditures are recorded at cost. Other intangible assets consist primarily of customer and supplier relationships, trademarks and trade names, and non-compete agreements. Permits relating to landfills are amortized on a units-of-consumption basis. All other permits are amortized over periods ranging from 5 to 30 years on a straight-line basis. Other intangible assets are amortized on a straight-line basis over their respective useful lives, which range from 2 to 20 years.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

Finite-lived intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that their carrying value may not be entirely recoverable. When such factors and circumstances exist, management compares the projected undiscounted future cash flows associated with the related asset or group of assets over their estimated useful lives against their respective carrying amounts. The impairment loss, if any, is measured as the excess of the carrying amount over the fair value of the asset or group of assets.

Indefinite-lived intangible assets are not amortized but are reviewed for impairment annually as of December 31, or when events or changes in the business environment indicate that the carrying value may be impaired. If the fair value of the asset is less than the carrying amount, the Company performs a quantitative test to determine the fair value. The impairment loss, if any, is measured as the excess of the carrying value of the asset over its fair value. The fair value of the indefinite-lived intangible assets exceeded their carrying values at December 31, 2016 and 2015.

Leases

The Company leases rolling stock, rail cars, equipment, real estate and office equipment under operating leases. Certain real estate leases contain rent holidays and rent escalation clauses. Most of the Company's real estate lease agreements include renewal periods at the Company's option. For its operating leases, the Company recognizes rent holiday periods and scheduled rent increases on a straight-line basis over the lease term beginning with the date the Company takes possession of the leased assets.

Landfill Accounting

The Company amortizes landfill improvements and certain landfill-related permits over their estimated useful lives. The units-of-consumption method is used to amortize land, landfill cell construction, asset retirement costs and remaining landfill cells and sites. The Company also utilizes the units-of-consumption method to record closure and post-closure obligations for landfill cells and sites. Under the units-of-consumption method, the Company includes future estimated construction and asset retirement costs, as well as costs incurred to date, in the amortization base of the landfill assets. Additionally, where appropriate, as described below, the Company includes probable expansion airspace that has yet to be permitted in the calculation of the total remaining useful life of the landfill. If it is determined that expansion capacity should no longer be considered in calculating the recoverability of a landfill asset, the Company may be required to recognize an asset impairment or incur significantly higher amortization expense. If at any time the Company makes the decision to abandon the expansion effort, the capitalized costs related to the expansion effort are expensed immediately.

Landfill assets—Landfill assets include the costs of landfill site acquisition, permits and cell construction incurred to date. These amounts are recorded at cost, which includes capitalized interest as applicable. Landfill assets, net of amortization, are combined with management's estimate of the costs required to complete construction of the landfill to determine the amount to be amortized over the remaining estimated useful economic life of a site. Amortization of landfill assets is recorded on a units-of-consumption basis, such that the landfill assets should be completely amortized at the date the landfill ceases accepting waste. Amortization totaled \$9.7 million, \$11.2 million and \$14.1 million for the years ended December 31, 2016, 2015 and 2014, respectively. Changes in estimated costs to complete construction are applied prospectively to the amortization rate.

Landfill capacity—Landfill capacity, which is the basis for the amortization of landfill assets and for the accrual of final closure and post-closure obligations, represents total permitted airspace plus unpermitted airspace that management believes is probable of ultimately being permitted based on established criteria. The Company applies the following criteria for evaluating the probability of obtaining a permit for future expansion airspace at existing sites, which provides management a basis to evaluate the likelihood of success of unpermitted expansions:

- Personnel are actively working to obtain the permit or permit modifications (land use, state, provincial and federal) necessary for expansion of an existing landfill, and progress is being made on the project.
- Management expects to submit the application within the next year and to receive all necessary approvals to accept waste within the next 5 years.
- At the time the expansion is included in the Company's estimate of the landfill's useful economic life, it is probable that the required approvals will be received within the normal application and processing time periods for approvals in the jurisdiction in which the landfill is located.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

- The Company or other owner of the landfill has a legal right to use or obtain the right to use the land associated with the expansion plan.
- There are no significant known political, technical, legal or business restrictions or issues that could impair the success of such expansion.
- A financial feasibility analysis has been completed and the results demonstrate that the expansion will have a positive financial and operational impact such that management is committed to pursuing the expansion.
- Additional airspace and related additional costs, including permitting, final closure and post-closure costs, have been estimated based on the conceptual design of the proposed expansion.

As of December 31, 2016, there were two unpermitted expansions at two locations included in the Company's landfill accounting model, which represented 17.7% of the Company's remaining airspace at that date. If actual expansion airspace is significantly different from the Company's estimate of expansion airspace, the amortization rates used for the units-of-consumption method would change, therefore impacting the Company's profitability. If the Company determines that there is less actual expansion airspace at a landfill, this would increase amortization expense recorded and decrease profitability, while if the Company determines a landfill has more actual expansion airspace, amortization expense would decrease and profitability would increase.

As of December 31, 2016, the Company had 11 active landfill sites (including the Company's two non-commercial landfills), which have estimated remaining lives (based on anticipated waste volumes and remaining highly probable airspace) as follows:

Facility Name	Location	Remaining Lives (Years)	Remaining Highly Probable Airspace (cubic yards) (in thousands)		
			Permitted	Unpermitted	Total
Altair	Texas	4	562	—	562
Buttonwillow	California	26	6,760	—	6,760
Deer Park	Texas	6	230	—	230
Deer Trail	Colorado	29	1,862	—	1,862
Grassy Mountain	Utah	55	375	4,830	5,205
Kimball	Nebraska	18	232	—	232
Lambton	Ontario	38	4,973	—	4,973
Lone Mountain	Oklahoma	31	4,627	—	4,627
Ryley	Alberta	14	494	880	1,374
Sawyer	North Dakota	82	3,671	—	3,671
Westmorland	California	64	2,732	—	2,732
			26,518	5,710	32,228

At December 31, 2016 and 2015, the Company had no cubic yards of permitted, but not highly probable, airspace.

The following table presents the remaining highly probable airspace from January 1, 2014 through December 31, 2016 (in thousands of cubic yards):

	2016	2015	2014
Remaining capacity at January 1,	29,786	30,544	29,323
Addition of highly probable airspace, net	3,464	516	2,809
Consumed	(1,022)	(1,274)	(1,588)
Remaining capacity at December 31,	32,228	29,786	30,544

Amortization of cell construction costs and accrual of cell closure obligations—Landfills are typically comprised of a number of cells, which are constructed within a defined acreage (or footprint). The cells are typically discrete units, which require both separate construction and separate capping and closure procedures. Cell construction costs are the costs required to excavate and construct the landfill cell. These costs are typically amortized on a units-of-consumption basis, such that they are

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

completely amortized when the specific cell ceases accepting waste. In some instances, the Company has landfills that are engineered and constructed as "progressive trenches." In progressive trench landfills, a number of contiguous cells form a progressive trench. In those instances, the Company amortizes cell construction costs over the airspace within the entire trench, such that the cell construction costs will be fully amortized at the end of the trench useful life.

The design and construction of a landfill does not create a landfill asset retirement obligation. Rather, the asset retirement obligation for cell closure (the cost associated with capping each cell) is incurred in relatively small increments as waste is placed in the landfill. Therefore, the cost required to construct the cell cap is capitalized as an asset retirement cost and a liability of an equal amount is established, based on the discounted cash flow associated with each capping event, as airspace is consumed. Spending for cell capping is reflected as environmental expenditures within operating activities in the statement of cash flows.

Landfill final closure and post-closure liabilities—The balance of landfill final closure and post-closure liabilities at December 31, 2016 and 2015 was \$30.6 million and \$32.0 million, respectively. The Company has material financial commitments for the costs associated with requirements of the Environmental Protection Agency ("EPA") and the comparable regulatory agency in Canada for landfill final closure and post-closure activities. In the United States, the landfill final closure and post-closure requirements are established under the standards of the EPA, and are implemented and applied on a state-by-state basis. The Company develops estimates for the cost of these activities based on an evaluation of site-specific facts and circumstances, including the Company's interpretation of current regulatory requirements and proposed regulatory changes. Such estimates may change in the future due to various circumstances including, but not limited to, permit modifications, changes in legislation or regulations, technological changes and results of environmental studies.

Final closure costs are the costs incurred after the site ceases to accept waste, but before the landfill is certified as closed by the applicable state regulatory agency. These costs generally include the costs required to cap the final cell of the landfill (if not included in cell closure), the costs required to dismantle certain structures for landfills and other landfill improvements, and regulation-mandated groundwater monitoring, and leachate management. Post-closure costs involve the maintenance and monitoring of a landfill site that has been certified closed by the applicable regulatory agency. These costs generally include groundwater monitoring and leachate management. Regulatory post-closure periods are generally 30 years after landfill closure. Final closure and post-closure obligations are accrued on a units-of-consumption basis, such that the present value of the final closure and post-closure obligations are fully accrued at the date the landfill discontinues accepting waste.

Cell closure, final closure and post closure costs (also referred to as "asset retirement obligations") are calculated by estimating the total obligation in current dollars, adjusted for inflation (1.02% during 2016 and 2015) and discounted at the Company's credit-adjusted risk-free interest rate (6.23% and 5.99% during 2016 and 2015, respectively.)

Non-Landfill Closure and Post-Closure Liabilities

Non-landfill closure costs include costs required to dismantle and decontaminate certain structures and other costs incurred during the closure process. Post-closure costs, if required, include associated maintenance and monitoring costs as required by the closure permit. Post-closure periods are performance-based and are not generally specified in terms of years in the closure permit, but generally range from 10 to 30 years or more.

The Company records its non-landfill closure and post-closure liability by: (i) estimating the current cost of closing a non-landfill facility and the post-closure care of that facility, if required, based upon the closure plan that the Company is required to follow under its operating permit, or in the event the facility operates with a permit that does not contain a closure plan, based upon legally enforceable closure commitments made by the Company to various governmental agencies; (ii) using probability scenarios as to when in the future operations may cease; (iii) inflating the current cost of closing the non-landfill facility on a probability weighted basis using the inflation rate to the time of closing under each probability scenario; and (iv) discounting the future value of each closing scenario back to the present using the credit-adjusted risk-free interest rate. Non-landfill closure and post-closure obligations arise when the Company commences operations. The balance of non-landfill closure and post-closure liabilities at December 31, 2016 and 2015 was \$27.7 million and \$24.2 million, respectively.

The estimates for non-landfill closure and post-closure liabilities are inherently uncertain due to the possibility that permit and regulatory requirements will change in the future, impacting the estimation of total costs and the timing of the expenditures. Management reviews non-landfill closure and post-closure liabilities for changes to key assumptions that would impact the amount of the recorded liabilities. Changes that would prompt management to revise a liability estimate include changes in legal requirements that impact the Company's expected closure plan or scope of work, in the market price of a significant cost

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

item, in the probability scenarios as to when future operations at a location might cease, or in the expected timing of the cost expenditures. Changes in estimates for non-landfill closure and post-closure events immediately impact the required liability and the value of the corresponding asset. If a change is made to a fully-consumed asset, the adjustment is charged immediately to expense. When a change in estimate relates to an asset that has not been fully consumed, the adjustment to the asset is recognized in income prospectively as a component of amortization. Historically, material changes to non-landfill closure and post-closure estimates have been infrequent.

Remedial Liabilities

The balance of remedial liabilities at December 31, 2016 and 2015 was \$128.0 million and \$132.0 million, respectively. Remedial liabilities, including Superfund liabilities, include the costs of removal or containment of contaminated material, treatment of potentially contaminated groundwater and maintenance and monitoring costs necessary to comply with regulatory requirements. Most of the Company's remedial liabilities relate to the active and inactive hazardous waste treatment and disposal facilities which the Company acquired in the last 15 years and 35 Superfund sites owned by third parties for which the Company agreed to indemnify certain remedial liabilities owed or potentially owed to governmental entities by the sellers of certain assets (the "CSD assets") which the Company acquired in 2002. The Company performed extensive due diligence to estimate accurately the aggregate liability for remedial liabilities to which the Company became potentially liable as a result of the acquisitions. The Company's estimate of remedial liabilities involved an analysis of such factors as: (i) the nature and extent of environmental contamination (if any); (ii) the terms of applicable permits and agreements with regulatory authorities as to cleanup procedures and whether modifications to such permits and agreements will likely need to be negotiated; (iii) the cost of performing anticipated cleanup activities based upon current technology; and (iv) in the case of Superfund and other sites where other parties will also be responsible for a portion of the cleanup costs, the likely allocation of such costs and the ability of such other parties to pay their share. Remedial liabilities and on-going operations are reviewed quarterly and adjustments are made as necessary.

The Company periodically evaluates potential remedial liabilities at sites that it owns or operates or to which the Company or the sellers of the CSD assets (or the respective predecessors of the Company or such sellers) transported or disposed of waste, including 129 Superfund sites as of December 31, 2016. The Company periodically reviews and evaluates sites requiring remediation, including Superfund sites, giving consideration to the nature (i.e., owner, operator, arranger, transporter or generator) and the extent (i.e., amount and nature of waste hauled to the location, number of years of site operations or other relevant factors) of the Company's (or such sellers') alleged connection with the site, the extent (if any) to which the Company believes it may have an obligation to indemnify cleanup costs in connection with the site, the regulatory context surrounding the site, the accuracy and strength of evidence connecting the Company (or such sellers) to the location, the number, connection and financial ability of other named and unnamed potentially responsible parties ("PRPs") and the nature and estimated cost of the likely remedy. Where the Company concludes that it is probable that a liability has been incurred and an amount can be estimated, a provision is made, based upon management's judgment and prior experience, of such estimated liability.

Remedial liabilities are inherently difficult to estimate. Estimating remedial liabilities requires that the existing environmental contamination be understood. There are risks that the actual quantities of contaminants differ from the results of the site investigation, and that contaminants exist that have not been identified by the site investigation. In addition, the amount of remedial liabilities recorded is dependent on the remedial method selected. There is a risk that funds will be expended on a remedial solution that is not successful, which could result in the additional incremental costs of an alternative solution. Such estimates, which are subject to change, are subsequently revised if and when additional or new information becomes available.

Remedial liabilities are discounted only when the timing of the payments is determinable and the amounts are estimable. Management's experience has been that the timing of payments for remedial liabilities is not usually estimable, and therefore the amounts of remedial liabilities are not generally discounted. In the case of remedial liabilities assumed in connection with acquisitions, acquired liabilities are recorded at fair value as of the dates of the acquisitions calculated by inflating costs in current dollars using an estimate of future inflation rates as of the respective acquisition dates until the expected time of payment, and then discounting the amount of the payments to their present value using a risk-free discount rate as of the acquisition dates. Discounts have been and will be applied to the remedial liabilities as follows:

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

- Remedial liabilities assumed relating to acquisitions are and will continue to be inflated using the inflation rates at the time of each acquisition (ranging from 1.01% to 2.57%) until the expected time of payment, then discounted at the risk-free interest rate at the time of such acquisition (ranging from 1.37% to 5.99%).
- Remedial liabilities incurred subsequent to the acquisitions and remedial liabilities of the Company that existed prior to the acquisitions have been and will continue to be recorded at the estimated current value of the liabilities, which is usually neither increased for inflation nor reduced for discounting.

Foreign Currency

During the years ended December 31, 2016 and 2015, the Company had operations in Canada, and to a much lesser extent, Mexico and Trinidad. The functional currencies of those operations are their local currency and therefore assets and liabilities of those foreign operations are translated to U.S. dollars at the exchange rate in effect at the balance sheet date and revenue and expenses at the average exchange rate for the period. Gains and losses from the translation of the consolidated financial statements of foreign subsidiaries into U.S. dollars are included in stockholders' equity as a component of accumulated other comprehensive loss. Gains and losses resulting from foreign currency transactions are recognized in the consolidated statements of operations. Recorded balances that are denominated in a currency other than the functional currency are remeasured to the functional currency using the exchange rate at the balance sheet date and gains or losses are recorded in the statements of operations.

As part of the Company's overall capital structure, intercompany loans have been established between subsidiaries of the Company and in some cases are denominated in Canadian dollars. These intercompany loans are considered to be of a long-term investment nature as the repayment of these loans is neither planned nor anticipated in the foreseeable future. Impacts from the remeasurement of these loan amounts from the Canadian to the U.S. dollar reporting currency are recorded as an adjustment to foreign currency translation adjustment within accumulated other comprehensive loss, a component of shareholders' equity.

Revenue Recognition and Deferred Revenue

In 2016, the Company generated services and product revenues through the following operating segments: Technical Services, Industrial Services, Field Services, Safety-Kleen, Oil and Gas Field Services, and Lodging Services. The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable, and collection is reasonably assured. In many cases revenue is recognized net of estimated allowances. Revenue is generated by short-term projects, most of which are governed by master service agreements that are long-term in nature. These master service agreements are typically entered into with the Company's larger customers and outline the pricing and legal frameworks for such arrangements.

Due to the nature of the Company's business and the invoices that result from the services provided, customers may withhold payments and attempt to negotiate amounts invoiced. Accordingly, management establishes a revenue allowance to cover the estimated amounts of revenue that may need to be credited to customers' accounts in future periods. The Company records a provision for revenue allowances based on specific review of particular customers, historical trends and other relevant information.

Technical Services revenue is generated from fees charged for hazardous material management and disposal services including onsite environmental management services, collection and transportation, packaging, recycling, treatment and disposal of hazardous and non-hazardous waste. Services are provided based on purchase orders or agreements with the customer and include prices based upon units of volume of waste, and transportation and other fees. Collection and transportation, and packaging revenues are recognized when the transported waste is received at the disposal facility. Revenues for treatment and disposal of hazardous waste are recognized upon completion of wastewater treatment, final disposition in a landfill or incineration of the waste, all at Company-owned sites, or when the waste is shipped to a third party for processing and disposal. Revenues from recycled oil are recognized upon shipment to the customer. Revenue for all other Technical Services is recognized when services are rendered. The Company, at the request of a customer, periodically enters into bundled arrangements for the collection and transportation and disposal of waste. The Company accounts for such arrangements as multiple-element arrangements with each substantive deliverable treated as a separate unit of accounting. The Company measures and allocates the consideration from the arrangement to the separate units, based on evidence of the estimated selling price for each deliverable. Revenues from waste that is not yet completely processed and disposed and the related costs are deferred. The revenue is recognized and the deferred costs are expensed when the related services are completed.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

Industrial Services provides industrial and specialty services, such as high-pressure and chemical cleaning, daylighting services, production servicing, decoking, pigging and material processing to refineries, chemical plants, oil sands facilities, pulp and paper mills, and other industrial facilities. These services are provided based on purchase orders or agreements with the customer and include prices based upon daily, hourly or job rates for equipment, materials and personnel. Revenues are recognized over the term of the agreements or as services are performed. Field Services provides cleanup services on customer sites or other locations on a scheduled or emergency response basis. These services are provided based on purchase orders or agreements with the customers and include prices based upon daily, hourly or job rates for equipment, materials and personnel. Revenues are recorded as services are performed. Revenue is recognized on contracts with retainage when services have been rendered and collectability is reasonably assured.

Safety-Kleen service revenues are generated from providing parts cleaning services, containerized waste services, oil collection services, blending and packaging of blended oils, and other complementary services. Product revenues consist of sales of high quality base and blended lubricating oils manufactured from re-refining used oil and sales of recycled used oil collected in excess of the Company's re-refining capacity into recycled fuel oil. Revenue is recognized when products are delivered and services are performed. Parts cleaning services generally consist of placing a specially designed parts washer at a customer's premises and then, on a recurring basis, delivering clean solvent or aqueous-based washing fluid, cleaning and servicing the parts washer and removing the used solvent or aqueous fluid. The Company also services customer-owned parts washers. Revenue from parts cleaning services is recognized over the service interval. Service intervals represent the actual amount of time between service visits to a particular parts cleaning customer. Average service intervals vary from seven to 14 weeks depending on several factors, such as customer accommodation, types of machines serviced and frequency of use. Containerized waste services consist of profiling, collecting, transporting and recycling or disposing of a wide variety of hazardous and non-hazardous wastes. Collection and transportation, and packaging revenues are recognized when the transported waste is received at the disposal facility. Other complementary products and services include vacuum services, sale of allied supply products and other environmental services. The high quality base and blended lubricating oils are sold to third-party distributors, retailers, government agencies, fleets, railroads and industrial customers. In 2016, the Company implemented a direct-to-consumer sales model for Safety-Kleen's renewable oil products. The recycled fuel oil is sold to asphalt plants, industrial plants, blenders, pulp and paper companies, vacuum gas oil producers and marine diesel oil producers. Revenue is recognized upon the transfer of title.

Oil and Gas Field Services provides fluid handling, fluid hauling, surface rentals, seismic services, and directional boring services to the energy sector serving oil and gas exploration and production and power generation. These services are provided based on purchase orders or agreements with the customer and include prices based upon daily, hourly or job rates for equipment, materials and personnel. Revenues for such services are recognized over the term of the agreements or as services are performed. Oil and Gas Field Services also provides equipment rentals to support drill sites. Revenue from rentals is recognized ratably over the rental period.

Lodging Services provides accommodation services, along with catering and hospitality primarily in remote areas of Western Canada. In addition, within Lodging Services is a manufacturing unit that provides construction of modular buildings including modular camp accommodations and wastewater solutions. Revenue for lodging and related services is recognized in the period each room is used by the customer based on the related lodging agreements. Revenue for manufacturing services is recognized based on contracted terms resulting in either a percentage of completion methodology or upon transfer of ownership of completed units.

For all periods presented, any amounts billed to customers related to shipping and handling are classified as revenue and the Company's shipping and handling costs are included in costs of revenues. In the course of the Company's operations, it collects sales tax from its customers and recognizes a current liability which is then relieved when the taxes are remitted to the appropriate governmental authorities. The Company excludes the sales tax collected from its revenues.

Advertising Expense

Advertising costs are expensed as incurred. Advertising expense was approximately \$10.8 million in 2016, \$15.0 million in 2015 and \$11.3 million in 2014.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

Stock-Based Compensation

Stock-based compensation cost is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which generally represents the vesting period, and includes an estimate of awards that will be forfeited. In addition, the Company issues awards with performance targets which are recognized as expense over the requisite service period when management believes it is probable those targets will be achieved. The fair value of the Company's grants of restricted stock are based on the quoted market price for the Company's common stock on the respective dates of grant. Compensation expense is based on the number of awards expected to vest. Forfeitures estimated when recognizing compensation expense are adjusted when actual forfeitures differ from the estimate.

Income Taxes

There are two major components of income tax expense, current and deferred. Current income tax expense approximates cash to be paid or refunded for taxes for the applicable period. Deferred tax expense or benefit is the result of changes between deferred tax assets and liabilities. Deferred tax assets and liabilities are determined based upon the temporary differences between the financial statement basis and tax basis of assets and liabilities as well as from net operating loss and tax credit carryforwards as measured by the enacted tax rates, which will be in effect when these differences reverse. The Company evaluates the recoverability of future tax deductions and credits and a valuation allowance is established by tax jurisdiction when, based on an evaluation of both positive and negative objective verifiable evidence, it is more likely than not that some portion or all of deferred tax assets will not be realized.

The Company recognizes and measures a tax benefit from uncertain tax positions when it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The Company recognizes a liability for unrecognized tax benefits resulting from uncertain tax positions taken or expected to be taken in a tax return. The Company adjusts these liabilities when its judgment changes as a result of the evaluation of new information not previously available. Due to the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from the current estimate or future recognition of an unrecognized benefit. These differences will be reflected as increases or decreases to income tax expense in the period in which they are determined.

The Company recognizes interest and penalties related to unrecognized tax benefits within the income tax expense line in the consolidated statements of operations. Accrued interest and penalties are included within deferred taxes, unrecognized tax benefits and other long-term liabilities line in the consolidated balance sheet.

Earnings per Share ("EPS")

Basic EPS is calculated by dividing income available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted EPS gives effect to all potentially dilutive common shares that were outstanding during the period.

Business Combinations

For all business combinations, the Company records 100% of all assets and liabilities of the acquired business, including goodwill, at their estimated fair values. Acquisition-related costs are expensed in the period in which the costs are incurred and the services are received.

Recent Accounting Pronouncements

Standards implemented

In February 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2015-02, *Consolidation (Topic 810)*. The amendment provides guidance regarding amendments to the consolidation analysis. The adoption of ASU 2015-02 as of January 1, 2016 did not have an impact on the Company's consolidated financial statements.

In September 2015, FASB issued ASU 2015-16, *Business Combinations (Topic 805)*. The amendment provides guidance to simplify the accounting for adjustments made to provisional amounts recognized in a business combination. This amendment eliminates the requirement to retrospectively account for those adjustments. ASU 2015-16 is applied prospectively to

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

adjustments to provisional amounts that occur after the effective date of this update. The adoption of ASU 2015-16 as of January 1, 2016 did not have a material impact on the Company's consolidated financial statements.

Standards to be implemented

The Company is currently evaluating the impact that the below standards to be implemented will have on the Company's consolidated financial statements.

In May 2014, FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*. ASU 2014-09 outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. In August 2015, FASB issued ASU 2015-14 which deferred the effective date of ASU 2014-09 for all entities by one year. In March 2016, FASB issued ASU 2016-08, which reduces the potential for diversity in practice arising from inconsistent application of the principal versus agent guidance, as well as the cost and complexity of applying Topic 606 both at transition and on an ongoing basis. In April 2016, FASB issued ASU 2016-10, which reduces the potential for diversity in initial application, as well as the cost and complexity of applying Topic 606 both at transition and on an ongoing basis. In May 2016, FASB issued ASU 2016-12, which provided narrow scope improvements and practical expedients on assessing collectability, presentation of sales taxes, noncash consideration, and completed contracts and contract modifications at transition. ASU 2014-09 is currently effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2017. The guidance permits two methods of adoption: retrospectively to each prior reporting period presented (full retrospective method), or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (the cumulative catch-up transition method). The Company expects that it will adopt ASU 2014-09 beginning in the first quarter of 2018 and is in the initial stages of its evaluation of the impact of the new standard on its accounting policies, processes, and system requirements. The Company has assigned internal resources to assist in the evaluation. A final decision regarding the adoption method has not been finalized at this time. The Company's final determination will depend on a number of factors, such as the significance of the impact of the new standard on its financial results, system readiness, and its ability to accumulate and analyze the information necessary to assess the impact on prior period financial statements, as necessary.

In July 2015, FASB issued ASU 2015-11, *Inventory (Topic 330)*. The amendment provides guidance regarding the measurement of inventory. Entities should measure inventory within the scope of this update at the lower of cost and net realizable value. The amendments in this update are currently effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2016. Adoption is not expected to have a material impact on the Company's consolidated financial statements.

In January 2016, FASB issued ASU 2016-01, *Financial Instruments - Overall (Subtopic 825-10)*. The amendment provides guidance to enhance the reporting model for financial instruments to provide users of financial statements with more decision-useful information. The amendment in this update is effective for fiscal years beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019.

In February 2016, FASB issued ASU 2016-02, *Leases (Topic 842)*. The amendment increases transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. ASU 2016-02 should be applied using a modified retrospective approach and early adoption is permitted. The amendments in this update are effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2018.

In March 2016, FASB issued ASU 2016-09, *Compensation - Stock Compensation (Topic 718)*. The amendment simplifies several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. ASU 2016-09 allows for retrospective or prospective application and early adoption is permitted. The amendments in this update are effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2016. Adoption is not expected to have a material impact on the Company's consolidated financial statements.

In August 2016, FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)*. The amendment provides updated guidance on

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(2) SIGNIFICANT ACCOUNTING POLICIES (Continued)

eight specific cash flow issues, including debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments, contingent consideration payments made after a business combination, proceeds from settlement of insurance claims and corporate-owned life insurance, distributions received from equity method investees, beneficial interests in securitization transactions and separately identifiable cash flows and application of the predominance principle. Early adoption is permitted. The amendments in this update are effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2017.

In January 2017, FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*. The amendments in this Update provide a more robust framework to use in determining when a set of assets and activities is a business. The amendments in this Update should be applied prospectively and are effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2017. Adoption is not expected to have a material impact on the Company's consolidated financial statements.

In January 2017, FASB issued ASU 2017-04, *Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The amendments in this Update simplifies the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. The amendments in this Update should be applied prospectively and are effective for annual reporting periods (including interim reporting periods within those periods) beginning after December 15, 2019.

(3) BUSINESS COMBINATIONS

2016 Acquisitions

During 2016, the Company acquired seven businesses that complement the strategy to create a closed loop model as it relates to the sale of the Company's oil products. These acquisitions provided the Company with two additional oil re-refineries while also expanding its used motor oil collection network and providing greater blending and packaging capabilities. These acquisitions also provide the Company with greater access to customers in the West Coast region of the United States and additional locations with Part B permits. Operations of these acquisitions are primarily being integrated into the Safety-Kleen operating segment with certain operations also being integrated into the Technical Services and Industrial Services operating segments.

The combined purchase price for the seven acquisitions was approximately \$205.0 million paid in cash and subject to customary post-closing adjustments. The combined amount of direct revenue from the acquisitions included in the Company's results of operations for the year ended December 31, 2016 was approximately \$69.8 million. Upon acquisition, the acquired entities are immediately integrated into the Company's operating segments. Therefore it is impracticable to measure earnings attributable to the acquired businesses. During the year ended December 31, 2016, the Company incurred acquisition-related costs of approximately \$1.7 million in connection with the transactions which are included in selling, general and administrative expenses in the consolidated statements of operations.

The purchase price allocation for acquisitions may reflect various fair value estimates and analysis, including preliminary work performed by third-party valuation specialists. In addition, purchase prices for acquisitions may reflect preliminary working capital based adjustments. These estimates are subject to change within the measurement period as valuations and working capital adjustments are finalized. The primary areas of the preliminary purchase price allocation that are subject to change relate to the fair values of certain tangible assets and liabilities acquired, the valuation of intangible assets acquired, certain legal matters, income and income based taxes, and residual goodwill. Measurement period adjustments are recorded in the reporting period in which the estimates are finalized and adjustment amounts are determined.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(3) BUSINESS COMBINATIONS (Continued)

The components and preliminary allocation of the purchase price consist of the following amounts (in thousands):

	At Acquisition Dates	Measurement Period Adjustments	At Acquisition Dates As Reported December 31, 2016
Accounts receivable	\$ 17,384	\$ (1,617)	\$ 15,767
Inventories and supplies	13,859	(1,344)	12,515
Prepaid expenses and other current assets	920	(143)	777
Property, plant and equipment	132,705	10,320	143,025
Permits and other intangibles	23,405	5,451	28,856
Current liabilities	(19,482)	(776)	(20,258)
Closure and post-closure liabilities, less current portion	(1,709)	(699)	(2,408)
Remedial liabilities, less current portion	(4)	(2,037)	(2,041)
Deferred taxes, unrecognized tax benefits and other long-term liabilities	(8,663)	(8,356)	(17,019)
Total identifiable net assets	158,415	799	159,214
Goodwill	48,500	(2,709)	45,791
Total purchase price, net of cash acquired	<u>\$ 206,915</u>	<u>\$ (1,910)</u>	<u>\$ 205,005</u>

The excess of the total purchase price, which includes the aggregate cash consideration paid in excess of the fair value of the tangible net assets and intangible asset acquired, was recorded as goodwill. The goodwill recognized is attributable to the expected operating synergies and growth potential that the Company expects to realize from these acquisitions. Goodwill generated from the acquisitions was not deductible for tax purposes.

Pro forma revenue and earnings amounts on a combined basis as if these acquisitions had been completed on January 1, 2014 are immaterial to the consolidated financial statements of the Company since that date.

2015 Acquisitions**Thermo Fluids Inc.**

On April 11, 2015, the Company completed the acquisition of Heckmann Environmental Services, Inc. (“HES”) and Thermo Fluids Inc. (“TFI”), a wholly-owned subsidiary of HES. The acquisition was accomplished through a purchase by Safety-Kleen, Inc., a wholly-owned subsidiary of the Company, of all of the issued and outstanding shares of HES from Nuvera Environmental Solutions, Inc. HES is a holding company that does not conduct any operations. TFI provides environmental services, including used oil recycling, used oil filter recycling, antifreeze products, parts washers and solvent recycling, and industrial waste management services, including vacuum services, remediation, lab pack and hazardous waste management. The Company acquired TFI for a purchase price of \$79.3 million. The acquisition was financed with cash on hand and expands the Company’s environmental services customer base while also complimenting the Safety-Kleen network and presence in the western United States. The amount of revenue from TFI included in the Company’s results of operations for the years ended December 31, 2016 and 2015 was \$38.0 million and \$33.8 million, respectively. Upon acquisition, TFI was immediately integrated into the Company’s Safety-Kleen operating segment. Therefore it is impracticable to measure earnings attributable to TFI.

The allocation of the purchase price was based on estimates of the fair value of assets acquired and liabilities assumed as of April 11, 2015. The Company believes that such information provides a reasonable basis for estimating the fair values of assets acquired and liabilities assumed. The Company finalized the purchase accounting for the acquisition of TFI in the second quarter of 2016.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(3) BUSINESS COMBINATIONS (Continued)

	Preliminary Allocations as reported at December 31, 2015	Measurement Period Adjustments	Final Allocations
Accounts Receivable	\$ 7,585	\$ (284)	\$ 7,301
Inventories and supplies	1,791	—	1,791
Prepaid expenses and other current assets	665	—	665
Property, plant and equipment	28,862	(1,221)	27,641
Permits and other intangibles	18,100	—	18,100
Current liabilities	(5,845)	(39)	(5,884)
Closure and post-closure liabilities	(1,676)	(657)	(2,333)
Deferred taxes, unrecognized tax benefits and other long-term liabilities	(10,030)	856	(9,174)
Total identifiable net assets	39,452	(1,345)	38,107
Goodwill	39,134	2,095	41,229
Total	\$ 78,586	\$ 750	\$ 79,336

Pro forma revenue and earnings amounts on a combined basis as if TFI had been acquired on January 1, 2014 are immaterial to the consolidated financial statements of the Company since that date.

Other 2015 Acquisitions

In December 2015, the Company acquired certain assets and assumed certain defined liabilities of a privately owned company for approximately \$14.7 million in cash. That company specializes in the collection and recycling of used oil filters and was a service provider to the Safety-Kleen operating segment prior to the acquisition. The acquired company has been integrated into the Safety-Kleen operating segment. In connection with this acquisition a preliminary goodwill amount of \$7.4 million was recognized.

2014 Acquisitions

In 2014, the Company acquired the assets of two privately owned companies for approximately \$16.1 million in cash, net of cash acquired. The acquired companies have been integrated into the Technical Services and Lodging Services operating segments.

(4) DISPOSITION OF BUSINESS

On September 1, 2016, the Company completed the sale of its catalyst services business, which was a non-core business previously included within the Industrial Services operating segment, for approximately \$50.6 million (\$49.2 million net of cash retained by the catalyst services business) subject to customary post-closing conditions. As a result of the sale, the Company recognized during the year ended December 31, 2016, a pre-tax gain of \$16.9 million which is included in gain on sale of business in the Company's consolidated statement of operations. Inclusive within this gain was \$1.6 million of transactional related costs.

The following table presents the carrying amounts of the Company's Catalyst Services business immediately preceding the disposition on September 1, 2016 (in thousands):

	September 1, 2016
Total current assets	\$ 19,019
Property, plant and equipment, net	11,154
Total other assets	6,500
Total assets divested	\$ 36,673
Total current liabilities	4,040
Total other liabilities	566
Total liabilities divested	\$ 4,606
Net carrying value divested	\$ 32,067

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(4) DISPOSITION OF BUSINESS (Continued)

The Company evaluated the disposition and determined it did not meet the “major effect” criteria for classification as a discontinued operation largely due to the nature and size of the operations of the disposed of entity. However, the Company determined that the disposition did represent an individually significant component of its business. The following table presents income attributable to the catalyst services business included in the Company's consolidated results of operations for each of the periods shown and through its disposition on September 1, 2016 (in thousands):

	For the years ended December 31,		
	2016	2015	2014
Income before provision for income taxes	\$ 290	\$ 2,520	\$ 358

(5) INVENTORIES AND SUPPLIES

Inventories and supplies consisted of the following (in thousands):

	December 31, 2016	December 31, 2015
Oil and oil related products	\$ 52,158	\$ 33,603
Supplies and drums	90,610	78,132
Solvent and solutions	8,566	8,868
Modular camp accommodations	15,255	15,126
Other	11,839	13,792
Total inventories and supplies	<u>\$ 178,428</u>	<u>\$ 149,521</u>

The increase in oil and oil related products as of December 31, 2016 as compared to December 31, 2015 was primarily the result of the Company's recent acquisitions. As of December 31, 2016 and 2015, other inventories consisted primarily of cleaning fluids, such as absorbents and wipers, and automotive fluids, such as windshield washer fluid and antifreeze.

(6) PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following (in thousands):

	December 31, 2016	December 31, 2015
Land	\$ 120,575	\$ 100,582
Asset retirement costs (non-landfill)	14,567	12,434
Landfill assets	139,708	136,624
Buildings and improvements	373,160	344,209
Camp equipment	152,740	149,361
Vehicles	541,022	500,619
Equipment	1,483,736	1,328,915
Furniture and fixtures	5,492	5,337
Construction in progress	146,904	113,657
	<u>2,977,904</u>	<u>2,691,738</u>
Less - accumulated depreciation and amortization	<u>1,366,077</u>	<u>1,159,271</u>
Total property, plant and equipment, net	<u>\$ 1,611,827</u>	<u>\$ 1,532,467</u>

Interest in the amount of \$5.5 million, \$2.0 million and \$0.5 million was capitalized to fixed assets during the years ended December 31, 2016, 2015 and 2014, respectively. Depreciation expense, inclusive of landfill amortization was \$247.0 million, \$234.0 million and \$239.4 million for the years ended December 31, 2016, 2015 and 2014, respectively.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(7) GOODWILL AND OTHER INTANGIBLE ASSETS

The changes in goodwill for the years ended December 31, 2016 and 2015 were as follows (in thousands):

	Technical Services	Industrial and Field Services	Safety-Kleen	Oil, Gas and Lodging Services	Totals
Balance at January 1, 2015	\$ 50,092	\$ 109,214	\$ 224,756	\$ 68,607	\$ 452,669
Increase from current period acquisitions	—	—	46,539	—	46,539
Measurement period adjustments from prior period acquisitions	—	—	—	3,574	3,574
Goodwill impairment charge	—	—	—	(31,992)	(31,992)
Foreign currency translation and other	(825)	(3,928)	(4,951)	(7,981)	(17,685)
Balance at December 31, 2015	\$ 49,267	\$ 105,286	\$ 266,344	\$ 32,208	\$ 453,105
Increase from current period acquisitions	12,572	6,953	26,266	—	45,791
Measurement period adjustments from prior period acquisitions	—	—	2,095	—	2,095
Decrease from disposition of business	—	(4,994)	—	—	(4,994)
Goodwill impairment charge	—	—	—	(34,013)	(34,013)
Foreign currency translation and other	(723)	723	1,365	1,805	3,170
Balance at December 31, 2016	\$ 61,116	\$ 107,968	\$ 296,070	\$ —	\$ 465,154

The Company assesses goodwill for impairment on an annual basis as of December 31, or at an interim date when events or changes in the business environment would more likely than not reduce the fair value of a reporting unit below its carrying value.

The Company conducted its annual impairment test of goodwill for all of the Company's reporting units with remaining goodwill as of December 31, 2016 and determined that no adjustment to the carrying value of goodwill for any reporting unit was then necessary because the fair values of the reporting units exceeded their respective carrying values. The fair value of all reporting units was determined using an income approach based upon estimates of future discounted cash flows. The resulting estimates of fair value were validated through the consideration of other factors such as the fair value of comparable companies to the reporting units and a reconciliation of the sum of all estimated fair values of the reporting units to the Company's overall market capitalization. In all cases, except for the Company's Industrial Services and Kleen Performance Products reporting units, the estimated fair values of the reporting units significantly exceeded their carrying values.

Significant judgments and unobservable inputs categorized as Level III in the fair value hierarchy are inherent in the impairment tests performed and include assumptions about the amount and timing of expected future cash flows, growth rates, and the determination of appropriate discount rates. The Company believes that the assumptions used in its annual and any interim date impairment tests are reasonable, but variations in any of the assumptions may result in different calculations of fair values and impairment charges.

The impacts of any adverse business and market conditions which impact the overall performance of the Company's reporting units will continue to be monitored. If the Company's reporting units do not achieve the financial performance that the Company expects, it is possible that additional goodwill impairment charges may result. There can therefore be no assurance that future events will not result in an impairment of goodwill.

At December 31, 2016, the total accumulated goodwill impairment charges was \$189.4 million, of which \$34.0 million was recorded during the year ended December 31, 2016 within the Lodging Services reporting unit, \$32.0 million was recorded during the year ended December 31, 2015 within the Oil and Gas Field Services reporting unit, and \$123.4 million was recorded within the Kleen Performance Products reporting unit during the year ended December 31, 2014.

During the quarter ended September 30, 2016, certain events and changes in circumstances arose which led management to conclude that the fair value of the Lodging Services reporting unit was more likely than not less than its carrying value, and

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(7) GOODWILL AND OTHER INTANGIBLE ASSETS (Continued)

therefore an interim goodwill impairment test was performed. The primary events and changes in circumstances which led to this conclusion were:

- Macroeconomic conditions for service companies operating in western Canada's oil sands region deteriorated in 2016 primarily due to persistently low oil and gas prices. Persistently low prices have caused Lodging Services' primary customers to significantly reduce, defer, or cancel oil and gas projects that are in, or had been planned for, this region during periods of more robust commodity pricing.
- Government regulatory delays related to oil and gas pipeline projects have reduced management's confidence that these projects will move forward in a timely manner or in the form that had been originally contemplated by their planners. These projects represented a significant portion of Lodging Services' future growth in terms of the demand for temporary accommodations provided by the Lodging Services reporting unit. While some of these projects have made recent advancements towards successful government approval, the lack of meaningful progress to date does not provide enough positive evidence that a recovery will be significant enough to improve Lodging Services' current forecasted outlook.
- There have been consecutive historical quarters where business results were significantly less than internal forecasts, and previous actual results, for the Lodging Services reporting unit.
- During the quarter ended September 30, 2016, management's near-term outlook was clarified in regards to the business' projections and the impacts of large scale forest fires which took place in the Fort McMurray area of Alberta, Canada, where the Company has significant Lodging Services operations.
- Due to the factors listed above, management significantly lowered its 2016 forecasts and long-range performance relative to the Lodging Services reporting unit.

In performing Step I of the interim goodwill impairment test, the estimated fair value of the Lodging Services reporting unit was determined using an income approach with discounted cash flows which were compared to the reporting unit's carrying value as of September 30, 2016. Based on the results of that evaluation, the carrying amount of the reporting unit, including \$34.0 million of goodwill, exceeded Lodging Services' estimated fair value and as a result the Company performed Step II of the goodwill impairment test to determine the amount of goodwill impairment that would need to be recognized.

Step II of the goodwill impairment test required the Company to perform a theoretical purchase price allocation for Lodging Services to determine the implied fair value of its goodwill and then compare that implied fair value to its recorded amount. Estimates and assumptions were used to determine the fair values for Lodging Services long-lived assets in Step II and these involved the use of significant professional judgment on the part of management. The classes of assets that were affected by these estimates and assumptions related most significantly to property, plant, and equipment, goodwill, and intangible assets. Based on the results of this test the implied fair value of goodwill was determined to be \$0. Accordingly, the Company recognized a goodwill impairment charge equal to its recorded amount, or \$34.0 million, as of September 30, 2016.

The factors contributing to the \$34.0 million goodwill impairment charge principally related to events and changes in circumstances discussed above which negatively impacted the Company's prospective financial information in its discounted cash flow model and the reporting unit's estimated fair value. Lower levels of pricing and an unfavorable change in product mix that reduced expected profit became evident during the quarter ended September 30, 2016 due to market conditions as management updated the Company's long-term projections for the business which, as a result, decreased the reporting unit's anticipated future cash flows as compared to those estimated previously. These factors also provided evidence of a longer than expected recovery from current industry depressed pricing and activity levels, which negatively impacted the estimated levels of cash flows in future periods that are assumed in the cash flow model. These factors adversely affected the estimated fair value of the reporting unit and ultimately led to the recognition of the goodwill impairment charge.

During the second quarter of 2015, certain events and changes in circumstances arose which led management of the Company to conclude that the fair value of the Oil and Gas Field Services reporting unit may be less than its carrying value and therefore an interim impairment test was conducted relative to goodwill recorded by the Oil and Gas Field Services reporting unit. The primary events and changes in circumstances which led to this conclusion were:

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(7) GOODWILL AND OTHER INTANGIBLE ASSETS (Continued)

- The second quarter is the period of time where greater levels of communication with customers and the receipt of bids and proposals for project work take place and provide management with more clarity into levels of activity and other economic and business indicators for the latter half of the fiscal year and into the first quarter of the following year. During the quarter ended June 30, 2015, it became apparent that oil and gas exploration and production activity would continue to be lower than for prior periods and than previously anticipated by the Company. This was evidenced by reduced volume in bid and proposal requests from customers and communications indicating the reduction in customer budgets in these areas as well as lower than anticipated pricing for the Company's services.
- Market and industry reports to which management looks in projecting business conditions and establishing forecast information evidenced more pessimistic views in the near term. The continued depressed price of oil without any upward momentum since December 2014, as well as declining and expected continued decline in rig count for the remainder of 2015, resulted in lower estimates of industry activity in the second half of 2015 and early 2016.
- In recognition of lower than anticipated business results and less optimistic market indicators, management significantly lowered its 2015 forecasts relative to the Oil and Gas Field Services reporting unit.

In performing Step I of this interim goodwill impairment test, the estimated fair value of the Oil and Gas Field Services reporting unit was determined using an income approach based upon discounted cash flows and was compared to the reporting unit's carrying value as of June 30, 2015. Based on the results of that valuation, the carrying amount of the reporting unit, including \$32.0 million of goodwill, exceeded its estimated fair value and as a result the Company performed Step II of the goodwill impairment test to determine the amount of goodwill impairment charge to be recorded.

Step II of the goodwill impairment test required the Company to perform a theoretical purchase price allocation for the reporting unit to determine the implied fair value of goodwill and to compare the implied fair value of goodwill to the recorded amount. The estimates of the fair values of intangible assets identified in performing this theoretical purchase price allocation and resulting implied fair value of goodwill required significant judgment. Based on the results of this goodwill impairment test, the implied value of goodwill was \$0 and the Company therefore recognized a goodwill impairment charge equal to the recorded amount of goodwill of \$32.0 million as of June 30, 2015.

The factors contributing to the \$32.0 million goodwill impairment charge principally related to events and changes in circumstances discussed above which had negative impacts on the Company's prospective financial information utilized in its discounted cash flow model prepared in connection with the interim impairment test. The projected lower levels of activity and pricing in the latter half of the year which became evident during the second quarter decreased the reporting unit's anticipated future cash flows for 2015 as compared to those estimated previously. These factors also provided evidence of a longer than expected overall recovery from current industry decreased pricing and activity levels which negatively impacted the estimated levels of cash flows in future periods that were assumed in the cash flow models utilized in the interim impairment test. These factors adversely affected the estimated fair value of the reporting unit as of June 30, 2015 and ultimately led to the recognition of the goodwill impairment charge.

During the third quarter of 2014, the Company obtained evidence that indicated the carrying value of the Kleen Performance Products reporting unit may have exceeded its estimated fair value and therefore an interim goodwill impairment test was performed. As a result of that test the Company recorded a \$123.4 million impairment charge. The factors contributing to this goodwill impairment charge principally related to decreases in market prices of oil products sold by the Kleen Performance Products business which took place during the third quarter of 2014. These decreasing market prices negatively impacted the profitability of the Kleen Performance operating segment and further resulted in lower assumptions for future revenues and profits of the business. These factors adversely affected the estimated fair value of the reporting unit as of September 30, 2014 and ultimately led to the recognition of the goodwill impairment charge.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(7) GOODWILL AND OTHER INTANGIBLE ASSETS (Continued)

As of December 31, 2016 and 2015, the Company's finite-lived and indefinite lived intangible assets consisted of the following (in thousands):

	December 31, 2016				December 31, 2015			
	Cost	Accumulated Amortization	Net	Weighted Average Amortization Period (in years)	Cost	Accumulated Amortization	Net	Weighted Average Amortization Period (in years)
Permits	\$ 171,637	\$ 67,301	\$ 104,336	18.9	\$ 161,396	\$ 61,142	\$ 100,254	19.0
Customer and supplier relationships	393,426	127,462	265,964	12.2	374,866	99,463	275,403	10.1
Other intangible assets	34,254	28,456	5,798	7.1	31,416	22,581	8,835	1.5
Total amortizable permits and other intangible assets	599,317	223,219	376,098	13.9	567,678	183,186	384,492	10.0
Trademarks and trade names	122,623	—	122,623	Indefinite	122,326	—	122,326	Indefinite
Total permits and other intangible assets	<u>\$ 721,940</u>	<u>\$ 223,219</u>	<u>\$ 498,721</u>		<u>\$ 690,004</u>	<u>\$ 183,186</u>	<u>\$ 506,818</u>	

The Company also performed an analysis to determine whether the carrying values of the Oil and Gas Field Services and Lodging Services operating segments' finite-lived intangibles and other long lived assets as of December 31, 2016 may not be entirely recoverable. As of December 31, 2016, the Oil and Gas Field Services and Lodging Services operating segments had property, plant and equipment, net of \$88.2 million and \$93.8 million, respectively, and intangible assets of \$5.5 million and \$5.4 million, respectively. Based on the analysis performed, sufficient future cash flows are anticipated over those assets' remaining lives to demonstrate recoverability. Thus no impairment charge was recorded related to those other long-lived assets. If expectations of future cash flows were to decrease in the future as a result of worse than expected or prolonged periods of depressed activity, future impairments may become evident.

Amortization expense of permits and other intangible assets for the years ended December 31, 2016, 2015 and 2014 were \$40.0 million, \$40.2 million and \$36.7 million, respectively.

The expected amortization of the net carrying amount of finite-lived intangible assets at December 31, 2016 is as follows (in thousands):

<u>Years Ending December 31,</u>	<u>Expected Amortization</u>
2017	\$ 36,904
2018	33,981
2019	31,272
2020	29,087
2021	26,515
Thereafter	218,339
	<u>\$ 376,098</u>

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(8) ACCRUED EXPENSES

Accrued expenses consisted of the following at December 31 (in thousands):

	December 31, 2016	December 31, 2015
Insurance	\$ 63,061	\$ 55,899
Interest	21,536	20,500
Accrued compensation and benefits	34,641	35,646
Income, real estate, sales and other taxes	35,083	37,095
Other	36,400	44,520
	<u>\$ 190,721</u>	<u>\$ 193,660</u>

As of December 31, 2016 and 2015, other accrued expenses included accrued legal matters of \$3.8 million and \$3.0 million, respectively, and accrued severance charges of \$2.9 million and \$1.1 million, respectively.

(9) CLOSURE AND POST-CLOSURE LIABILITIES

The changes to closure and post-closure liabilities (also referred to as "asset retirement obligations") from January 1, 2015 through December 31, 2016 were as follows (in thousands):

	Landfill Retirement Liability	Non-Landfill Retirement Liability	Total
Balance at January 1, 2015	\$ 29,932	\$ 20,769	\$ 50,701
Liabilities assumed in TFI acquisition	—	1,676	1,676
New asset retirement obligations	3,151	—	3,151
Accretion	2,516	2,122	4,638
Changes in estimates recorded to statement of operations	(162)	205	43
Changes in estimates recorded to balance sheet	2,942	—	2,942
Expenditures	(5,946)	(177)	(6,123)
Currency translation and other	(410)	(369)	(779)
Balance at December 31, 2015	<u>32,023</u>	<u>24,226</u>	<u>56,249</u>
Liabilities assumed in acquisitions	—	2,408	2,408
Measurement period adjustments from prior period acquisitions	—	657	657
New asset retirement obligations	1,983	—	1,983
Accretion	2,705	2,398	5,103
Changes in estimates recorded to statement of operations	(1,415)	(1,204)	(2,619)
Changes in estimates recorded to balance sheet	(3,289)	—	(3,289)
Expenditures	(1,446)	(802)	(2,248)
Currency translation and other	69	18	87
Balance at December 31, 2016	<u>\$ 30,630</u>	<u>\$ 27,701</u>	<u>\$ 58,331</u>

All of the landfill facilities included in the above table were active as of December 31, 2016 and 2015. There were no significant charges (benefits) in 2016 and 2015 resulting from changes in estimates for closure and post-closure liabilities.

New asset retirement obligations incurred during 2016 and 2015 were discounted at the credit-adjusted risk-free rate of 6.23% and 5.99%, respectively.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(9) CLOSURE AND POST-CLOSURE LIABILITIES (Continued)

Anticipated payments (based on current estimated costs and anticipated timing of necessary regulatory approvals to commence work on closure and post-closure activities) for each of the next five years and thereafter are as follows (in thousands):

Year ending December 31,

2017	\$	6,931
2018		8,181
2019		9,916
2020		8,646
2021		5,093
Thereafter		288,167
Undiscounted closure and post-closure liabilities		326,934
Less: Discount at credit-adjusted risk-free rate		(164,350)
Less: Undiscounted estimated closure and post-closure liabilities relating to airspace not yet consumed		(104,253)
Present value of closure and post-closure liabilities	\$	58,331

(10) REMEDIAL LIABILITIES

The changes to remedial liabilities from January 1, 2015 through December 31, 2016 were as follows (in thousands):

	Remedial Liabilities for Landfill Sites	Remedial Liabilities for Inactive Sites	Remedial Liabilities (Including Superfund) for Non-Landfill Operations	Total
Balance at January 1, 2015	\$ 5,420	\$ 68,528	\$ 81,173	\$ 155,121
Accretion	218	2,924	2,622	5,764
Changes in estimates recorded to statement of operations	(2,841)	(2,927)	(5,620)	(11,388)
Expenditures	(137)	(4,779)	(9,091)	(14,007)
Currency translation and other	(333)	(133)	(3,032)	(3,498)
Balance at December 31, 2015	2,327	63,613	66,052	131,992
Liabilities assumed in acquisitions	—	—	2,041	2,041
Accretion	110	2,737	2,227	5,074
Changes in estimates recorded to statement of operations	(538)	1,520	(2,617)	(1,635)
Expenditures	(122)	(3,893)	(5,907)	(9,922)
Currency translation and other	—	174	283	457
Balance at December 31, 2016	\$ 1,777	\$ 64,151	\$ 62,079	\$ 128,007

There were no significant charges (benefits) in 2016 resulting from changes in estimates for remedial liabilities.

In 2015, the net reduction in the Company's remedial liabilities from changes in estimates recorded to the statement of operations was \$11.4 million and primarily related to reductions in the estimates for remedial activities at four locations. Events which occurred during 2015 and resulted in the changes in estimates were attributable to favorable outcomes from negotiations among potentially responsible parties in which the Company participates of \$3.8 million, work performed by external third-party consultants which were engaged to aid the Company in estimating future remedial activity costs at certain sites of \$4.7 million, and receiving Provincial approval for a planned expansion of one of the Company's landfills in Canada which as a result will remediate the Company's previously recognized obligations of \$2.5 million.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(10) REMEDIAL LIABILITIES (Continued)

Anticipated payments at December 31, 2016 (based on current estimated costs and anticipated timing of necessary regulatory approvals to commence work on remedial activities) for each of the next five years and thereafter were as follows (in thousands):

<u>Year ending December 31,</u>	
2017	\$ 14,084
2018	17,667
2019	13,638
2020	10,599
2021	8,990
Thereafter	86,787
Undiscounted remedial liabilities	151,765
Less: Discount	(23,758)
Total remedial liabilities	\$ 128,007

Based on currently available facts and legal interpretations, existing technology, and presently enacted laws and regulations, the Company estimates that its aggregate liabilities as of December 31, 2016 for future remediation relating to all of its owned or leased facilities and the Superfund sites for which the Company has current or potential future liability is approximately \$128.0 million. The Company also estimates that it is reasonably possible that the amount of such total liabilities could be as much as \$23.4 million more. Future changes in either available technology or applicable laws or regulations could affect such estimates of remedial liabilities. Since the Company's satisfaction of the liabilities will occur over many years, the Company cannot now reasonably predict the nature or extent of future changes in either available technology or applicable laws or regulations and the impact that those changes, if any, might have on the current estimates of remedial liabilities.

The following tables show, respectively, (i) the amounts of such estimated liabilities associated with the types of facilities and sites involved and (ii) the amounts of such estimated liabilities associated with each facility or site which represents at least 5% of the total and with all other facilities and sites as a group and as of December 31, 2016.

Estimates Based on Type of Facility or Site (in thousands):

Type of Facility or Site	Remedial Liability	% of Total	Reasonably Possible Additional Liabilities(1)
Facilities now used in active conduct of the Company's business (48 facilities)	\$ 55,467	43.3%	\$ 11,862
Inactive facilities not now used in active conduct of the Company's business but most of which were acquired because the assumption of remedial liabilities for such facilities was part of the purchase price for the CSD assets (35 facilities)	64,151	50.1	10,679
Superfund sites owned by third parties (17 sites)	8,389	6.6	839
Total	\$ 128,007	100.0%	\$ 23,380

(1) Amounts represent the high end of the range of management's best estimate of the reasonably possible additional liabilities.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(10) REMEDIAL LIABILITIES (Continued)

Estimates Based on Amount of Potential Liability (in thousands):

Location	Type of Facility or Site	Remedial Liability	% of Total	Reasonably Possible Additional Liabilities(1)
Baton Rouge, LA(2)	Closed incinerator and landfill	\$ 23,256	18.2%	\$ 3,940
Bridgeport, NJ	Closed incinerator	19,059	14.9	2,590
Mercier, Quebec(2)	Idled incinerator and legal proceedings	9,510	7.4	1,008
Linden, NJ	Operating solvent recycling center	7,781	6.1	842
Various(2)	All other incinerators, landfills, wastewater treatment facilities and service centers (79 facilities)	60,012	46.8	14,161
Various(2)	Superfund sites (each representing less than 5% of total liabilities) owned by third parties (17 sites)	8,389	6.6	839
Total		\$ 128,007	100.0%	\$ 23,380

- (1) Amounts represent the high end of the range of management's best estimate of the reasonably possible additional liabilities.
- (2) \$18.2 million of the \$128.0 million remedial liabilities and \$1.9 million of the \$23.4 million reasonably possible additional liabilities include estimates of remediation liabilities related to the legal and administrative proceedings discussed in Note 17, "Commitments and Contingencies," as well as other such estimated remedial liabilities.

Revisions to remediation reserve requirements may result in upward or downward adjustments to income from operations in any given period. The Company believes that its extensive experience in the environmental services business, as well as its involvement with a large number of sites, provides a reasonable basis for estimating its aggregate liability. It is possible, however, that technological, regulatory or enforcement developments, the results of environmental studies, or other factors could necessitate the recording of additional liabilities or the revision of currently recorded liabilities that could be material. The impact of such future events cannot be estimated at the current time.

(11) FINANCING ARRANGEMENTS

The following table is a summary of the Company's financing arrangements (in thousands):

	December 31, 2016	December 31, 2015
Senior unsecured notes, at 5.25%, due August 1, 2020 ("2020 Notes")	\$ 800,000	\$ 800,000
Senior unsecured notes, at 5.125%, due June 1, 2021 ("2021 Notes")	845,000	595,000
Long-term obligations, at par	\$ 1,645,000	\$ 1,395,000
Unamortized debt issuance costs and premium, net	\$ (11,728)	\$ (12,457)
Long-term obligations, at carrying value	\$ 1,633,272	\$ 1,382,543

Senior Unsecured Notes. On July 30, 2012, the Company issued \$800.0 million aggregate principal amount of 5.25% senior unsecured notes due August 1, 2020 with semi-annual fixed interest payments on February 1 and August 1 of each year. At December 31, 2016 and December 31, 2015, the fair value of the Company's 2020 Notes was \$820.0 million and \$812.0 million, respectively, based on quoted market prices for the instrument. The fair value of the 2020 Notes is considered a Level 2 measure according to the fair value hierarchy. The Company may redeem some or all of the 2020 Notes at any time on upon proper notice, at the following redemption prices plus unpaid interest:

Year	Percentage
Prior to August 1, 2017	102.625%
After August 1, 2017	101.313%
After August 1, 2018	100.000%

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(11) FINANCING ARRANGEMENTS (Continued)

On December 7, 2012, the Company issued \$600.0 million aggregate principal amount of 5.125% senior unsecured notes due 2021 with semi-annual fixed interest payments on June 1 and December 1 of each year. The Company used the net proceeds from such issuance to fund a portion of the purchase price to acquire Safety-Kleen. The Company repurchased \$5.0 million principal amount of the 2021 Notes during 2014. On March 14, 2016, the Company issued \$250.0 million aggregate principal amount as additional notes under the indenture. At December 31, 2016 and 2015, the fair value of the Company's 2021 Notes was \$861.9 million and \$599.5 million, respectively, based on quoted market prices or other available market data. The fair value of the 2021 Notes is considered a Level 2 measure according to the fair value hierarchy. The Company may redeem some or all of the 2021 Notes at any time upon proper notice, at the following redemption prices plus unpaid interest:

Year	Percentage
Prior to December 1, 2017	102.563%
After December 1, 2017	101.281%
After December 1, 2018	100.000%

The 2020 Notes and the 2021 Notes (collectively, the "Notes") and the related indentures contain various customary non-financial covenants and are guaranteed by substantially all the Company's current and future domestic restricted subsidiaries. The Notes are the Company's and the guarantors' senior unsecured obligations ranking equally with the Company's and the guarantors' existing and future senior unsecured obligations and senior to any future indebtedness that is expressly subordinated to the Notes and the guarantees. The Notes are effectively subordinated to all of the Company's and the Company's subsidiaries secured indebtedness under the Company's revolving credit facility and capital lease obligations to the extent of the value of the assets securing such secured indebtedness. The Notes are not guaranteed by the Company's existing and future Canadian or other foreign subsidiaries, and the Notes are structurally subordinated to all indebtedness and other liabilities, including trade payables, of the Company's subsidiaries that are not guarantors of the Notes.

Revolving Credit Facility. On November 1, 2016, the Company and one of the Company's subsidiaries (the "Canadian Borrower") entered into an amended and restated credit agreement for the Company's revolving credit facility with Bank of America, N.A. ("BoFA"), as agent for the lenders under the facility. Under the amended and restated facility, the Company has the right to obtain revolving loans and letters of credit for a combined maximum of up to \$300.0 million (with a sub-limit of \$250.0 million for letters of credit) and the Canadian Borrower has the right to obtain revolving loans and letters of credit for a combined maximum of up to \$100.0 million (with a \$75.0 million sub-limit for letters of credit). Availability under the U.S. line is subject to a borrowing base basically comprised of 85% of the eligible accounts receivable of the Company and its U.S. subsidiaries plus 100% of cash deposited in a controlled account with the Agent, and availability under the Canadian line is subject to a borrowing base basically comprised of 85% of the eligible accounts receivable of the Company's Canadian subsidiaries plus 100% of cash deposited in a controlled account with the Agent's Canadian affiliate. Subject to certain conditions, the facility will expire on November 1, 2021.

Borrowings under the revolving credit facility bear interest at a rate of, at the Company's option, either (i) LIBOR plus an applicable margin ranging from 1.25% to 1.50% per annum based primarily on the level of the Company's average liquidity for the most recent 30 day period or (ii) BoFA's base rate plus an applicable margin ranging from 0.25% to 0.50% per annum based primarily on such average liquidity. There is also an unused line fee, calculated on the then unused portion of the lenders' \$400.0 million maximum commitments, ranging from 0.25% to 0.30% per annum of the unused commitment. For outstanding letters of credit, the Company will pay to the lenders a fee equal to the then applicable LIBOR margin described above, and to the issuing banks a standard fronting fee and customary fees and charges in connection with all amendments, extensions, draws and other actions with respect to letters of credit.

The Company's obligations under the revolving credit facility (including revolving loans and reimbursement obligations for outstanding letters of credit) are guaranteed by substantially all of the Company's U.S. subsidiaries and secured by a first lien on the Company's and its U.S. subsidiaries' accounts receivable. The Canadian Borrower's obligations under the facility are guaranteed by substantially all of the Company's Canadian subsidiaries and secured by a first lien on the accounts receivable of the Canadian subsidiaries. The Company and its U.S. subsidiaries guarantee the obligations of the Canadian subsidiaries under the facility, but the Canadian subsidiaries do not guarantee and are not otherwise responsible for the obligations of the Company and its U.S. subsidiaries.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(11) FINANCING ARRANGEMENTS (Continued)

The Company utilizes letters of credit primarily as security for financial assurance which it has been required to provide to regulatory bodies for its hazardous waste facilities and which would be called only in the event that the Company fails to satisfy closure, post-closure and other obligations under the permits issued by those regulatory bodies for such licensed facilities. At December 31, 2016 and 2015, the revolving credit facility had no outstanding loan balances, \$195.2 million and \$178.5 million, respectively, available to borrow and \$132.6 million and \$144.6 million, respectively, of letters of credit outstanding.

(12) INCOME TAXES

The domestic and foreign components of income before provision for income taxes were as follows (in thousands):

	For the Year Ended December 31,		
	2016	2015	2014
Domestic	\$ 87,328	\$ 164,105	\$ 44,737
Foreign	(78,612)	(54,459)	(6,215)
Total	\$ 8,716	\$ 109,646	\$ 38,522

The provision for income taxes consisted of the following (in thousands):

	For the Year Ended December 31,		
	2016	2015	2014
Current:			
Federal	\$ 14,798	\$ 46,775	\$ 17,184
State	8,763	11,120	6,918
Foreign	9,844	5,719	10,428
	33,405	63,614	34,530
Deferred			
Federal	21,814	12,254	33,858
State	1,644	2,766	1,840
Foreign	(8,274)	(13,090)	(3,378)
	15,184	1,930	32,320
Provision for income taxes	\$ 48,589	\$ 65,544	\$ 66,850

The Company's effective tax rate for fiscal years 2016, 2015 and 2014 was 557.5%, 59.8% and 173.5%, respectively. The effective income tax rate varied from the amount computed using the statutory federal income tax rate as follows (in thousands):

	For the Year Ended December 31,		
	2016	2015	2014
Tax expense at US statutory rate	\$ 3,051	\$ 38,376	\$ 13,483
State income taxes, net of federal benefit	6,010	8,449	7,429
Foreign rate differential	3,646	3,951	(2,916)
Valuation allowance	22,564	1,824	827
Uncertain tax position interest and penalties	107	32	2,217
Goodwill impairment	11,905	10,974	44,273
Other	1,306	1,938	1,537
Provision for income taxes	\$ 48,589	\$ 65,544	\$ 66,850

During the year ended December 31, 2016, the Company allocated \$16.8 million of tax benefits related to tax deductible foreign currency losses to accumulated other comprehensive loss and as such these benefits are not included within the provision for income taxes.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(12) INCOME TAXES (Continued)

The components of the total net deferred tax assets and liabilities at December 31, 2016 and 2015 were as follows (in thousands):

	2016	2015
Deferred tax assets:		
Workers compensation and other claims related accruals	\$ 1,069	\$ 15,316
Provision for doubtful accounts	11,189	12,654
Closure, post-closure and remedial liabilities	40,829	37,407
Accrued expenses	18,757	12,455
Accrued compensation	2,747	5,425
Net operating loss carryforwards(1)	46,752	41,191
Tax credit carryforwards(2)	25,348	25,040
Uncertain tax positions accrued interest and federal benefit	1,241	1,219
Stock-based compensation	1,993	615
Other	555	7,421
Total deferred tax assets	150,480	158,743
Deferred tax liabilities:		
Property, plant and equipment	(207,799)	(221,969)
Permits and other intangible assets	(161,295)	(159,698)
Prepays	(11,030)	—
Total deferred tax liabilities	(380,124)	(381,667)
Total net deferred tax liability before valuation allowance	(229,644)	(222,924)
Less valuation allowance	(55,189)	(30,916)
Net deferred tax liabilities	\$ (284,833)	\$ (253,840)

(1) As of December 31, 2016, the net operating loss carryforwards included (i) state net operating loss carryovers of \$189.0 million which will begin to expire in 2017, (ii) federal net operating loss carryforwards of \$62.9 million which will begin to expire in 2025, and (iii) foreign net operating loss carryforwards of \$50.5 million which will begin to expire in 2017.

(2) As of December 31, 2016, the foreign tax credit carryforwards of \$25.0 million will expire between 2020 and 2024.

The Company does not accrue U.S. tax for foreign earnings that it considers to be permanently reinvested outside the United States. Consequently, the Company has not provided any U.S. tax on the unremitted earnings of its foreign subsidiaries. As of December 31, 2016, the amount of earnings for which no repatriation tax has been provided was \$238.5 million. It is not practicable to estimate the amount of additional tax that might be payable on those earnings if repatriated.

A valuation allowance is required to be established when, based on an evaluation of available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Accordingly, as of December 31, 2016 and 2015, the Company had a valuation allowance of \$55.2 million and \$30.9 million, respectively. The total allowance as of December 31, 2016 consisted of \$25.0 million of foreign tax credits, \$1.5 million of acquired federal net operating losses, \$5.0 million of state net operating loss carryforwards, \$18.0 million of foreign net operating loss carryforwards, and \$5.7 million of deferred tax assets of a Canadian subsidiary. The allowance as of December 31, 2015 consisted of \$18.7 million of foreign tax credits, \$4.1 million of state net operating loss carryforwards and \$6.8 million of foreign net operating loss carryforwards and \$1.3 million of deferred tax assets of a Canadian subsidiary. The increase in valuation allowances are due to the significant downturn in the operations of certain of the Company's Canadian businesses in current and recent years and uncertainty as to whether these Canadian businesses will generate sufficient future taxable income to utilize these deferred tax assets. The Company therefore concluded that the recording of valuation allowances were required as of December 31, 2016.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(12) INCOME TAXES (Continued)

The changes to unrecognized tax benefits (excluding related penalties and interest) from January 1, 2014 through December 31, 2016, were as follows (in thousands):

	2016	2015	2014
Unrecognized tax benefits as of January 1	\$ 2,064	\$ 2,537	\$ 1,304
Additions to current year tax positions	—	—	904
Additions to prior year tax positions	—	—	419
Settlements	(533)	(217)	—
Foreign currency translation	207	(256)	(90)
Unrecognized tax benefits as of December 31	<u>\$ 1,738</u>	<u>\$ 2,064</u>	<u>\$ 2,537</u>

At December 31, 2016, 2015 and 2014, the Company had recorded \$1.7 million, \$2.1 million and \$2.5 million, respectively, of unrecognized tax benefits that if recognized would affect the annual effective tax rate.

The Company's policy is to recognize interest and penalties related to income tax matters as a component of income tax expense. The liability for unrecognized tax benefits at December 31, 2016 included accrued interest of \$0.3 million, \$0.4 million and \$0.4 million for the payment of interest accrued at December 31, 2016, 2015 and 2014, respectively. Interest expense that is recorded as a tax expense against the liability for unrecognized tax benefits for the years ended December 31, 2016, 2015 and 2014 included interest and penalties of \$0.1 million, \$0.1 million and \$0.3 million, respectively.

The Company files U.S. federal income tax returns as well as income tax returns in various states and foreign jurisdictions. The Company may be subject to examination by the Internal Revenue Service (the "IRS") for calendar years 2013 through 2015. Additionally, any net operating losses that were generated in prior years and utilized in these years may also be subject to examination by the IRS. The Company may also be subject to examinations by state and local revenue authorities for calendar years 2012 through 2015. The Company is currently not under examination by the IRS. The Company has ongoing U.S. state and local jurisdictional audits, as well as Canadian federal and provincial audits, all of which the Company believes will not result in material liabilities.

Due to expiring statute of limitation periods and the resolution of tax audits, the Company believes that total unrecognized tax benefits will decrease by approximately \$0.3 million within the next 12 months.

(13) (LOSS) EARNINGS PER SHARE

The following are computations of basic and diluted (loss) earnings per share (in thousands except for per share amounts):

	Years Ended December 31,		
	2016	2015	2014
Numerator for basic and diluted (loss) earnings per share:			
Net (loss) income	\$ (39,873)	\$ 44,102	\$ (28,328)
Denominator:			
Weighted basic shares outstanding	57,532	58,324	60,311
Dilutive effect of equity-based compensation awards	—	110	—
Weighted dilutive shares outstanding	<u>57,532</u>	<u>58,434</u>	<u>60,311</u>
Basic (loss) earnings per share	<u>\$ (0.69)</u>	<u>\$ 0.76</u>	<u>\$ (0.47)</u>
Diluted (loss) earnings per share	<u>\$ (0.69)</u>	<u>\$ 0.76</u>	<u>\$ (0.47)</u>

As a result of the net loss reported for the year ended December 31, 2016, all then outstanding restricted stock awards and performance awards totaling 730,929 potentially dilutive instruments were excluded from the calculation of diluted loss per share as their inclusion would have an antidilutive effect. For the year ended December 31, 2015, all then outstanding stock options, restricted stock awards and performance awards were included in the calculation of diluted earnings per share except for 154,577 of outstanding performance stock awards for which the performance criteria were not attained at that time

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(13) (LOSS) EARNINGS PER SHARE (Continued)

and 31,656 restricted stock awards which were excluded as their inclusion would have an antidilutive effect. As a result of the net loss reported for the year ended December 31, 2014, all outstanding stock options, restricted stock awards and performance awards totaling 562,896 potentially dilutive shares were excluded from the calculation of diluted loss per share as their inclusion would have an antidilutive effect.

(14) STOCKHOLDERS' EQUITY

On March 13, 2015, the Company's board of directors increased the size of the Company's current share repurchase program from \$150 million to \$300 million. The Company has funded and intends to continue to fund the repurchases through available cash resources. The repurchase program authorizes the Company to purchase the Company's common stock on the open market from time to time in a manner that complies with applicable U.S. securities laws. The number of shares purchased and the timing of the purchases has depended and will depend on a number of factors including share price, cash required for future business plans, trading volume and other conditions. The Company has no obligation to repurchase stock under this program and may suspend or terminate the repurchase program at any time. During the years December 31, 2016, 2015 and 2014, the Company repurchased and retired a total of approximately 0.5 million, 1.4 million and 2.0 million shares, respectively, of the Company's common stock for total costs of approximately \$22.2 million, \$73.3 million and \$104.3 million, respectively. Through December 31, 2016, the Company has repurchased and retired a total of approximately 3.8 million shares of its common stock for approximately \$199.9 million under this program. As of December 31, 2016, an additional \$100.1 million remained available for repurchase of shares under this program.

(15) ACCUMULATED OTHER COMPREHENSIVE LOSS

The changes in accumulated other comprehensive loss by component and related tax effects for the years ended December 31, 2016, 2015 and 2014 were as follows (in thousands):

	Foreign Currency Translation Adjustments	Unrealized Gains (Losses) on Available-for- Sale Securities	Unfunded Pension Liability	Total
Balance at January 1, 2014	\$ (20,164)	\$ 1,904	\$ (1,296)	\$ (19,556)
Other comprehensive (loss) income before reclassifications	(88,725)	1,159	(905)	(88,471)
Amounts reclassified out of accumulated other comprehensive loss	—	(3,388)	—	(3,388)
Tax effects	—	325	248	573
Other comprehensive loss	(88,725)	(1,904)	(657)	(91,286)
Balance at December 31, 2014	\$ (108,889)	\$ —	\$ (1,953)	\$ (110,842)
Other comprehensive loss before reclassifications	(144,050)	—	(7)	(144,057)
Amounts reclassified out of accumulated other comprehensive loss	—	—	—	—
Tax effects	—	—	7	7
Other comprehensive loss	(144,050)	—	—	(144,050)
Balance at December 31, 2015	\$ (252,939)	\$ —	\$ (1,953)	\$ (254,892)
Other comprehensive income (loss) before reclassifications	23,967	(535)	216	23,648
Amounts reclassified out of accumulated other comprehensive loss	—	—	—	—
Tax effects	16,761	214	(57)	16,918
Other comprehensive income (loss)	40,728	(321)	159	40,566
Balance at December 31, 2016	\$ (212,211)	\$ (321)	\$ (1,794)	\$ (214,326)

During the year ended December 31, 2016, the Company converted an intercompany loan with a subsidiary to equity, which resulted in a loss for tax purposes. The loan had been historically treated as a component of the Company's investment in that subsidiary, and as a result, foreign currency gains and losses on the loan had been accumulated as a component of other comprehensive income. The subsidiary continues to operate as part of the Company. The current tax benefit of \$16.8 million, which was triggered by the conversion, was therefore allocated to other comprehensive income (loss) rather than net (loss) income.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(15) ACCUMULATED OTHER COMPREHENSIVE LOSS (Continued)

There were no reclassifications out of accumulated other comprehensive loss during the years ended December 31, 2016 and 2015. The amounts reclassified out of accumulated other comprehensive loss into the consolidated statement of operations, with presentation location, during the year ended December 31, 2014 were as follows (in thousands):

Comprehensive Loss Components	December 31, 2014	Location
Unrealized holding gains on available-for-sale investments	\$ 3,388	Other income (expense), net

(16) STOCK-BASED COMPENSATION AND EMPLOYEE BENEFIT PLANS

Stock-Based Compensation

In 2000, the Company adopted a stock incentive plan (the "2000 Plan"), which provided for awards in the form of incentive stock options, non-qualified stock options, restricted stock awards, performance stock awards and common stock awards. The 2000 Plan expired on April 15, 2010, but as of December 31, 2016, 2,000 options remained outstanding under this plan. These options are fully vested with a weighted average exercise price of \$23.01 and will remain outstanding until they are either exercised or expire in accordance with their terms.

In 2010, the Company adopted an equity incentive plan (the "2010 Plan"), which provides for awards of up to 6,000,000 shares of common stock (subject to certain anti-dilution adjustments) in the form of (i) stock options, (ii) stock appreciation rights, (iii) restricted stock, (iv) restricted stock units, and (v) certain other stock-based awards. The Company ceased issuing stock options in 2008, and all awards issued to date under the 2010 Plan have been in the form of restricted stock awards and performance stock awards as described below.

As of December 31, 2016 and 2015, the Company had the following types of stock-based compensation awards outstanding under the 2000 Plan and the 2010 Plan (collectively, the "Plans"): stock options, restricted stock awards and performance stock awards. The stock options generally become exercisable up to five years from the date of grant, subject to certain employment requirements, and terminate 10 years from the date of grant. The restricted stock awards generally vest over three to five years subject to continued employment. The performance stock awards vest depending on the satisfaction of certain performance criteria and continued service conditions as described below.

Total stock-based compensation cost charged to selling, general and administrative expenses for the years ended December 31, 2016, 2015 and 2014 was \$10.5 million, \$8.6 million and \$8.8 million, respectively. The total income tax benefit recognized in the consolidated statements of income from stock-based compensation was \$2.8 million, \$2.3 million and \$1.9 million for the years ended December 31, 2016, 2015 and 2014, respectively. The expected per annum forfeiture rates used to calculate compensation expense were 6% for all employees.

Restricted Stock Awards

The following information relates to restricted stock awards that have been granted to employees and directors under the Company's Plans. The restricted stock awards are not transferable until vested and the restrictions generally lapse upon the achievement of continued employment over a three-to-five-year period or service as a director until the following annual meeting of shareholders. The fair value of each restricted stock grant is based on the closing price of the Company's common stock on the date of grant and is amortized to expense over its vesting period.

The following table summarizes information about restricted stock awards for the year ended December 31, 2016:

Restricted Stock	Number of Shares	Weighted Average Grant-Date Fair Value
Unvested at January 1, 2016	362,618	\$ 55.79
Granted	393,492	50.57
Vested	(175,699)	53.82
Forfeited	(70,370)	54.24
Unvested at December 31, 2016	510,041	\$ 52.65

As of December 31, 2016, there was \$17.3 million of total unrecognized compensation cost arising from restricted stock awards under the Company's Plans. This cost is expected to be recognized over a weighted average period of 3.1 years. The total fair value of restricted stock vested during 2016, 2015 and 2014 was \$8.3 million, \$6.9 million and \$9.4 million, respectively.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(16) STOCK-BASED COMPENSATION AND EMPLOYEE BENEFIT PLANS (Continued)

Performance Stock Awards

The following information relates to performance stock awards that have been granted to employees under the Company's Plans. The compensation committee of the Company's board of directors established two-year performance targets which could potentially be achieved in the year granted or one year thereafter. Performance stock awards are subject to performance criteria established by the compensation committee of the Company's board of directors prior to or at the date of grant. The vesting of the performance stock awards is based on achieving such targets typically based on revenue, Adjusted EBITDA margin, free cash flow and Total Recordable Incident Rate. In addition, performance stock awards include continued service conditions.

The fair value of each performance stock award is based on the closing price of the Company's common stock on the date of grant and is amortized to expense over the service period if achievement of performance measures is then considered probable. The expected forfeiture rate used to calculate compensation expense was 6% for all employees.

As of December 31, 2016, management determined that one of the four of the performance criteria were achieved with respect to the performance stock awards granted in 2016 and as a result the Company recognized stock based compensation on 20% of the original award within selling, general and administrative expenses. For the performance stock awards granted in 2015, management determined that one of the four performance criteria was achieved and as a result the Company recognized stock based compensation on 20% of the original award within selling, general and administrative expenses. These awards will vest over the remaining requisite service condition.

The following table summarizes information about performance stock awards for the year ended December 31, 2016:

Performance Stock	Number of Shares	Weighted Average Grant-Date Fair Value
Unvested at January 1, 2016	187,274	\$ 57.13
Granted	207,624	54.21
Vested	(19,981)	60.34
Forfeited	(154,035)	56.29
Unvested at December 31, 2016	220,882	\$ 54.69

As of December 31, 2016, there was \$1.5 million of total unrecognized compensation cost arising from non-vested compensation related to performance stock awards then deemed probable of vesting under the Company's Plans. The total fair value of performance awards vested during 2016 and 2015 was \$1.0 million and \$0.6 million, respectively. During 2014 no performance awards vested.

Employee Benefit Plans

As of December 31, 2016, the Company has responsibility for a defined benefit plan that covered 14 active non-supervisory Canadian employees. For the year ended December 31, 2016, net periodic pension costs was \$0.4 million. For the years ended December 31, 2015 and 2014, net periodic pension cost was \$0.3 million. At December 31, 2016, the fair value of the Company's plan assets was \$8.4 million. The fair value of \$3.5 million of these plan assets was considered a Level 1 measure and the fair value of \$4.9 million of these plan assets was considered a Level 2 measure, according to the fair value hierarchy. At December 31, 2015, the fair value of the Company's plan assets was \$8.4 million. The fair value of \$6.6 million of these plan assets was considered a Level 1 measure and the fair value of \$1.8 million of these plan assets was considered a Level 2 measure, according to the fair value hierarchy. As of December 31, 2016 and 2015, the projected benefit obligation was \$9.9 million and \$10.0 million, respectively.

(17) COMMITMENTS AND CONTINGENCIES

Legal and Administrative Proceedings

The Company and its subsidiaries are subject to legal proceedings and claims arising in the ordinary course of business. Actions filed against the Company arise from commercial and employment-related claims including alleged class actions related to sales practices and wage and hour claims. The plaintiffs in these actions may be seeking damages or injunctive relief or both. These actions are in various jurisdictions and stages of proceedings, and some are covered in part by insurance. In addition, the Company's waste management services operations are regulated by federal, state, provincial and local laws enacted to regulate discharge of materials into the environment, remediation of contaminated soil and groundwater or otherwise

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(17) COMMITMENTS AND CONTINGENCIES (Continued)

protect the environment. This ongoing regulation results in the Company frequently becoming a party to legal or administrative proceedings involving all levels of governmental authorities and other interested parties. The issues involved in such proceedings generally relate to alleged violations of existing permits and licenses or alleged responsibility under federal or state Superfund laws to remediate contamination at properties owned either by the Company or by other parties ("third-party sites") to which either the Company or the prior owners of certain of the Company's facilities shipped wastes.

At December 31, 2016 and December 31, 2015, the Company had recorded reserves of \$22.0 million and \$21.9 million, respectively, in the Company's financial statements for actual or probable liabilities related to the legal and administrative proceedings in which the Company was then involved, the principal of which are described below. At December 31, 2016 and December 31, 2015, the Company also believed that it was reasonably possible that the amount of these potential liabilities could be as much as \$1.9 million and \$1.9 million more, respectively. The Company periodically adjusts the aggregate amount of these reserves when actual or probable liabilities are paid or otherwise discharged, new claims arise, or additional relevant information about existing or probable claims becomes available. As of December 31, 2016 and December 31, 2015, the \$22.0 million and \$21.9 million, respectively, of reserves consisted of (i) \$18.2 million and \$18.9 million, respectively, related to pending legal or administrative proceedings, including Superfund liabilities, which were included in remedial liabilities on the consolidated balance sheets, and (ii) \$3.8 million and \$3.0 million, respectively, primarily related to federal, state and provincial enforcement actions, which were included in accrued expenses on the consolidated balance sheets.

As of December 31, 2016, the principal legal and administrative proceedings in which the Company was involved, or which had been terminated during 2016, were as follows:

Ville Mercier. In September 2002, the Company acquired the stock of a subsidiary (the "Mercier Subsidiary") which owns a hazardous waste incinerator in Ville Mercier, Quebec (the "Mercier Facility"). The property adjacent to the Mercier Facility, which is also owned by the Mercier Subsidiary, is now contaminated as a result of actions dating back to 1968, when the Government of Quebec issued to a company unrelated to the Mercier Subsidiary two permits to dump organic liquids into lagoons on the property. In 1999, Ville Mercier and three neighboring municipalities filed separate legal proceedings against the Mercier Subsidiary and the Government of Quebec. In 2012, the municipalities amended their existing statement of claim to seek \$2.9 million (Cdn) in general damages and \$10.0 million (Cdn) in punitive damages, plus interest and costs, as well as injunctive relief. Both the Government of Quebec and the Company have filed summary judgment motions against the municipalities. The parties are currently attempting to negotiate a resolution and hearings on the motions have been delayed. In September 2007, the Quebec Minister of Sustainable Development, Environment and Parks issued a Notice pursuant to Section 115.1 of the Environment Quality Act, superseding Notices issued in 1992, which are the subject of the pending litigation. The more recent Notice notifies the Mercier Subsidiary that, if the Mercier Subsidiary does not take certain remedial measures at the site, the Minister intends to undertake those measures at the site and claim direct and indirect costs related to such measures. The Company has accrued for costs expected to be incurred relative to the resolution of this matter and believes this matter will not have future material effect on its financial position or results of operations.

Safety-Kleen Legal Proceedings. On December 28, 2012, the Company acquired Safety-Kleen, Inc. ("Safety-Kleen") and thereby became subject to the legal proceedings in which Safety-Kleen was a party on that date. In addition to certain Superfund proceedings in which Safety-Kleen has been named as a potentially responsible party as described below under "Superfund Proceedings," the principal such legal proceedings involving Safety-Kleen which were outstanding as of December 31, 2016 were as follows:

Product Liability Cases. Safety-Kleen has been named as a defendant in various lawsuits that are currently pending in various courts and jurisdictions throughout the United States, including approximately 60 proceedings (excluding cases which have been settled but not formally dismissed) as of December 31, 2016, wherein persons claim personal injury resulting from the use of Safety-Kleen's parts cleaning equipment or cleaning products. These proceedings typically involve allegations that the solvent used in Safety-Kleen's parts cleaning equipment contains contaminants and/or that Safety-Kleen's recycling process does not effectively remove the contaminants that become entrained in the solvent during their use. In addition, certain claimants assert that Safety-Kleen failed to warn adequately the product user of potential risks, including an historic failure to warn that solvent contains trace amounts of toxic or hazardous substances such as benzene.

Safety-Kleen maintains insurance that it believes will provide coverage for these product liability claims (over amounts accrued for self-insured retentions and deductibles in certain limited cases), except for punitive damages to the extent not insurable under state law or excluded from insurance coverage. Safety-Kleen also believes that these claims lack merit and has historically vigorously defended, and intends to continue to vigorously defend, itself and the safety of its products against

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(17) COMMITMENTS AND CONTINGENCIES (Continued)

all of these claims. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. Consequently, Safety-Kleen is unable to ascertain the ultimate aggregate amount of monetary liability or financial impact with respect to these matters as of December 31, 2016. From January 1, 2016 to December 31, 2016, 23 product liability claims were settled or dismissed. Due to the nature of these claims and the related insurance, the Company did not incur any expense as Safety-Kleen's insurance provided coverage in full for all such claims. Safety-Kleen may be named in similar, additional lawsuits in the future, including claims for which insurance coverage may not be available.

Superfund Proceedings

The Company has been notified that either the Company (which, since December 28, 2012, includes Safety-Kleen) or the prior owners of certain of the Company's facilities for which the Company may have certain indemnification obligations have been identified as potentially responsible parties ("PRPs") or potential PRPs in connection with 129 sites which are subject to or are proposed to become subject to proceedings under federal or state Superfund laws. Of the 129 sites, three (including the BR Facility described below) involve facilities that are now owned or leased by the Company and 126 involve third-party sites to which either the Company or the prior owners of certain of the Company's facilities shipped wastes. Of the 126 third-party sites, 32 are now settled, 16 are currently requiring expenditures on remediation and 78 are not currently requiring expenditures on remediation.

In connection with each site, the Company has estimated the extent, if any, to which it may be subject, either directly or as a result of any indemnification obligations, for cleanup and remediation costs, related legal and consulting costs associated with PRP investigations, settlements, and related legal and administrative proceedings. The amount of such actual and potential liability is inherently difficult to estimate because of, among other relevant factors, uncertainties as to the legal liability (if any) of the Company or the prior owners of certain of the Company's facilities to contribute a portion of the cleanup costs, the assumptions that must be made in calculating the estimated cost and timing of remediation, the identification of other PRPs and their respective capability and obligation to contribute to remediation efforts, and the existence and legal standing of indemnification agreements (if any) with prior owners, which may either benefit the Company or subject the Company to potential indemnification obligations. The Company believes its potential liability could exceed \$100,000 at 11 of the 126 third-party sites.

BR Facility. The Company acquired in 2002 a former hazardous waste incinerator and landfill in Baton Rouge (the "BR Facility"), for which operations had been previously discontinued by the prior owner. In September 2007, the EPA issued a special notice letter to the Company related to the Devil's Swamp Lake Site ("Devil's Swamp") in East Baton Rouge Parish, Louisiana. Devil's Swamp includes a lake located downstream of an outfall ditch where wastewater and storm water have been discharged, and Devil's Swamp is proposed to be included on the National Priorities List due to the presence of Contaminants of Concern ("COC") cited by the EPA. These COCs include substances of the kind found in wastewater and storm water discharged from the BR Facility in past operations. The EPA originally requested COC generators to submit a good faith offer to conduct a remedial investigation feasibility study directed towards the eventual remediation of the site. The Company is currently performing corrective actions at the BR Facility under an order issued by the Louisiana Department of Environmental Quality, and has begun conducting the remedial investigation and feasibility study under an order issued by the EPA. The Company cannot presently estimate the potential additional liability for the Devil's Swamp cleanup until a final remedy is selected by the EPA.

Third-Party Sites. Of the 126 third-party sites at which the Company has been notified it is a PRP or potential PRP or may have indemnification obligations, Clean Harbors has an indemnification agreement at 11 of these sites with ChemWaste, a former subsidiary of Waste Management, Inc., and at six additional of these third-party sites, Safety-Kleen has a similar indemnification agreement with McKesson Corporation. These agreements indemnify the Company (which now includes Safety-Kleen) with respect to any liability at the 17 sites for waste disposed prior to the Company's (or Safety-Kleen's) acquisition of the former subsidiaries of Waste Management and McKesson which had shipped wastes to those sites. Accordingly, Waste Management or McKesson are paying all costs of defending those subsidiaries in those 17 cases, including legal fees and settlement costs. However, there can be no guarantee that the Company's ultimate liabilities for those sites will not exceed the amount recorded or that indemnities applicable to any of these sites will be available to pay all or a portion of related costs. Except for the indemnification agreements which the Company holds from ChemWaste, McKesson and one other entity, the Company does not have an indemnity agreement with respect to any of the 126 third-party sites discussed above.

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(17) COMMITMENTS AND CONTINGENCIES (Continued)*Federal, State and Provincial Enforcement Actions*

From time to time, the Company pays fines or penalties in regulatory proceedings relating primarily to waste treatment, storage or disposal facilities. As of December 31, 2016 and 2015, there were five and six proceedings, respectively, for which the Company reasonably believes that the sanctions could equal or exceed \$100,000. The Company believes that the fines or other penalties in these or any of the other regulatory proceedings will, individually or in the aggregate, not have a material effect on its financial condition, results of operations or cash flows.

Leases

The Company leases facilities, service centers and personal property under certain operating leases. Some of these lease agreements contain an escalation clause for increased taxes and operating expenses and are renewable at the option of the Company. Lease terms range from 1 to 20 years. The following is a summary of future minimum payments under operating leases that have initial or remaining non-cancelable lease terms in excess of one year at December 31, 2016 (in thousands):

Year	Total Operating Leases
2017	\$ 39,156
2018	31,308
2019	26,590
2020	20,949
2021	15,222
Thereafter	39,110
Total minimum lease payments	<u>\$ 172,335</u>

During the years ended December 31, 2016, 2015 and 2014, rent expense including short-term rentals was approximately \$121.9 million, \$135.5 million, and \$129.6 million, respectively.

Other Contingencies

Under the Company's insurance programs, coverage is obtained for catastrophic exposures, as well as those risks required to be insured by law or contract. The Company's policy is to retain a significant portion of certain expected losses related to workers' compensation, health insurance, comprehensive general liability and vehicle liability. A portion of these self-insured liabilities are managed through its wholly-owned captive insurance subsidiary.

Provisions for losses expected under these programs are recorded based upon the Company's estimates of the aggregate liability for claims. The deductible per participant per year for the health insurance policy is \$0.6 million. The deductible per occurrence for workers' compensation is \$1.0 million, general liability is \$2.0 million and vehicle liability is \$2.0 million. The retention per claim for the environmental impairment policy is \$1.0 million. At December 31, 2016 and 2015, the Company had accrued \$46.5 million and \$42.5 million, respectively, for its self-insurance liabilities (exclusive of health insurance) using a risk-free discount rate of 1.16% and 1.29%, respectively. Actual expenditures in future periods can differ materially from accruals based on estimates.

Anticipated payments for contingencies related to workers' compensation, comprehensive general liability and vehicle liability related claims at December 31, 2016 for each of the next five years and thereafter were as follows (in thousands):

<u>Years ending December 31,</u>	
2017	\$ 17,827
2018	10,286
2019	7,559
2020	4,552
2021	3,978
Thereafter	3,269
Undiscounted self-insurance liabilities	<u>47,471</u>
Less: Discount	941
Total self-insurance liabilities (included in accrued expenses)	<u>\$ 46,530</u>

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(18) SEGMENT REPORTING

Segment reporting is prepared on the same basis that the Company's chief executive officer, who is the Company's chief operating decision maker, manages its business, makes operating decisions and assesses performance. During the fourth quarter of 2016, the Company changed the manner in which it manages its business, makes operating decisions and assesses its performance. These changes included combining the Safety-Kleen Environmental Services business and Kleen Performance Products business into a single operating segment called "Safety-Kleen," moving the Production Services business, previously included in the Company's Oil and Gas Field Services operating segment, into the Company's Industrial Services operating segment, and reassigning certain departments among the Company's operating segments in line with management reporting changes. In addition, for purposes of segment disclosure, the Company combined the Oil and Gas Field Services and Lodging Services operating segments under the heading "Oil, Gas and Lodging Services," as those individual operating segments do not meet the quantitative thresholds for separate disclosure.

The Company believes this new organizational structure aligns the businesses for growth and efficiency. The amounts presented for all periods herein have been recast to reflect the impact of such changes. The Company's operations are now managed in six operating segments: Technical Services, Industrial Services, Field Services, Safety-Kleen, Oil and Gas Field Services and Lodging Services. For purposes of segment disclosure the Industrial Services and Field Services operating segments have been aggregated into a single reportable segment based upon their similar economic and other characteristics, and the Oil and Gas Field Services and Lodging Services operating segments have been combined as they do not meet the quantitative thresholds for separate presentation.

Third-party revenue is revenue billed to outside customers by a particular segment. Direct revenue is revenue allocated to the segment providing the product or service. Intersegment revenues represent the sharing of third-party revenues among the segments based on products and services provided by each segment as if the products and services were sold directly to the third-party. The intersegment revenues are shown net. The negative intersegment revenues are due to more transfers out of customer revenues to other segments than transfers in of customer revenues from other segments. The operations not managed through the Company's operating segments described above are recorded as "Corporate Items." Corporate Items revenues consist of two different operations for which the revenues are insignificant. Corporate Items cost of revenues represents certain central services that are not allocated to the Company's operating segments for internal reporting purposes. Corporate Items selling, general and administrative expenses include typical corporate items such as legal, accounting and other items of a general corporate nature that are not allocated to the Company's operating segments.

The following table reconciles third-party revenues to direct revenues for the years ended December 31, 2016, 2015 and 2014 (in thousands):

	For the Year Ended December 31, 2016					Totals
	Technical Services	Industrial and Field Services	Safety-Kleen	Oil, Gas and Lodging Services	Corporate Items	
Third-party revenues	\$ 906,495	\$ 618,245	\$ 1,110,727	\$ 116,692	\$ 3,067	\$ 2,755,226
Intersegment revenues, net	147,866	(35,724)	(115,013)	2,871	—	—
Corporate Items, net	2,374	(306)	369	320	(2,757)	—
Direct revenues	<u>\$ 1,056,735</u>	<u>\$ 582,215</u>	<u>\$ 996,083</u>	<u>\$ 119,883</u>	<u>\$ 310</u>	<u>\$ 2,755,226</u>
	For the Year Ended December 31, 2015					Totals
	Technical Services	Industrial and Field Services	Safety-Kleen	Oil, Gas and Lodging Services	Corporate Items	
Third-party revenues	\$ 991,410	\$ 1,023,638	\$ 1,060,926	\$ 198,705	\$ 458	\$ 3,275,137
Intersegment revenues, net	144,084	(32,903)	(119,232)	8,051	—	—
Corporate Items, net	3,586	(782)	(5)	383	(3,182)	—
Direct revenues	<u>\$ 1,139,080</u>	<u>\$ 989,953</u>	<u>\$ 941,689</u>	<u>\$ 207,139</u>	<u>\$ (2,724)</u>	<u>\$ 3,275,137</u>

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(18) SEGMENT REPORTING (Continued)

	For the Year Ended December 31, 2014					Totals
	Technical Services	Industrial and Field Services	Safety-Kleen	Oil, Gas and Lodging Services	Corporate Items	
Third-party revenues	\$ 1,043,267	\$ 795,249	\$ 1,200,907	\$ 361,937	\$ 276	\$ 3,401,636
Intersegment revenues, net	156,543	(46,424)	(121,382)	11,263	—	—
Corporate Items, net	5,573	271	(63)	75	(5,856)	—
Direct revenues	<u>\$ 1,205,383</u>	<u>\$ 749,096</u>	<u>\$ 1,079,462</u>	<u>\$ 373,275</u>	<u>\$ (5,580)</u>	<u>\$ 3,401,636</u>

The primary financial measure by which the Company evaluates the performance of its segments is Adjusted EBITDA which consists of net (loss) income plus accretion of environmental liabilities, depreciation and amortization, net interest expense, provision for income taxes, other gains or non-cash charges (including gain on sale of business and goodwill impairment charges) not deemed representative of fundamental segment results and excludes other (income) expense, net. Transactions between the segments are accounted for at the Company's best estimate based on similar transactions with outside customers.

The following table presents Adjusted EBITDA information used by management by reported segment (in thousands):

	For the Year Ended December 31,		
	2016	2015	2014
Adjusted EBITDA:			
Technical Services	\$ 271,176	\$ 291,737	\$ 328,130
Industrial and Field Services	51,191	161,447	98,266
Safety-Kleen	219,546	172,262	165,547
Oil, Gas and Lodging Services	(3,292)	11,704	90,877
Corporate Items	(138,267)	(132,983)	(160,901)
Total	<u>400,354</u>	<u>504,167</u>	<u>521,919</u>
Reconciliation to Consolidated Statements of Operations:			
Accretion of environmental liabilities	10,177	10,402	10,612
Depreciation and amortization	287,002	274,194	276,083
Goodwill impairment charges	34,013	31,992	123,414
Income from operations	69,162	187,579	111,810
Other (income) expense, net	(6,195)	1,380	(4,380)
Gain on sale of business	(16,884)	—	—
Interest expense, net of interest income	83,525	76,553	77,668
Income from operations before provision for income taxes	<u>\$ 8,716</u>	<u>\$ 109,646</u>	<u>\$ 38,522</u>

Revenue, property, plant and equipment and intangible assets outside of the United States

For the year ended December 31, 2016, the Company generated \$2,213.4 million or 80.3% of revenues in the United States and Puerto Rico, \$538.0 million or 19.5% of revenues in Canada, and less than 1.0% of revenues in other international locations. For the year ended December 31, 2015, the Company generated \$2,576.2 million or 78.7% of revenues in the United States and Puerto Rico, \$695.0 million or 21.2% of revenues in Canada, and less than 1.0% of revenues in other international locations. For the year ended December 31, 2014, the Company generated \$2,414.6 million or 71.0% of revenues in the United States and Puerto Rico, \$982.1 million or 28.9% of revenues in Canada, and less than 1.0% of revenues in other international locations.

As of December 31, 2016, the Company had property, plant and equipment, net of depreciation and amortization of \$1,611.8 million, and permits and other intangible assets of \$498.7 million. Of these totals, \$400.3 million or 24.8% of property, plant and equipment and \$63.1 million or 12.7% of permits and other intangible assets were in Canada, with the balance being in the United States and Puerto Rico (except for insignificant assets in other foreign countries). As of December 31, 2015, the Company had property, plant and equipment, net of depreciation and amortization of \$1,532.5 million, and permits and other intangible assets of \$506.8 million. Of these totals, \$449.3 million or 29.3% of property, plant and equipment and \$71.7 million or 14.2% of permits and other intangible assets were in Canada, with the balance being in the United States and Puerto Rico (except for insignificant assets in other foreign countries).

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(18) SEGMENT REPORTING (Continued)

The following table presents assets by reported segment and in the aggregate (in thousands):

	December 31, 2016	December 31, 2015
Property, plant and equipment, net		
Technical Services	\$ 521,134	\$ 483,425
Industrial and Field Services	245,143	283,509
Safety-Kleen	584,647	458,394
Oil, Gas and Lodging Services	182,038	215,645
Corporate Items	78,865	91,494
Total property, plant and equipment, net	<u>\$ 1,611,827</u>	<u>\$ 1,532,467</u>
Goodwill and Permits and other intangibles, net		
Technical Services		
Goodwill	\$ 61,116	\$ 49,267
Permits and other intangibles, net	78,625	73,601
Total Technical Services	<u>139,741</u>	<u>122,868</u>
Industrial and Field Services		
Goodwill	107,968	105,286
Permits and other intangibles, net	17,817	17,198
Total Industrial and Field Services	<u>125,785</u>	<u>122,484</u>
Safety-Kleen		
Goodwill	296,070	266,344
Permits and other intangibles, net	391,390	396,661
Total Safety-Kleen	<u>687,460</u>	<u>663,005</u>
Oil, Gas and Lodging Services		
Goodwill	—	32,208
Permits and other intangibles, net	10,889	19,358
Total Oil, Gas and Lodging Services	<u>10,889</u>	<u>51,566</u>
Total	<u>\$ 963,875</u>	<u>\$ 959,923</u>

The following table presents the total assets by reported segment (in thousands):

	December 31, 2016	December 31, 2015	December 31, 2014
Technical Services	\$ 862,957	\$ 800,060	\$ 756,169
Industrial and Field Services	446,826	461,180	513,962
Safety-Kleen	1,474,755	1,297,971	1,269,993
Oil, Gas and Lodging Services	253,242	333,245	471,695
Corporate Items	644,140	538,972	677,604
Total	<u>\$ 3,681,920</u>	<u>\$ 3,431,428</u>	<u>\$ 3,689,423</u>

The following table presents the total assets by geographical area (in thousands):

	December 31, 2016	December 31, 2015	December 31, 2014
United States	\$ 2,960,337	\$ 2,575,746	\$ 2,557,639
Canada	721,583	851,949	1,128,458
Other foreign	—	3,733	3,326
Total	<u>\$ 3,681,920</u>	<u>\$ 3,431,428</u>	<u>\$ 3,689,423</u>

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES

The 2020 Notes and the 2021 Notes (collectively, the "Notes") are guaranteed by substantially all of the Company's subsidiaries organized in the United States. Each guarantor for the Notes is a 100% owned subsidiary of Clean Harbors, Inc. and its guarantee is both full and unconditional and joint and several. The guarantees are, however, subject to customary release provisions under which, in particular, the guarantee of any domestic restricted subsidiary will be released if the Company sells such subsidiary to an unrelated third party in accordance with the terms of the indentures which govern the Notes. The Notes are not guaranteed by the Company's subsidiaries organized outside the United States. The following supplemental condensed consolidating financial information for the parent company, the guarantor subsidiaries and the non-guarantor subsidiaries, respectively, is presented in conformity with the requirements of Rule 3-10 of SEC Regulation S-X ("Rule 3-10").

Following is the condensed consolidating balance sheet at December 31, 2016 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Assets:					
Cash and cash equivalents	\$ 51,417	\$ 155,943	\$ 99,637	\$ —	\$ 306,997
Intercompany receivables	200,337	354,836	49,055	(604,228)	—
Accounts receivable, net	—	417,029	79,197	—	496,226
Other current assets	3,096	234,408	69,257	(17,113)	289,648
Property, plant and equipment, net	—	1,211,210	400,617	—	1,611,827
Investments in subsidiaries	2,851,571	580,124	—	(3,431,695)	—
Intercompany debt receivable	—	86,409	24,701	(111,110)	—
Goodwill	—	412,638	52,516	—	465,154
Permits and other intangibles, net	—	435,594	63,127	—	498,721
Other long-term assets	2,446	7,582	4,387	(1,068)	13,347
Total assets	<u>\$ 3,108,867</u>	<u>\$ 3,895,773</u>	<u>\$ 842,494</u>	<u>\$ (4,165,214)</u>	<u>\$ 3,681,920</u>
Liabilities and Stockholders' Equity:					
Current liabilities	\$ 21,805	\$ 366,831	\$ 133,145	\$ (17,113)	\$ 504,668
Intercompany payables	365,848	237,058	1,322	(604,228)	—
Closure, post-closure and remedial liabilities, net	—	150,682	15,640	—	166,322
Long-term obligations	1,633,272	—	—	—	1,633,272
Capital lease obligations, net	—	—	—	—	—
Intercompany debt payable	3,701	21,000	86,409	(111,110)	—
Other long-term liabilities	—	275,649	18,836	(1,068)	293,417
Total liabilities	<u>2,024,626</u>	<u>1,051,220</u>	<u>255,352</u>	<u>(733,519)</u>	<u>2,597,679</u>
Stockholders' equity	1,084,241	2,844,553	587,142	(3,431,695)	1,084,241
Total liabilities and stockholders' equity	<u>\$ 3,108,867</u>	<u>\$ 3,895,773</u>	<u>\$ 842,494</u>	<u>\$ (4,165,214)</u>	<u>\$ 3,681,920</u>

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the condensed consolidating balance sheet at December 31, 2015 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Assets:					
Cash and cash equivalents	\$ 11,017	\$ 83,479	\$ 90,212	\$ —	\$ 184,708
Intercompany receivables	164,709	213,243	39,804	(417,756)	—
Accounts receivable, net	—	404,580	91,424	—	496,004
Other current assets	—	179,969	60,515	—	240,484
Property, plant and equipment, net	—	1,082,466	450,001	—	1,532,467
Investments in subsidiaries	2,547,307	522,067	—	(3,069,374)	—
Intercompany debt receivable	—	260,957	3,701	(264,658)	—
Goodwill	—	367,306	85,799	—	453,105
Permits and other intangibles, net	—	435,080	71,738	—	506,818
Other long-term assets	1,068	10,274	6,500	—	17,842
Total assets	<u>\$ 2,724,101</u>	<u>\$ 3,559,421</u>	<u>\$ 899,694</u>	<u>\$ (3,751,788)</u>	<u>\$ 3,431,428</u>
Liabilities and Stockholders' Equity:					
Current liabilities	\$ 20,813	\$ 424,588	\$ 71,719	\$ —	\$ 517,120
Intercompany payables	220,762	195,287	1,707	(417,756)	—
Closure, post-closure and remedial liabilities, net	—	153,190	14,656	—	167,846
Long-term obligations	1,382,543	—	—	—	1,382,543
Capital lease obligations, net	—	—	—	—	—
Intercompany debt payable	3,701	—	260,957	(264,658)	—
Other long-term liabilities	—	239,049	28,588	—	267,637
Total liabilities	1,627,819	1,012,114	377,627	(682,414)	2,335,146
Stockholders' equity	1,096,282	2,547,307	522,067	(3,069,374)	1,096,282
Total liabilities and stockholders' equity	<u>\$ 2,724,101</u>	<u>\$ 3,559,421</u>	<u>\$ 899,694</u>	<u>\$ (3,751,788)</u>	<u>\$ 3,431,428</u>

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the consolidating statement of operations for the year ended December 31, 2016 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Revenues					
Service revenues	\$ —	\$ 1,747,985	\$ 582,075	\$ (49,251)	\$ 2,280,809
Product revenues	—	410,868	73,793	(10,244)	474,417
Total revenues	—	2,158,853	655,868	(59,495)	2,755,226
Cost of revenues (exclusive of items shown separately below)					
Service cost of revenues	—	1,116,132	476,329	(49,251)	1,543,210
Product cost of revenues	—	349,069	50,822	(10,244)	389,647
Total cost of revenues	—	1,465,201	527,151	(59,495)	1,932,857
Selling, general and administrative expenses	85	341,963	79,967	—	422,015
Accretion of environmental liabilities	—	9,261	916	—	10,177
Depreciation and amortization	—	201,153	85,849	—	287,002
Goodwill impairment charge	—	—	34,013	—	34,013
Income (loss) from operations	(85)	141,275	(72,028)	—	69,162
Other income (expense), net	—	7,713	(1,518)	—	6,195
Gain on sale of business	—	1,704	15,180	—	16,884
Interest (expense) income, net	(88,984)	5,391	68	—	(83,525)
Equity in earnings of subsidiaries, net of tax	13,568	(80,244)	—	66,676	—
Intercompany interest income (expense)	—	19,855	(19,855)	—	—
(Loss) income before (benefit) provision for income taxes	(75,501)	95,694	(78,153)	66,676	8,716
(Benefit) provision for income taxes	(35,628)	82,643	1,574	—	48,589
Net (loss) income	(39,873)	13,051	(79,727)	66,676	(39,873)
Other comprehensive income	40,566	40,566	15,291	(55,857)	40,566
Comprehensive income (loss)	\$ 693	\$ 53,617	\$ (64,436)	\$ 10,819	\$ 693

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the consolidating statement of operations for the year ended December 31, 2015 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Revenues					
Service revenues	\$ —	\$ 2,111,086	\$ 692,216	\$ (59,030)	\$ 2,744,272
Product revenues	—	458,314	83,970	(11,419)	530,865
Total revenues	—	2,569,400	776,186	(70,449)	3,275,137
Cost of revenues (exclusive of items shown separately below)					
Service cost of revenues	5	1,415,435	542,497	(59,030)	1,898,907
Product cost of revenues	—	410,128	59,190	(11,419)	457,899
Total cost of revenues	5	1,825,563	601,687	(70,449)	2,356,806
Selling, general and administrative expenses	101	329,069	84,994	—	414,164
Accretion of environmental liabilities	—	9,209	1,193	—	10,402
Depreciation and amortization	—	184,017	90,177	—	274,194
Goodwill impairment charge	—	4,164	27,828	—	31,992
(Loss) income from operations	(106)	217,378	(29,693)	—	187,579
Other income (expense), net	—	491	(1,871)	—	(1,380)
Interest (expense) income, net	(78,621)	1,860	208	—	(76,553)
Equity in earnings of subsidiaries, net of tax	91,339	(47,141)	—	(44,198)	—
Intercompany interest income (expense)	—	23,156	(23,156)	—	—
Income (loss) before (benefit) provision for income taxes	12,612	195,744	(54,512)	(44,198)	109,646
(Benefit) provision for income taxes	(31,490)	104,405	(7,371)	—	65,544
Net income (loss)	44,102	91,339	(47,141)	(44,198)	44,102
Other comprehensive loss	(144,050)	(144,050)	(93,983)	238,033	(144,050)
Comprehensive loss	\$ (99,948)	\$ (52,711)	\$ (141,124)	\$ 193,835	\$ (99,948)

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the consolidating statement of operations for the year ended December 31, 2014 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Revenues					
Service revenues	\$ —	\$ 1,786,695	\$ 876,085	\$ (22,984)	\$ 2,639,796
Product revenues	—	619,802	148,671	(6,633)	761,840
Total revenues	—	2,406,497	1,024,756	(29,617)	3,401,636
Cost of revenues (exclusive of items shown separately below)					
Service cost of revenues	—	1,172,181	641,180	(22,984)	1,790,377
Product cost of revenues	—	538,671	119,381	(6,633)	651,419
Total cost of revenues	—	1,710,852	760,561	(29,617)	2,441,796
Selling, general and administrative expenses	114	321,069	116,738	—	437,921
Accretion of environmental liabilities	—	9,240	1,372	—	10,612
Depreciation and amortization	—	173,447	102,636	—	276,083
Goodwill impairment charge	—	105,466	17,948	—	123,414
(Loss) income from operations	(114)	86,423	25,501	—	111,810
Other income, net	—	3,369	1,011	—	4,380
Interest (expense) income, net	(78,570)	800	102	—	(77,668)
Equity in earnings of subsidiaries, net of tax	18,882	(9,031)	—	(9,851)	—
Intercompany dividend income (expense)	—	—	6,238	(6,238)	—
Intercompany interest income (expense)	—	28,596	(28,596)	—	—
(Loss) income before (benefit) provision for income taxes	(59,802)	110,157	4,256	(16,089)	38,522
(Benefit) provision for income taxes	(31,474)	91,275	7,049	—	66,850
Net (loss) income	(28,328)	18,882	(2,793)	(16,089)	(28,328)
Other comprehensive loss	(91,286)	(91,286)	(37,157)	128,443	(91,286)
Comprehensive loss	\$ (119,614)	\$ (72,404)	\$ (39,950)	\$ 112,354	\$ (119,614)

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the condensed consolidating statement of cash flows for the year ended December 31, 2016 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Net cash from operating activities	\$ 51,033	\$ 125,591	\$ 83,000	—	\$ 259,624
Cash flows from investing activities:					
Additions to property, plant and equipment	—	(194,184)	(25,200)	—	(219,384)
Proceeds from sales of fixed assets	—	12,926	7,891	—	20,817
Acquisitions, net of cash acquired	—	(196,915)	(10,000)	—	(206,915)
Proceeds on sale of business	—	18,885	28,249	—	47,134
Costs to obtain or renew permits	—	(1,749)	(1,082)	—	(2,831)
Purchase of available-for-sale securities	(102)	—	(496)	—	(598)
Investment in subsidiaries	(257,125)	—	—	257,125	—
Intercompany	—	(23,182)	—	23,182	—
Intercompany debt	—	63,118	(21,000)	(42,118)	—
Net cash used in investing activities	(257,227)	(321,101)	(21,638)	238,189	(361,777)
Cash flows from (used in) financing activities:					
Change in uncashed checks	—	(3,651)	474	—	(3,177)
Proceeds from exercise of stock options	627	—	—	—	627
Remittance of shares, net	(2,819)	—	—	—	(2,819)
Excess tax benefit of stock-based compensation	1,198	—	—	—	1,198
Deferred financing costs paid	(4,031)	—	—	—	(4,031)
Repurchases of common stock	(22,188)	—	—	—	(22,188)
Issuance of senior secured notes, including premium	250,625	250,625	—	(250,625)	250,625
Intercompany	23,182	—	6,500	(29,682)	—
Intercompany debt	—	21,000	(63,118)	42,118	—
Net cash from (used in) financing activities	246,594	267,974	(56,144)	(238,189)	220,235
Effect of exchange rate change on cash	—	—	4,207	—	4,207
Increase in cash and cash equivalents	40,400	72,464	9,425	—	122,289
Cash and cash equivalents, beginning of year	11,017	83,479	90,212	—	184,708
Cash and cash equivalents, end of year	\$ 51,417	\$ 155,943	\$ 99,637	—	\$ 306,997

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the condensed consolidating statement of cash flows for the year ended December 31, 2015 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Net cash from operating activities	\$ 9,543	\$ 314,585	\$ 72,255	—	\$ 396,383
Cash flows from investing activities:					
Additions to property, plant and equipment	—	(220,789)	(36,407)	—	(257,196)
Proceeds from sales of fixed assets	—	1,447	4,748	—	6,195
Acquisitions, net of cash acquired	—	(94,345)	—	—	(94,345)
Additions to intangible assets, including costs to obtain or renew permits	—	—	(5,296)	—	(5,296)
Intercompany	—	(75,506)	—	75,506	—
Intercompany debt	—	14,272	—	(14,272)	—
Net cash used in investing activities	—	(374,921)	(36,955)	61,234	(350,642)
Cash flows from (used in) financing activities:					
Change in uncashed checks	—	(10,129)	(4,501)	—	(14,630)
Proceeds from exercise of stock options	397	—	—	—	397
Remittance of shares, net	(2,159)	—	—	—	(2,159)
Repurchases of common stock	(73,347)	—	—	—	(73,347)
Payments on capital leases	—	(203)	(308)	—	(511)
Excess tax benefit of stock-based compensation	71	—	—	—	71
Intercompany	75,506	—	—	(75,506)	—
Intercompany debt	—	—	(14,272)	14,272	—
Net cash from (used in) financing activities	468	(10,332)	(19,081)	(61,234)	(90,179)
Effect of exchange rate change on cash	—	—	(17,733)	—	(17,733)
Increase (decrease) in cash and cash equivalents	10,011	(70,668)	(1,514)	—	(62,171)
Cash and cash equivalents, beginning of year	1,006	154,147	91,726	—	246,879
Cash and cash equivalents, end of year	\$ 11,017	\$ 83,479	\$ 90,212	\$ —	\$ 184,708

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(19) GUARANTOR AND NON-GUARANTOR SUBSIDIARIES (Continued)

Following is the condensed consolidating statement of cash flows for the year ended December 31, 2014 (in thousands):

	Clean Harbors, Inc.	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidating Adjustments	Total
Net cash (used in) from operating activities	\$ (5,242)	\$ 70,761	\$ 250,433	(18,586)	\$ 297,366
Cash flows from investing activities:					
Additions to property, plant and equipment	—	(172,525)	(85,088)	—	(257,613)
Proceeds from sales of fixed assets and assets held for sale	—	3,956	4,208	—	8,164
Acquisitions, net of cash acquired	—	(6,550)	(9,637)	—	(16,187)
Additions to intangible assets including costs to obtain or renew permits	—	(623)	(5,896)	—	(6,519)
Intercompany	—	(112,134)	—	112,134	—
Intercompany debt	—	143,467	—	(143,467)	—
Proceeds from sale of long-term investments	—	—	13,861	—	13,861
Net cash used in investing activities	—	(144,409)	(82,552)	(31,333)	(258,294)
Cash flows used in financing activities:					
Change in uncashed checks	—	11,046	4,023	—	15,069
Proceeds from employee stock purchase plan	4,364	—	—	—	4,364
Remittance of shares, net	(2,793)	—	—	—	(2,793)
Repurchases of common stock	(104,341)	—	—	—	(104,341)
Excess tax benefit of stock-based compensation	878	—	—	—	878
Payments of capital leases	—	(170)	(1,952)	—	(2,122)
Repayments of long-term obligations	(5,000)	—	—	—	(5,000)
Dividends paid	—	(18,586)	—	18,586	—
Intercompany	112,134	—	—	(112,134)	—
Intercompany debt	—	—	(143,467)	143,467	—
Net cash used in financing activities	5,242	(7,710)	(141,396)	49,919	(93,945)
Effect of exchange rate change on cash	—	—	(8,321)	—	(8,321)
(Decrease) increase in cash and cash equivalents	—	(81,358)	18,164	—	(63,194)
Cash and cash equivalents, beginning of year	1,006	235,505	73,562	—	310,073
Cash and cash equivalents, end of year	\$ 1,006	\$ 154,147	\$ 91,726	\$ —	\$ 246,879

CLEAN HARBORS, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(20) QUARTERLY DATA (UNAUDITED)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
(in thousands except per share amounts)				
2016				
Revenues	\$ 636,083	\$ 697,510	\$ 729,520	\$ 692,113
Cost of revenues (1)	464,279	480,002	491,915	496,661
(Loss) income from operations (3)	(4,087)	34,504	16,802	21,943
Other (expense) income	(350)	(189)	(198)	6,932
Net (loss) income (4)	(20,871)	3,966	(10,255)	(12,713)
Basic (loss) earnings per share (2)	(0.36)	0.07	(0.18)	(0.22)
Diluted (loss) earnings per share (2)	(0.36)	0.07	(0.18)	(0.22)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
(in thousands except per share amounts)				
2015				
Revenues	\$ 732,499	\$ 936,228	\$ 893,366	\$ 713,044
Cost of revenues (1)	546,507	652,688	634,646	522,965
Income from operations (3)	7,302	60,758	93,970	25,549
Other income (expense), net	409	(660)	(139)	(990)
Net (loss) income	(7,089)	10,395	40,228	568
Basic (loss) earnings per share (2)	(0.12)	0.18	0.69	0.01
Diluted (loss) earnings per share (2)	(0.12)	0.18	0.69	0.01

- (1) Items shown separately on the statements of income consist of (i) accretion of environmental liabilities and (ii) depreciation and amortization.
- (2) (Loss) earnings per share are computed independently for each of the quarters presented. Accordingly, the quarterly basic and diluted (loss) earnings per share may not equal the total computed for the year.
- (3) The third quarter of 2016 results include a \$34.0 million goodwill impairment charge in the Company's Lodging Services reporting unit and the second quarter of 2015 results include a \$32.0 million goodwill impairment charge in the Company's Oil and Gas Field Services reporting unit.
- (4) The third quarter of 2016 net loss includes a \$16.4 million pre-tax gain on the sale of a non-core line of business within the Company's Industrial and Field Services segment.

CLEAN HARBORS, INC. AND SUBSIDIARIES

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

For the Three Years Ended December 31, 2016

(in thousands)

Allowance for Doubtful Accounts	Balance Beginning of Period	Additions Charged to Operating Expense	Deductions from Reserves(a)	Balance End of Period
2014	\$ 7,354	\$ 8,917	\$ 2,795	\$ 13,476
2015	\$ 13,476	\$ 4,793	\$ 3,075	\$ 15,194
2016	\$ 15,194	\$ 6,907	\$ 7,055	\$ 15,046

(a) Amounts deemed uncollectible, net of recoveries.

Revenue Allowance(b)	Balance Beginning of Period	Additions Charged to Revenue	Deductions from Reserves	Balance End of Period
2014	\$ 10,752	\$ 20,237	\$ 18,804	\$ 12,185
2015	\$ 12,185	\$ 28,312	\$ 24,265	\$ 16,232
2016	\$ 16,232	\$ 24,252	\$ 26,281	\$ 14,203

(b) Due to the nature of the Company's businesses and the invoices that result from the services provided, customers may withhold payments and attempt to renegotiate amounts invoiced. In addition, for some of the services provided, the Company's invoices are based on quotes that can either generate credits or debits when the actual revenue amount is known. Based on industry knowledge and historical trends, the Company records a revenue allowance accordingly. This practice causes the volume of activity flowing through the revenue allowance during the year to be higher than the balance at the end of the year. Increases in overall sales volumes and the expansion of the customer base in recent years have also increased the volume of additions and deductions to the allowance during the year, as well as increased the amount of the allowance at the end of the year. The revenue allowance is intended to cover the net amount of revenue adjustments that may need to be credited to customers' accounts in future periods. Management determines the appropriate total revenue allowance by evaluating the following factors on a customer-by-customer basis as well as on a consolidated level: trends in adjustments to previously billed amounts, existing economic conditions and other information as deemed applicable. Revenue allowance estimates can differ materially from the actual adjustments, but historically the revenue allowance has been sufficient to cover the net amount of the reserve adjustments issued in subsequent reporting periods.

Valuation Allowance on Deferred Tax Assets	Balance Beginning of Period	Additions (Deductions) Charged to (from) Income Tax Expense	Other Changes to Reserves	Balance End of Period
2014	\$ 29,726	\$ (1,812)	\$ 1,147	\$ 29,061
2015	\$ 29,061	\$ 2,274	\$ (419)	\$ 30,916
2016	\$ 30,916	\$ 22,564	\$ 1,709	\$ 55,189

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Based on an evaluation under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, as of the end of the period covered by this Annual Report on Form 10-K, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures (as defined under Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) were effective as of December 31, 2016 to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as that term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of the Company's management, including the Chief Executive Officer and Chief Financial Officer, the Company conducted an evaluation of its internal control over financial reporting based on the framework in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The Company's management evaluated the effectiveness of Clean Harbors internal control over financial reporting as of December 31, 2016. Based on their evaluation under the framework in *Internal Control—Integrated Framework (2013)*, the Company's management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2016 based on the criteria in the *Internal Control—Integrated Framework (2013)*.

Deloitte & Touche LLP, the independent registered public accounting firm that audited the Company's consolidated financial statements, has issued an attestation report on the Company's internal control over financial reporting as of December 31, 2016, which is included below in this Item 9A of this annual report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15 that was conducted during the quarter ended December 31, 2016 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Limitations on the Effectiveness of Controls

The Company's management, including the Chief Executive Officer and Chief Financial Officer, does not expect that the Company's disclosure controls and procedures or the Company's internal control over financial reporting will prevent all errors and all fraud.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Further, the design of disclosure controls and procedures and internal control over financial reporting must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations of controls and procedures and internal control over financial reporting, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
of Clean Harbors, Inc.
Norwell, Massachusetts

We have audited the internal control over financial reporting of Clean Harbors, Inc. and subsidiaries (the "Company") as of December 31, 2016, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Annual Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2016 of the Company and our report dated February 22, 2017 expressed an unqualified opinion on those financial statements and financial statement schedule.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
February 22, 2017

ITEM 9B. OTHER INFORMATION

Not applicable.

PART III

Except for the information set forth below under Item 12 with respect to securities authorized for issuance under the registrant's equity compensation plans, the information called for by Item 10 (Directors, Executive Officers and Corporate Governance), Item 11 (Executive Compensation), Item 12 (Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters), Item 13 (Certain Relationships and Related Transactions, and Director Independence), and Item 14 (Principal Accountant Fees and Services) is incorporated herein by reference to the registrant's definitive proxy statement for its 2017 annual meeting of shareholders, which definitive proxy statement will be filed with the Securities and Exchange Commission by April 30, 2017.

For the purpose of calculating the aggregate market value of the voting stock of the registrant held by non-affiliates as shown on the cover page of this report, it has been assumed that the directors and executive officers of the registrant, as will be set forth in the Company's definitive proxy statement for its 2017 annual meeting of shareholders, are the only affiliates of the registrant. However, this should not be deemed to constitute an admission that all of such persons are, in fact, affiliates or that there are not other persons who may be deemed affiliates of the registrant.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

In addition to the information about the security ownership of certain beneficial owners and management and related stockholder matters which is incorporated herein by reference to the Company's definitive proxy statement for the Company's 2017 annual meeting of shareholders, the following table includes information as of December 31, 2016 regarding shares of common stock authorized for issuance under the Company's equity compensation plans. The Company's shareholders previously approved each of the plans.

Plan Category	Number of securities to be issued upon exercise of outstanding options and rights(a)	Weighted average exercise price of outstanding options and rights(b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))(c)
Equity compensation plans approved by security holders(1)	2,000	\$ 23.01	4,609,764

(1) Includes: (i) the Company's 2000 Stock Incentive Plan which expired in 2010, but under which there were on December 31, 2016 outstanding options for an aggregate of 2,000 shares; and (ii) the Company's 2010 Stock Incentive Plan (the "2010 Plan") under which there were on December 31, 2016 no outstanding options but 4,609,764 shares were available for grant of future options, stock appreciation rights, restricted stock awards, restricted stock units and certain other forms of equity incentives. See Note 16, "Stock-Based Compensation and Employee Benefit Plans," to the Company's consolidated financial statements included in Item 8, "Financial Statements and Supplementary Data," in this report.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Documents Filed as a Part of this Report

	<u>Page</u>
1. Financial Statements:	
Report of Independent Registered Public Accounting Firm	49
Consolidated Balance Sheets as of December 31, 2016 and 2015	50
Consolidated Statements of Operations for the Three Years Ended December 31, 2016	51
Consolidated Statements of Comprehensive Income (Loss) for the Three Years Ended December 31, 2016	52
Consolidated Statements of Cash Flows for the Three Years Ended December 31, 2016	53
Consolidated Statements of Stockholders' Equity for the Three Years Ended December 31, 2016	54
Notes to Consolidated Financial Statements	55
2. Financial Statement Schedule:	
Schedule II Valuation and Qualifying Accounts for the Three Years Ended December 31, 2016	100

All other schedules are omitted because they are not applicable, not required, or because the required information is included in the financial statements or notes thereto.

3. Exhibits:

The list of exhibits filed as part of this annual report on Form 10-K is set forth on the Exhibit Index immediately following the signature page to this report, and such Exhibit Index is incorporated herein by reference.

Exhibits to this annual report on Form 10-K have been included only with the copies of the Form 10-K filed with the Securities and Exchange Commission. Upon request to the Company and payment of a reasonable fee, copies of the individual exhibits will be furnished. The Company undertakes to furnish to the Commission upon request copies of instruments (in addition to the exhibits listed below) relating to the Company's acquisitions and long-term debt.

ITEM 16. FORM 10-K SUMMARY

None

EXHIBIT INDEX

Item No.	Description	Location
2.1	Acquisition Agreement by and between Safety-Kleen Services, Inc., as Seller, and Clean Harbors, Inc., as Purchaser, dated as of February 22, 2002	(1)
2.2	First Amendment to Acquisition Agreement by and between Safety-Kleen Services, Inc., as Seller, and Clean Harbors, Inc., as Purchaser, dated as of March 8, 2002	(2)
2.3	Second Amendment to Acquisition Agreement by and between Safety-Kleen Services, Inc. as Seller, and Clean Harbors, Inc. as Purchaser, dated as of April 30, 2002	(3)
2.4	Third Amendment to Acquisition Agreement by and between Safety-Kleen Services, Inc., as Seller, and Clean Harbors, Inc., as Purchaser, dated as of September 6, 2002	(4)
2.5	Fourth Amendment to Acquisition Agreement by and between Safety-Kleen Services, Inc., as Seller and Clean Harbors, Inc., as Purchaser, dated as of July 14, 2003	(5)
2.6	Agreement and Plan of Merger dated as of October 26, 2012 among Safety-Kleen, Inc., Clean Harbors, Inc., and CH Merger Sub, Inc.	(6)
3.1A	Restated Articles of Organization of Clean Harbors, Inc.	(7)
3.1B	Articles of Amendment [as filed on May 9, 2011] to Restated Articles of Organization of Clean Harbors	(8)
3.4D	Amended and Restated By-Laws of Clean Harbors, Inc.	(9)
4.34	Fifth Amended and Restated Credit Agreement dated as of November 1, 2016 among Clean Harbors, Inc., as the U.S. Borrower, Clean Harbors Industrial Services Canada, Inc., as the Canadian Borrower, Bank of America, N.A., as Administrative Agent, and the Lenders party thereto	(10)
4.34A	Amended and Restated Security Agreement (U.S. Domiciled Loan Parties) dated as of November 1, 2016 among Clean Harbors, Inc., as the U.S. Borrower and a Grantor, the subsidiaries of Clean Harbors, Inc. listed on Annex A thereto or that thereafter become a party thereto as Grantors, and Bank of America, N.A., as Agent	(10)
4.34B	Amended and Restated Security Agreement (Canadian Domiciled Loan Parties) dated as of November 1, 2016 among Clean Harbors Industrial Services Canada, Inc., as the Canadian Borrower and a Grantor, the subsidiaries of Clean Harbors, Inc. listed on Annex A thereto or that thereafter become a party thereto as Grantors, and Bank of America, N.A., as Agent	(10)
4.34C	Amended and Restated Guarantee (U.S. Domiciled Loan Parties-U.S. Facility Obligations) dated as of November 1, 2016 executed by the U.S. Domiciled Subsidiaries of Clean Harbors, Inc. named therein in favor of Bank of America, N.A., as Agent for itself and the other U.S. Facility Secured Parties	(10)
4.34D	Amended and Restated Guarantee (Canadian Domiciled Loan Parties-Canadian Facility Obligations) dated as of November 1, 2016 executed by the Canadian Domiciled Subsidiaries of Clean Harbors, Inc. named therein in favor of Bank of America, N.A., as Agent for itself and the other Canadian Facility Secured Parties	(10)
4.34E	Amended and Restated Guarantee (U.S. Domiciled Loan Parties-Canadian Facility Obligations) dated as of November 1, 2016 executed by Clean Harbors, Inc. and the U.S. Domiciled Subsidiaries of Clean Harbors, Inc. named therein in favor of Bank of America, N.A., as Agent for itself and the other Canadian Facility Secured Parties	(10)
4.40	Indenture dated as of July 30, 2012, among Clean Harbors, Inc., as Issuer, the Guarantors listed on the signature pages thereto, and U.S. Bank National Association, as Trustee	(11)
4.42	Indenture dated as of December 7, 2012, among Clean Harbors, Inc., as Issuer, the subsidiaries of Clean Harbors, Inc. named therein as Guarantors, and U.S. Bank National Association, as Trustee	(12)
10.43*	Key Employee Retention Plan	(13)
10.43A*	Form of Severance Agreement under Key Employee Retention Plan with Confidentiality and Non-Competition Agreement	(14)
10.45	Bill of Sale and Assignment dated as of September 10, 2002 by Safety-Kleen Services, Inc. and its Subsidiaries named therein, as Sellers, and Clean Harbors, Inc., as Purchaser, and its Subsidiaries named therein, as Purchasing Subs	(4)
10.46	Assumption Agreement made as of September 10, 2002 by Clean Harbors, Inc. in favor of Safety-Kleen Services, Inc. and its Subsidiaries named therein	(4)

Table Of Contents

Item No.	Description	Location
10.52B*	Clean Harbors, Inc. Management Incentive Plan [as amended and restated on March 5, 2012]	(15)
10.53*	Clean Harbors, Inc. Annual CEO Incentive Bonus Plan	(16)
10.54*	Clean Harbors, Inc. 2010 Stock Incentive Plan [as amended on May 10, 2010]	(17)
10.54A*	Revised form of Restricted Stock Award Agreement [Non-Employee Director] [for use under 2010 Stock Incentive Plan]	(14)
10.54B*	Revised form of Restricted Stock Award Agreement [Employee] [for use under Clean Harbors, Inc. 2010 Stock Incentive Plan]	(14)
10.54C*	Revised form of Performance-Based Restricted Stock Award Agreement [for use under Clean Harbors, Inc. 2010 Stock Incentive Plan]	(14)
10.54D*	Amendment to Section 8 and 10(i) of the Company's 2010 Stock Incentive Plan	(18)
10.55*	Clean Harbors, Inc. 2014 CEO Annual Incentive Plan	(19)
10.55A*	Amendment to Section 6(m) of Clean Harbors, Inc. 2014 Annual CEO Incentive Plan	(20)
10.56*	Mike Battles accepted offer letter effective as of January 6, 2016	(21)
21	Subsidiaries	Filed herewith
23	Consent of Independent Registered Public Accounting Firm	Filed herewith
24	Power of Attorney	Filed herewith
31.1	Rule 13a-14a/15d-14(a) Certification of the CEO Alan S. McKim	Filed herewith
31.2	Rule 13a-14a/15d-14(a) Certification of the CFO Michael L. Battles	Filed herewith
32	Section 1350 Certifications	Filed herewith
101	The following materials from the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Comprehensive Income (Loss), (iv) Consolidated Statements of Cash Flows, (v) Consolidated Statements of Stockholders' Equity, and (vi) Notes to Consolidated Financial Statements, tagged as blocks of text	(22)

* A "management contract or compensatory plan or arrangement" filed as an exhibit to this report pursuant to Item 15(a)(3) of Form 10-K.

- (1) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on February 28, 2002.
- (2) Incorporated by reference to the similarly numbered exhibit to the Company's Form 10-K Annual Report for the Year ended December 31, 2001.
- (3) Incorporated by reference to the similarly numbered exhibit to the Company's Form 10-Q Quarterly Report for the Quarterly Period ended March 31, 2002.
- (4) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on September 25, 2002.
- (5) Incorporated by reference to the similarly numbered exhibit to the Company's Form 10-Q Quarterly Report for the Quarterly Period ended June 30, 2003.
- (6) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on October 31, 2012.
- (7) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on May 19, 2005.
- (8) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on May 12, 2011.
- (9) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on December 22, 2014.

Table Of Contents

- (10) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on November 2, 2016.
- (11) Incorporated by reference to the similarly numbered exhibit to the Company's Report on Form 8-K filed on July 30, 2012.
- (12) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on December 10, 2012.
- (13) Incorporated by reference to the similarly numbered exhibit to the Company's Form 10-Q Quarterly Report for the Quarterly Period ended March 31, 1999.
- (14) Incorporated by reference to the similarly numbered exhibit to the Company's Form 10-K Annual Report for the Year ended December 31, 2010.
- (15) Incorporated by reference to Appendix A to the Company's definitive proxy statement for its 2012 annual meeting of shareholders filed on March 23, 2012.
- (16) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on May 14, 2009.
- (17) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on May 14, 2010.
- (18) Incorporated by reference to Appendix B to the Company's definitive Proxy Statement filed on March 22, 2013.
- (19) Incorporated by reference by Appendix A to the Company's definitive Proxy Statement filed on March 22, 2013.
- (20) Incorporated by reference to Appendix A to the Company's definitive Proxy Statement for its 2014 annual meeting of shareholders filed on April 29, 2014.
- (21) Incorporated by reference to the similarly numbered exhibit to the Company's Form 8-K Report filed on January 11, 2016.
- (22) These interactive data files are furnished herewith and deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

Subsidiaries of Clean Harbors, Inc.

<u>Subsidiary</u>	<u>Jurisdiction of Organization</u>
510127 NB Inc.*	New Brunswick
Altair Disposal Services, LLC	Delaware
Baton Rouge Disposal, LLC	Delaware
BCT Structures, ULC*	Alberta
Bridgeport Disposal, LLC	Delaware
Cat Tech International, Ltd.*	Bahamas
CH International Holdings, LLC	Delaware
Clean Harbors (Mexico), Inc.	Delaware
Clean Harbors Andover, LLC	Delaware
Clean Harbors Antioch, LLC	Delaware
Clean Harbors Aragonite, LLC	Delaware
Clean Harbors Arizona, LLC	Delaware
Clean Harbors Baton Rouge, LLC	Delaware
Clean Harbors BDT, LLC	Delaware
Clean Harbors Buttonwillow, LLC	Delaware
Clean Harbors Canada, Inc.*	New Brunswick
Clean Harbors Caribe, Inc.*	Puerto Rico
Clean Harbors Catalyst Services Ltd.*	Nova Scotia
Clean Harbors Chattanooga, LLC	Delaware
Clean Harbors Clive, LLC	Delaware
Clean Harbors Coffeyville, LLC	Delaware
Clean Harbors Colfax, LLC	Delaware
Clean Harbors Deer Park, LLC	Delaware
Clean Harbors Deer Trail, LLC	Delaware
Clean Harbors Development, LLC	Delaware
Clean Harbors Directional Boring Services, ULC*	Alberta
Clean Harbors Directional Boring Services LP*	Alberta
Clean Harbors Disposal Services, Inc.	Delaware
Clean Harbors El Dorado, LLC	Delaware
Clean Harbors Energy and Industrial Services Corp.*	Alberta
Clean Harbors Energy and Industrial Services LP*	Alberta
Clean Harbors Energy and Industrial Western Ltd.*	Alberta
Clean Harbors Energy Services ULC*	Alberta
Clean Harbors Environmental Services, Inc.	Massachusetts
Clean Harbors Exploration Services, Inc.	Nevada
Clean Harbors Exploration Services, ULC*	Alberta
Clean Harbors Exploration Services LP*	Alberta
Clean Harbors Florida, LLC	Delaware
Clean Harbors Grassy Mountain, LLC	Delaware
Clean Harbors Industrial Services Canada, Inc.*	Alberta
Clean Harbors Industrial Services, Inc.	Delaware

Clean Harbors Innu Environmental Services, Inc.	Newfoundland
Clean Harbors Kansas, LLC	Delaware
Clean Harbors Kingston Facility Corporation	Massachusetts
Clean Harbors LaPorte, LLC	Delaware
Clean Harbors Laurel, LLC	Delaware
Clean Harbors Lodging Services LP*	Alberta
Clean Harbors Lodging Services, ULC*	Alberta
Clean Harbors Lone Mountain, LLC	Delaware
Clean Harbors Lone Star Corp.	Delaware
Clean Harbors Los Angeles, LLC	Delaware
Clean Harbors Mercier, Inc.	Quebec
Clean Harbors of Baltimore, Inc.	Delaware
Clean Harbors of Braintree, Inc.	Massachusetts
Clean Harbors of Connecticut, Inc.	Delaware
Clean Harbors Pecatonica, LLC	Delaware
Clean Harbors PPM, LLC	Delaware
Clean Harbors Production Services, ULC*	Alberta
Clean Harbors Quebec, Inc.*	Quebec
Clean Harbors Recycling Services of Chicago, LLC	Delaware
Clean Harbors Recycling Services of Ohio LLC	Delaware
Clean Harbors Reidsville, LLC	Delaware
Clean Harbors San Jose, LLC	Delaware
Clean Harbors San Leon, Inc.	Delaware
Clean Harbors Services, Inc.	Massachusetts
Clean Harbors Surface Rentals, ULC*	Alberta
Clean Harbors Surface Rentals Partnership*	Alberta
Clean Harbors Surface Rentals USA, Inc.	Delaware
Clean Harbors Tennessee, LLC	Delaware
Clean Harbors Westmorland, LLC	Delaware
Clean Harbors White Castle, LLC	Delaware
Clean Harbors Wichita, LLC	Delaware
Clean Harbors Wilmington, LLC	Delaware
Crowley Disposal, LLC	Delaware
CTVI Inc.*	Virgin Islands
Disposal Properties, LLC	Delaware
Emerald Services, Inc.	Washington
Emerald Services Montana, LLC	Washington
Emerald West, LLC	Washington
Environnement Services Et Machinerie E.S.M. Inc.*	Quebec
EnviroSORT Inc.	Alberta
Grizzco Camp Services, ULC*	British Columbia
GSX Disposal, LLC	Delaware
Heckmann Environmental Services, Inc.	Delaware

Hilliard Disposal, LLC	Delaware
Industrial Service Oil Company, Inc.	California
JL Filtration Inc.*	Alberta
JL Filtration Operating Limited Partnership*	Alberta
Laidlaw Environmental Services de Mexico S.A. de C.V.*	Mexico
Murphy's Waste Oil Service, Inc.	Massachusetts
Oily Waste Processors, Inc.	Montana
Plaquemine Remediation Services, LLC	Delaware
Rosemead Oil Products, Inc.	California
RS Used Oil Services, Inc.	Illinois
Roebuck Disposal, LLC	Delaware
Safety-Kleen de Mexico, S. de R.L. de C.V.*	Mexico
Safety-Kleen Canada Inc.*	New Brunswick
Safety-Kleen Envirosystems Company	California
Safety-Kleen Envirosystems Company of Puerto Rico, Inc.	Indiana
Safety-Kleen, Inc.	Delaware
Safety-Kleen International, Inc.	Delaware
Safety-Kleen International Asia Investment Company Limited*	Hong Kong
Safety-Kleen of California, Inc.	California
Safety-Kleen Systems, Inc.	Wisconsin
Sanitherm, ULC*	Alberta
Sanitherm USA, Inc.	Delaware
Sawyer Disposal Services, LLC	Delaware
Service Chemical, LLC	Delaware
SK Holding Company, Inc.	Delaware
SK D'Incineration*	Quebec
SK Servicios Ambientales Administrativos, S. de R.L. de C.V.*	Mexico
Spring Grove Resource Recovery, Inc.	Delaware
The Solvents Recovery Service of New Jersey, Inc.	New Jersey
Thermo Fluids Inc.	Delaware
Tri-vax Enterprises Ltd.*	Alberta
Tulsa Disposal, LLC	Delaware
Versant Energy Services, Inc.	Delaware
Versant Energy Services, LP*	Alberta
Vulsay Industries Ltd.*	Ontario

*Foreign entity or subsidiary of foreign entity

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-63662, 333-134381, and 333-166963 on Form S-8 of our reports dated February 22, 2017, relating to the consolidated financial statements and financial statement schedule of Clean Harbors, Inc. and its subsidiaries (the "Company"), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of Clean Harbors, Inc. for the year ended December 31, 2016.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

February 22, 2017

POWER OF ATTORNEY

Know all by these presents, that the undersigned hereby constitutes and appoints each of Alan S. McKim and Michael L. Battles, signing singly, the undersigned's true and lawful attorney-in-fact to:

- (1) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer and/or director of Clean Harbors, Inc. (the "Company"), any and all documents required by the Securities and Exchange Commission pursuant to the Securities Exchange Act of 1934 and the rules thereunder, including, without limitation, Form 10-K;
- (2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such document filing and timely file such form with the United States Securities and Exchange Commission and any stock exchange or similar authority; and
- (3) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, and in the best interest of, or legally required by, the undersigned.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 of the Securities Exchange Act of 1934.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required with respect to the undersigned's capacity as an officer and/or director and/or holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 22nd day of February, 2017.

Signature

/s/ GENE BANUCCI

/s/ EDWARD G. GALANTE

/s/ ROD MARLIN

/s/ JOHN T. PRESTON

/s/ ANDREA ROBERTSON

/s/ THOMAS J. SHIELDS

/s/ LAUREN C. STATES

/s/ JOHN R. WELCH

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Alan S. McKim, certify that:

1. I have reviewed this annual report on Form 10-K for the period ended December 31, 2016 of Clean Harbors, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Alan S. McKim

Alan S. McKim
Chief Executive Officer

Date: February 22, 2017

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Michael L. Battles, certify that:

1. I have reviewed this annual report on Form 10-K for the period ended December 31, 2016 of Clean Harbors, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Michael L. Battles

Michael L. Battles

Executive Vice President and Chief Financial Officer

Date: February 22, 2017

SECTION AA

AIR EMISSIONS STANDARDS FOR PROCESS VENTS

The Facility does not operate any process vents associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations. Therefore, the requirements of this section do not apply to this Facility.

SECTION BB
AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS
TABLE OF CONTENTS

SECTION		PAGE
BB-1	Applicability	1
BB-2	Exclusions	1
BB-3	Equipment Standards	1
BB-3(a)	Pumps in Light Liquid Service	1
BB-3(b)	Compressors	2
BB-3(c)	Pressure Relief Devices in Gas/Vapor Service	2
BB-3(d)	Sampling Connecting Systems	2
BB-3(e)	Open-ended Valves or Lines	2
BB-3(f)	Valves in Gas/Vapor Service or in Light Liquid Service	3
BB-3(g)	Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges And Other Connectors	3
BB-4	Testing	5
BB-5	Record Keeping and Reporting Requirements	7
BB-5(a)	Record Keeping Requirements	7
BB-5(b)	Reporting Requirements	11

LIST OF APPENDICES

BB-1 Example Leak Detection and Repair Record Form

LIST OF FIGURES

BB-1 Environmental Piping Schematic

SUBPART BB
AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

BB-1 **APPLICABILITY**

The organic air emission leak detection program at this Facility applies only to the hazardous waste storage tanks, miscellaneous units, and ancillary equipment. The regulations in this subpart apply to owners and operators of facilities that treat, store, dispose, or recycle hazardous wastes (except as provided in 264.1) and apply to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 % by weight that are managed in units that are subject to the permitting requirements of part 270.

"Equipment" is defined in 40 CFR 264.1031 as each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange and any control devices or systems required by 40 CFR, Subpart BB. Each piece of equipment at the facility to which Subpart BB applies will be marked in such a manner that it can be distinguished readily from other pieces of equipment. Equipment that is in vacuum service (identified below) is excluded from the requirements of Section 264.1052 to Section 264.1060 if it is identified as required in Section 264.1064(g)(5).

BB-2 **EXCLUSIONS**

The Facility is not currently asserting a claim of any exclusion for equipment that is subject to the requirements of Subpart BB.

BB-3 **EQUIPMENT STANDARDS**

BB-3(a) **Pumps In Light Liquid Service**

The Facility has no pumps that contain or contact hazardous waste in light liquid service.

BB-3(b) Compressors

The Facility has no compressors that contain or contact hazardous waste.

BB-3(c) Pressure Relief Devices In Gas/Vapor Service

The Facility does not maintain any pressure relief devices that contain or contact hazardous waste in gas/vapor service or closed vent systems or control devices.

BB-3(d) Sampling Connecting Systems

This Facility does not currently have any sampling connecting or in situ sampling systems. Recurring sampling of waste in contact with this equipment is not necessary since Safety-Kleen has determined that all liquid hazardous wastes in the equipment regulated by Subpart BB is presumed to be greater than 10 % organic concentration and all equipment is to be managed in heavy liquid service as defined in Section 264.1031, as adopted in 15A NCAC 13A .0109. Documentation of the actual vapor pressures for the hazardous wastes in contact with this equipment is maintained in the operating record at the Facility. The vapor pressure of the used parts washer solvents at 20°C is approximately 0.27 kPa (2 mm Hg).

BB-3(e) Open-ended Valves or Lines

Each open-ended valve or line will be equipped with a cap, blind flange, plug, or a second valve. The cap, blind flange, plug, or second valve will seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line. Each open-ended valve or line equipped with a second valve will be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but will comply with paragraph (a) of 40 CFR

Section 264.1056 at all other times. Difficult to monitor equipment on the roof and upper portions of the Used Mineral Spirits Storage Tank will be visually inspected on an annual basis due to the safety hazards inherent to accessing the roof of the tank and the minimal potential for leakage.

BB-3(f) Valves in Gas/Vapor Service or in Light Liquid Service

The Facility has no valves that contain or contact hazardous waste in gas/vapor service or light liquid service.

BB-3(g) Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors

Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors will be monitored within 5 days by the Method 21 as specified in Section 264.1063(b) and Section BB-4 of this plan if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. Compliance with this standard is achieved by daily visual inspection of all affected equipment.

The RCRA regulated used mineral spirits storage tank is provided with a pressure relief device [i.e., conservation (pressure/vacuum) vent on the roof of the tank] as indicated in Section D of the Part B Permit application. The RCRA regulated storage tank is also equipped with a 24" diameter long-bolted man way located on the fixed roof and serves as an emergency vent that is designed to relieve excessive internal pressure caused by fire or adverse chemical reaction. The pressure required to lift the long-bolted man way is 2.76 ounces per square inch. Should a pressure release cause the long-bolted man way cover to lift from its seated position, the device will have to be visually inspected to insure the man way cover has dropped into its normal position and is adequately sealed for continued service.

Because the used parts washer solvent has a maximum organic concentration of approximately 2,700 ppm in the vapor phase, a portable organic vapor analyzer will not be used for leak detection because leaks cannot result in concentrations of more than 10,000 ppm. Suspect equipment leaks will be monitored based on visual observation. If a leak is detected, the piece of equipment is tagged and identified with the equipment identification number and date of actual leak detection. When a leak is detected, it will be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Section 264.1059 (see below). The first attempt at repair will be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described under Section 264.1057(e), such as tightening or replacement of bonnet bolts, tightening of packing gland nuts, injection of lubricant into lubricating packing, etc. Repair tags identifying leaking or damaged equipment, except those tags on valves, will be removed after repair of the equipment. Difficult to monitor equipment on the roof and upper portions of the Used Mineral Spirits Storage Tank will be visually inspected on an annual basis due to the safety hazards inherent to accessing the roof of the tank and the minimal potential for leakage. These annual roof top and upper tank inspections will be performed even though inaccessible connections (i.e., "difficult to monitor") are specifically exempt from the leak detection monitoring and recordkeeping requirements under the provisions specified in Section 264.1058(e).

Delay of repair

The Facility may delay repair of equipment for which leaks have been detected if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment will occur before the end of the next hazardous waste management unit shutdown. Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 % by weight. Delay of repair for valves will be allowed

if:

- (1) The Facility determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.
- (2) When repair procedures are affected, the purged material will be collected and destroyed or recovered in a control device complying with Section 264.1060.

The Facility may delay repair beyond a hazardous waste management unit shut down for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

BB-4 TESTING

The facility will comply with the following test methods and procedures:

- A. In accordance with the Waste Analysis Plan required by Section 264.13(b), the Facility will determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 % by weight using the following:
 - (1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260- 85 (incorporated by reference under Section 260.11); or
 - (2) Method 9060A of SW-846 (incorporated by reference under 260.11); or

- (3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that will be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 %, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.
 - (4) All liquid hazardous wastes in the equipment regulated by Subpart BB at this Facility is presumed to be greater than 10 % organic concentration and all equipment is to be managed in heavy liquid service as defined in Section 264.1031, as adopted in 15A NCAC 13A .0109. Documentation of the actual vapor pressures for the hazardous wastes in contact with this equipment is maintained in the operating record at the facility. The vapor pressure of the used parts washer solvents at 20°C is approximately 0.27 kPa (2 mm Hg).
- B. If the Facility determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 % by weight, the determination can be revised only after following the procedures in items A(1) or A(2) above.
- C. When the facility and the Department do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 % by weight, the procedures in items A(1) to A(4) of this section can

be used to resolve the dispute.

- D. Samples used in determining the percent of organic content will be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment. Sampling methods for obtaining representative samples of hazardous waste for analysis under this section the same as those described in the Waste Analysis Plan in Section C of this permit application.

BB-5 RECORDKEEPING AND REPORTING REQUIREMENTS

BB-5(a) Record Keeping Requirements

The Facility will comply with the following record keeping requirements:

The Facility will maintain the record keeping requirements for all hazardous waste management units subject to the provisions of Subpart BB in one record keeping system. The following information will be recorded in the facility operating record and maintained on-site for a minimum of three (3) years:

1. For each piece of equipment to which Subpart BB of Part 264 applies:
 - (a) Equipment identification number and hazardous waste management unit identification.
 - (b) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility site plan).
 - (c) Type of equipment (e.g., a pump or pipeline valve).
 - (d) The percentage of total organics in the hazardous waste stream which contacts equipment subject to this regulation is 100 % by weight.

- (e) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).
 - (f) Method of compliance with the standard (e.g., daily inspections, leak detection and repair).
2. When each leak is detected as specified in Sections. 264.1052, 264.1053, 264.1057, and 264.1058, the following applicable requirements apply:
- (a) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with Section 264.1058(a), and the date the leak was detected, will be attached to the leaking equipment.
 - (b) The identification on equipment, except on a valve, may be removed after it has been repaired.
 - (c) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in Section 264.1057(c) and no leak has been detected during those 2 months.
3. When each leak is detected as specified in Sections 264.1052, 264.1053, 264.1057, and 264.1058, the following information will be recorded in an inspection log and will be kept in the facility operating record:
- (a) The instrument and operator identification numbers and the equipment identification number.
 - (b) The date evidence of a potential leak was found in accordance with Section 264.1058(a).

- (c) The date the leak was detected and the dates of each attempt to repair the leak.
 - (d) Repair methods applied in each attempt to repair the leak.
 - (e) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (f) Documentation supporting the delay of repair of a valve in compliance with Section 264.1059(c).
 - (g) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.
 - (h) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.
 - (i) The date of successful repair of the leak.
4. The following information pertaining to all applicable equipment subject to the requirements in Sections 264.1052 through 264.1060 will be recorded in a log that is kept in the facility operating record:
- (a) A list of identification numbers for equipment (except welded fittings) subject to the requirements of Subpart BB.
 - (b) A list of identification numbers for equipment that the facility elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of Sections 264.1052(e), 264.1053(i), and 264.1057(f).

- (c) The designation of this equipment as subject to the requirements of Sections 264.1052(e), 264.1053(i), or 264.1057(f) will be signed by the owner or operator.
 - (d) A list of equipment identification numbers for pressure relief devices required to comply with Section 264.1054(a).
 - (e) The dates of each compliance test required in Sections 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f), as applicable.
 - (f) The background level measured during each compliance test.
 - (g) The maximum instrument reading measured at the equipment during each compliance test.
 - (h) A list of identification numbers for equipment in vacuum service.
5. The following information will be recorded in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:
- (a) An analysis determining the design capacity of the hazardous waste management unit.
 - (b) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in Sections 264.1052 through 264.1060 and an analysis determining whether these hazardous wastes are heavy liquids.
 - (c) An up-to-date analysis and the supporting information and data used to

determine whether equipment is subject to the requirements in Sections 264.1052 through 264.1060. The record will include supporting documentation as required by Section 264.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the facility takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in Sections 264.1052 through 264.1060, then a new determination is required.

6. Records of the equipment leak information and the operating information required by paragraph (d) and (e) of Section 264.1064 need only be kept for three (3) years. An example of the Leak Detection and Repair Record is included in Appendix BB-1.

7. Equipment Listing

Each piece of equipment which will be in hazardous waste service has been described by type and assigned a unique identification number. The location of the equipment within the hazardous waste management unit will be identified and placed in the Operating Record. A copy of the example inspection log is contained in Appendix F-1 in Section F of this permit application. Each piece of equipment will have assigned to it a number that identifies the equipment from non-affected equipment. Figure BB-1 (Piping Isometric Drawing) located at the end of this section provides a listing and diagram of the equipment subject to these requirements.

BB-5(b) Reporting Requirements

A semiannual report will be submitted by the facility to the Department in accordance

with the applicable requirements of Section 264.1065, as adopted in 15A NCAC 13A .0109. Records of equipment leak information required by Section 264.1064(d) need on be kept only for three years.

The semiannual report shall be submitted to NCDEQ and will include the following information:

1. The EPA Identification number, name, and address of the Facility.
2. For each month during the semiannual reporting period:
 - a. The equipment identification number of each valve for which a leak was not repaired,
 - b. The equipment identification number of each pump for which a leak was not repaired,
 - c. The equipment identification number of each compressor for which a leak was not repaired,
3. Dates of hazardous waste management unit shut downs that occurred within the semiannual reporting period; and,
4. For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as indicated by the control device monitoring and was not corrected with 24 hours, the duration and cause of each exceedance, and any corrective measures taken.

If, during the semiannual reporting period, leaks from equipment are repaired as required in Sections 264.1057 (d), 264.1052 (c) and (d)(6), and 264.1053 (g), respectively, and if applicable, any control device does not exceed or operate outside of

the design specifications as defined in Section 264.1064(e) for more than 24 hours, a report to the Department is not required.

APPENDIX BB-1

**LEAK DETECTION AND REPAIR RECORD FORM
(EXAMPLE)**

SUBPART BB LEAK DETECTION AND REPAIR RECORD

Equipment I.D. No. _____ Facility Name: _____
Equipment Name: _____

Date

**Inspector's
Signature**

How was potential or actual leak detected? _____

Describe the potential or actual leak: _____

Visual monitoring within five days: (note if leak has increased, stopped, etc.) _____

Day 1 results: _____

Day 2 results: _____

Day 3 results: _____

Day 4 results: _____

Day 5 results: _____

Repair Attempt _____

Method:

Results:

Repair Attempt _____

Method:

Results:

Date of Successful Repair (must be completed within 15 days) _____

Method:

Results:

Monitoring Summary: _____

Attach any Documentation Prepared by a Contractor or Consultant

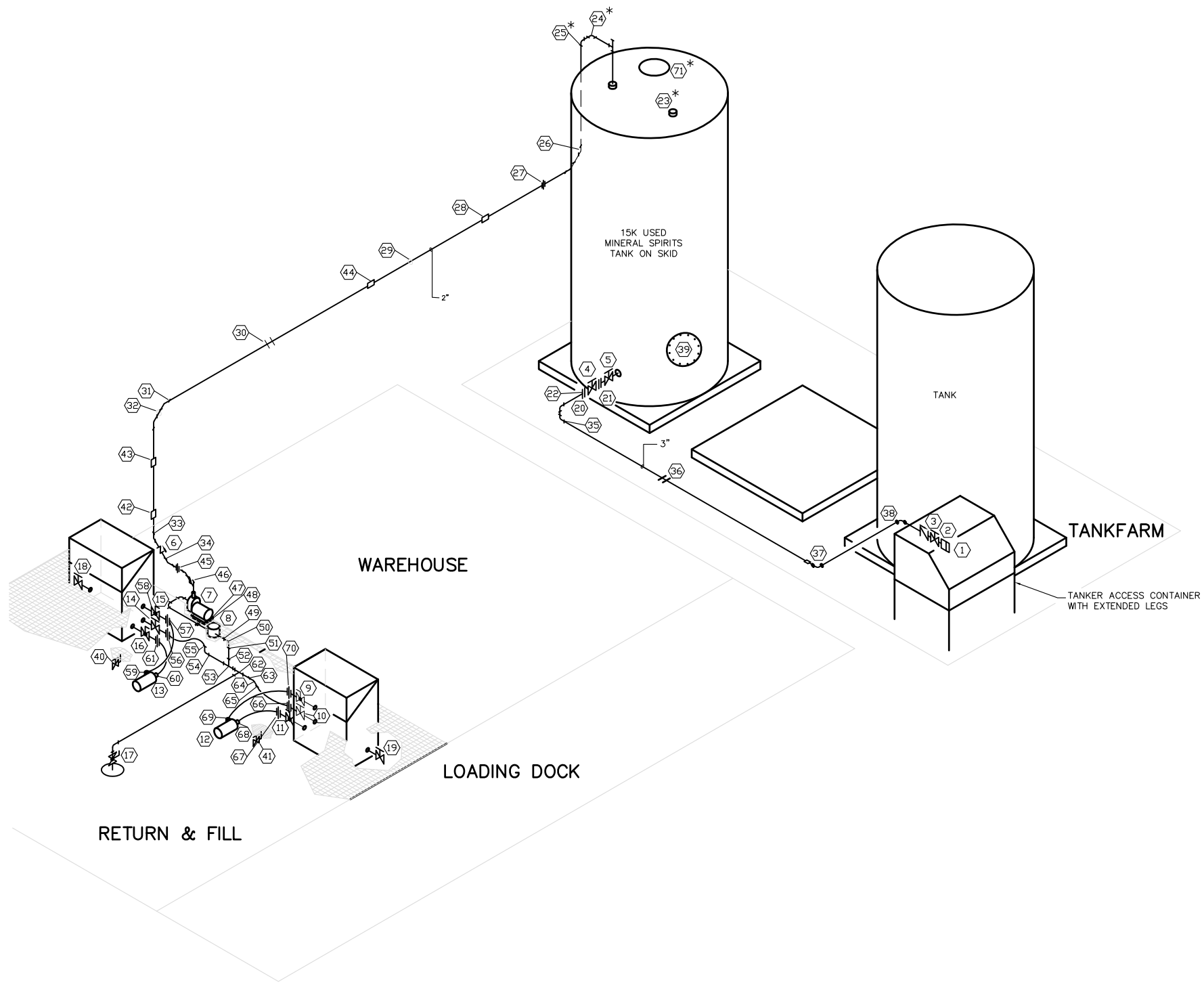
* If repair is delayed beyond 15 days, attach documentation to support delay. Indicate expected date of repair.

FIGURE BB-1

PIPING ISOMETRIC DRAWING

USED MINERAL SPIRITS EQUIPMENT SCHEDULE

MARK	DESCRIPTION
1	3" CAM LOCK
2	3" GATE VALVE
3	3" CHECK VALVE
4	3" FLANGED GATE VALVE
5	3" INTERNAL EMERGENCY GATE VALVE
6	2" CHECK VALVE
7	USED SOLVENT PUMP
8	STRAINER ASSY.
9	1 1/2" BALL VALVE
10	2" BALL VALVE
11	1 1/2" BALL VALVE
12	RECIRCULATING PUMP
13	RECIRCULATING PUMP
14	2" GATE VALVE
15	1 1/2" BALL VALVE
16	1 1/2" BALL VALVE
17	2" BALL VALVE
18	2" GATE VALVE
19	2" GATE VALVE
20	3" ELBOW SCREW CONNECTION
21	3" FLAT-FACED FLANGE
22	3" FLAT-FACED FLANGE
23	CONSERVATION VENT * DIFFICULT TO MONITOR
24	ELBOW SCREW CONNECTION * DIFFICULT TO MONITOR
25	ELBOW SCREW CONNECTION * DIFFICULT TO MONITOR
26	SCREW CONNECTION
27	ELBOW SCREW CONNECTION
28	ELBOW SCREW CONNECTION
29	SCREW CONNECTION
30	SCREW CONNECTION
31	ELBOW SCREW CONNECTION
32	ELBOW SCREW CONNECTION
33	ELBOW SCREW CONNECTION
34	SCREW CONNECTION
35	ELBOW SCREW CONNECTION
36	SCREW CONNECTION
37	ELBOW
38	ELBOW
39	MANWAY COVER & FLANGE
40	BALL VALVE
41	BALL VALVE
42	SCREW CONNECTION
43	SCREW CONNECTION
44	SCREW CONNECTION
45	ELBOW SCREW CONNECTION
46	SCREW CONNECTION
47	SCREW CONNECTION
48	SCREW CONNECTION
49	ELBOW SCREW CONNECTION
50	ELBOW SCREW CONNECTION
51	SCREW CONNECTION
52	SCREW CONNECTION
53	T-SCREW CONNECTION



* DIFFICULT TO MONITOR	
54	ELBOW SCREW CONNECTION
55	CAMLOCK CONNECTION
56	CAMLOCK CONNECTION
57	ELBOW SCREW CONNECTION
58	SCREW CONNECTION
59	SCREW CONNECTION
60	SCREW CONNECTION
61	SCREW CONNECTION
62	T-SCREW CONNECTION
63	ELBOW SCREW CONNECTION
64	ELBOW SCREW CONNECTION
65	CAMLOCK CONNECTION
66	CAMLOCK CONNECTION
67	SCREW CONNECTION
68	SCREW CONNECTION
69	ELBOW SCREW CONNECTION
70	SCREW CONNECTION
71	MANWAY COVER & FLANGE * DIFFICULT TO MONITOR

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN CORP. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN CORP. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	REVISE TO SHOW CURRENT CONDITIONS	JEK	TB		031114
C	UPDATE DWG. TO SHOW MANWAY	JEK	TB		080906
B	REVISED FOR PART B PERMIT RENEWAL	JEK	TB		012006
A	REVISED FOR PART B PERMIT RENEWAL	JEK	TB		13004
REVISIONS					

TITLE					
ENVIRONMENTAL PIPING ISOMETRIC					
SAFETY-KLEEN SYSTEMS, INC. 5400 LEGACY DR. CLUSTER III, BLDG. 3 PLANO, TX. 75024 800-669-5740					
SCALE	BY	CHKD	APPR	OP. APPR	DATE
NONE	JEK	-	-	-	4-28-03
SERVICE CENTER LOCATION			SC-DWG NUMBER	REV. NO.	
CHARLOTTE, N.C.			7055-4100-303	D	

Project Solutions
Companies

1390 Boone Industrial Drive • Suite 200 • Columbia • MO 65202
• Phone: (573) 443-7100 • Fax: (573) 443-7181 •

SECTION CC
AIR EMISSION STANDARDS FOR TANKS AND CONTAINERS
TABLE OF CONTENTS

SECTION		PAGE
CC-1	Applicability	1
CC-2	Exemptions From 40 CFR264.1084 – 264.1087 Standards	1
CC-3	Standards: Tanks	1
CC-3(a)	Applicability of Tank Standards: Tank Level 1 and Tank Level 2	1
CC-3(b)	Design Standards: Tanks	2
CC-3(b)(1)	Tank Level 1 Controls	2
CC-3(b)(2)	Tank Level 2 Controls	3
CC-3(c)	Operating Standards: Tanks	3
CC-3(c)(1)	Tank Level 1 Controls	3
CC-3(c)(2)	Tank Level 2 Controls	4
CC-3(d)	Transfer of Hazardous Waste from Other Tanks or Surface Impoundments	4
CC-4	Surface Impoundments	4
CC-5	Miscellaneous Units	4
CC-5(a)	Description and Applicability of Miscellaneous Units (Subpart X)	4
CC-6	Containers	6
CC-6(a)	Applicability of Container Standards: Container Levels 1-3	6
CC-6(b)	Design Standards: Containers	6
CC-6(b)(1)	Container Level 1 Controls	6
CC-6(b)(2)	Container Level 2 Controls	7
CC-6(b)(3)	Container Level 3 Controls	7
CC-6(c)	Operating Standards: Containers	7
CC-6(c)(1)	Container Level 1 Controls	7
CC-6(c)(2)	Container Level 2 Controls	8
CC-6(c)(3)	Container Level 3 Controls	8
CC-7	Closed-Vent Systems and Control Devices	8
CC-8	Inspection, Monitoring, and Repair	8

SECTION CC
AIR EMISSION STANDARDS FOR TANKS AND CONTAINERS
TABLE OF CONTENTS
(Continued)

SECTION		PAGE
CC-8(a)	Tanks	9
CC-8(b)	Containers	9
CC-8(c)	Miscellaneous Units	9
CC-9	Recording and Reporting	10

SECTION CC
AIR EMISSION STANDARDS FOR TANKS, CONTAINERS,
AND MISCELLANEOUS UNITS

CC-1 APPLICABILITY

This Safety-Kleen Facility manages wastes that range in Volatile Organic concentrations up to 100%. Therefore, all wastes managed in containers and in the storage tank are handled as being subject to 40 CFR 264 Subpart CC requirements based on the knowledge of the wastes managed at the facility. Therefore, no analytical waste determination is required.

CC-2 EXEMPTIONS FROM 40 CFR 264.1084 – 264.1087 STANDARDS

Not Applicable – The hazardous waste management units at this facility that are subject to Subpart CC requirements do not qualify for these stipulated exemptions.

CC-3 STANDARDS: TANKS

CC-3(a) Applicability of Tank Standards: Tank Level 1 and Tank Level 2

The Facility manages hazardous wastes in a tank system that consists of one 15,000-gallon storage tank (Tank No. 1) and ancillary equipment. The tank in this system is subject to Subpart CC requirements as a Level 1 Tank based on tank dimensions and maximum vapor pressure of volatile organic materials managed in this tank (see following table for criteria).

Applicability of Standards - Level 1 Tanks	
Tank Capacity	Maximum Vapor Pressure
> 151 cubic meters (39,800 gallons)	< 5.2 kPa (0.76 psia)
>19800 gallons <39,800 gallons	27.6 kPa (4.05 psia)
< 19,800 gallons	76.6 kPa (11.26 psia)

Tanks that meet the above size and vapor pressure limits and that are not heated to a temperature that would increase the vapor pressure of the materials above these limits can use Level 1 Tank Standards. The storage tank at this Facility is not heated to temperature greater than the temperature at which maximum organic vapor pressure of the waste is determined for purposes of compliance with this standard.

CC-3(b) Design Standards: Tanks

CC-3(b)(1) Tank Level 1 Controls

Safety-Kleen used parts washer solvent has a maximum vapor pressure of less than 0.3 kilopascals at 20 deg. C and less than 1.0 kilopascals at 37 deg. C (considering an expected maximum temperature within the tank of approximately 37 deg. C). The tank used for storing this waste has a capacity of 15,000 gallons. A complete description of the tank system and a diagram for the tank is provided in Section D of the permit application. Waste stored in this tank is used Safety-Kleen Parts Washer Solvent (e.g., 105 Solvent, Safety-Kleen Premium Solvent, and to a lesser extent Arma-Kleen Aqueous based parts cleaning solvents) and possibly storm water collected from secondary containment systems. Specifications for Safety-Kleen Used Parts Washer

Solvent can be found in Section D of this permit application. The waste managed in this tank is not being treated using a stabilization process, as defined in 40 CFR 265.1081.

The storage tank meeting Level 1 requirements is equipped with a fixed roof that meets the following specifications:

- (A) The fixed roof and its closure devices form a continuous barrier over the entire surface area of the hazardous waste in the tank.
- (B) There are no visible cracks, holes, gaps, or other open spaces between roof section and the tank wall.
- (C) Each opening in the fixed roof is equipped with a closure device designed to operate such that when the closure device is secured in closed position, there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device or connected to a control device (control is not required for Level 1 Tanks).

A copy of the most recent tank assessment is included in this permit application in Appendix D-2 of Section D in this permit application.

CC-3(b)(2) Tank Level 2 Controls

Not applicable – there are no Level 2 tanks at this facility.

CC-3(c) Operating Standards: Tanks

CC-3(c)(1) Tank Level 1 Controls

Safety-Kleen used parts washer solvent has a maximum vapor pressure of less than 0.3 kilopascals at 20 deg. C.

The fixed roof and its closure devices are visually inspected to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections; broken, cracked, or damaged seals or gaskets on closure devices; broken or missing hatches, access covers, caps, or other closure devices. A description of inspections and example logs for the tank system can be found in Section F of this permit application.

CC-3(c)(2) Tank Level 2 Controls

Not applicable - there are no Level 2 tanks at this facility.

CC-3(d) Transfer of Hazardous Waste from Other Tanks or Surface Impoundments

The transfer of hazardous waste shall be conducted using continuous hard piping or another closed system that does not allow exposure of hazardous waste to the environment.

CC-4 SURFACE IMPOUNDMENTS

Not Applicable.

CC-5 MISCELLANEOUS UNITS

CC-5(a) Description and Applicability of Miscellaneous Units (Subpart X)

The drum washer/dumpster units at the Facility are managed under the Subpart X – Miscellaneous Units Standards of 40 CFR Part 264.600 as incorporated by reference at NCAC 15A.0109. These units are located, designed, constructed, operated and maintained in a manner to protect human health and the environment. Each unit is located within an area provided with secondary containment, as described in Section D-

1(c), to prevent any potential releases from migrating to the surrounding subsurface or groundwater. Safety-Kleen has performed emissions monitoring of these specific units as well as similar units at other Safety-Kleen facilities and this data has shown that VOC emission levels are below the 10,000 ppmw leak detection threshold.

The drum washer/wet dumpster units are designed to allow employees to empty drums or other like containers of used parts washer solvent (petroleum naphtha based mineral spirits and some aqueous based parts cleaners) into the drum washer/dumpster units, rinse the drums via a spray system with used solvent pumped from the drum washer/dumpster unit, and then refill the drums with clean recycled or virgin solvent product. As designed and utilized, these units are simply a device used to effectively convey the contents of a used solvent drum to the on-site storage tank. The drum washer/dumpster units are not designed or intended to treat or store an accumulation of hazardous waste. From these units, the used solvent is transferred to the RCRA permitted aboveground storage tank located in the Tank Farm.

Once again, the drum washer/dumpster units are designed to rinse solvent containers in preparation for filling with clean solvent for further parts washer services. When not actively being used to receive solvent or wash drums, the units will be maintained in a closed position. The internal sumps will be emptied at the end of each day's operating shift. Refer to Figure D-10 for additional design information.

These units will be inspected for leaks or malfunctioning each operating day in accordance with the inspection procedures outlined in Section F of the permit application.

The physical properties and chemical characteristics of the used parts washer solvent transferred through these units can be found in the Waste Analysis Plan located in Section C of the permit application.

CC-6 CONTAINERS

CC-6(a) Applicability of Container Standards: Container Levels 1 - 3

This section is applicable to containers that are greater than 26 gallons that are used to manage hazardous wastes with greater than 500 ppm volatile organic contents. Section D-1 of this permit application provides a summary of the container storage areas and types of containers managed for which Subpart CC is applicable. Additional information pertaining to containers managed at this facility can be found in Section D of this permit application.

CC-6(b) Design Standards: Containers

CC-6(b)(1) Container Level 1 Controls

Containers greater than 26 gallons but less than 119 gallons and containers greater than 119 gallons used in heavy material service (<0.038 psia) are to be controlled in accordance with one of the following Level 1 container standards as follows:

- (A) Containers that meet DOT standards are in compliance with Subpart CC Level 1 container design standards. Safety-Kleen drums meet DOT's standards; or
- (B) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container such as a lid on a drum or a tarp on a roll-off box; or
- (C) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere.

CC-6(b)(2) Container Level 2 Controls

Hazardous waste containers with a design capacity greater than 119 gallons and that are in light material service are subject to Level 2 container standards. These include totes, roll-off boxes that are greater than 119 gallons in capacity, and bulk tankers and rail car tankers. Level 2 containers are not stored at this facility, therefore 40 CFR 265.1087(d) does not apply at this location. However, these types of containers may undergo 10-day transfer at the facility, but since they will be “in the course of transportation” and not “in storage”, Subpart CC will not be applicable.

CC-6(b)(3) Container Level 3 Controls

Not applicable – Level 3 containers will not be managed at this Facility.

CC-6(c) Operating Standards: Containers

CC-6(c)(1) Container Level 1 Controls

Whenever a hazardous waste is in a container using Level 1 controls, the covers shall be maintained in closed position except as follows:

- (A) Adding hazardous waste or other material to the container:

If the container is filled in one continuous operation, the container is closed upon conclusion of the filling operation. In the case of discrete or batch filling the container is closed, whichever occurs first:

- (A) upon filling the container to the intended final level;
- (B) upon the completion of a batch loading after which no additional waste will be added within 15 minutes;

- (C) when the person performing the loading operation leaves the immediate vicinity of the container; or
- (D) when the process generating waste being added to the container is shut down.

When discrete quantities of hazardous waste are removed from the container, covers shall be promptly secured upon completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first. RCRA empty containers may be open to the atmosphere at any time.

Containers may be opened when sampling and/or measuring hazardous wastes, as well as adding or removing hazardous wastes from them. Covers must be replaced and secured on containers once such activities are completed.

CC-6(c)(2) Container Level 2 Controls

Not Applicable.

CC-6(c)(3) Container Level 3 Controls

Not Applicable.

CC-7 CLOSED-VENT SYSTEMS AND CONTROL DEVICES

Not applicable.

CC-8 INSPECTION, MONITORING, AND REPAIR

CC-8(a) Tanks

The fixed roof and its closure devices are visually inspected to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections; broken, cracked, or damaged seals or gaskets on closure devices; broken or missing hatches, access covers, caps, or other closure devices. A description of inspections and example logs for tanks can be found in Section F of this permit application.

If a defect is detected for the tank, fixed roof, covers, or closure devices, a first attempt at repair will be made within 5 calendar days after detection, and repair completed within 45 calendar days after detection, except as provided by 40 CFR 264.1084(k)(2).

CC-8(b) Containers

All Level 1 Containers that are not emptied upon receipt at the Facility are inspected upon arrival and each day thereafter until the container is transferred to a recycle center. Each Level 1 Container and its cover and closure devices are inspected for visible cracks, holes, gaps, or other open spaces. No container remains at the facility over 1 year.

If a defect is detected for a container, cover, or closure devices, a repair shall be attempted within 24 hours after detection, and repair shall be completed as soon as possible, but no later than 5 calendar days. The container will be over packed in a DOT approved container as a means of repair. A description of the types of inspections and example logs for containers can be found in Section F of this permit application.

CC-8(c) Miscellaneous Units

If a leak is detected from the actual drum washer/dumpster units during the daily visual inspection, the defect will be repaired no later than 45 days from the date of the

detection, unless the standards associated with delay of repair [40 CFR 264.1084(k)(2)] apply. First attempts to repair the equipment will occur within 5 days after leak confirmation. Additional information concerning procedures for the inspection and detection of leaks from the equipment associated with the drum washer/dumpster units can be found in Section F of this application.

Safety-Kleen has performed emissions monitoring of these specific units as well as similar units at other Safety-Kleen facilities and this data has consistently shown that VOC emission levels are considerably below the 10,000 ppmw leak detection threshold.

Based on the above information there would not be any tangible environmental benefit to adding pollution controls to the drum washer/dumpster units. In addition, developing pollution controls would be very difficult since processing containers of used parts washing solvent requires that the lids to the drum washer/dumpster units remain open during active operation and are located over an open grated working surface provided with a concrete secondary containment system. It should be noted that the drum washer/dumpster units are drained and closed during those times of the operating day when no trucks are delivering used parts washer solvent to be processed. Also at the end of the operating day, which typically consists of 2.5 to 4 hours of processing, the drum washer/dumpster units are emptied, cleaned, closed and prepared for the next day's operation. These procedures provide an additional amount of risk reduction.

CC-9 RECORDING AND REPORTING

For demonstrations of compliance with Subpart CC, as stipulated by 40 CFR 264.1089, Safety-Kleen maintains the required information described in this permit application.

- Documentation of Waste Determination is provided in Section C, Waste Analysis Plan of this permit application,
- Documentation of Container design and closure is provided in Section D-1 of this permit application,

- Documentation of Container and Tank inspections are provided in Section F of this permit application.

Records for required inspections are maintained at the Facility for a minimum of three (3) years.

Any written reports, as required by 40 CFR 264.1090, particularly 40 CFR 264.1090(b), will be prepared and submitted to the Regional Administrator as applicable within 15-calendar days of the time that Safety-Kleen becomes aware of any occurrence of noncompliance under this standard.