Rizzo, Jonathan

From: Rizzo, Jonathan
Sent: Thursday, October 13, 2016 4:23 PM
To: Emery, Michael (DEC)
Subject: 373-2.28 & 373-2.29 Compliance Programs

Mike,

Please find attached the Compliance Programs for the following:
373-2.28 Compliance Program for Air Emission Standards for Equipment Leaks;
373-2.29 Compliance Program Air Emission Standards for Tanks, Surface Impoundments and Containers.

We call these the 40 CFR 264 **Subpart BB** (373-2.28) and **Subpart CC** (373-2.29) programs, because the federal regulations were implemented first prior to the promulgation of the DEC regulations.

There will be **no** revisions necessary to these programs for the construction of RMU-2. The only revision that may be necessary in the future (> 8 years) is when the new Drum Management Building is constructed, which would include a new fuels pumping area.


CC Plan May 2014.pdf


BB PLAN June 2014 (cur).doc.p...

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COMPLIANCE PROGRAM
40 CFR 264.1050-1065 (Subpart BB)
6NYCRR 373-2.28

CWM CHEMICAL SERVICES, LLC.
MODEL CITY FACILITY

Prepared by:
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1.0 INTRODUCTION

CWM Chemical Services, LLC (CWM or Facility) has developed a compliance program for 40 CFR 264/265.1050-1065 (Subpart BB) "Air Emission Standards for Equipment Leaks" (effective date 12/6/96). References to the parallel New York State regulations found in 6 NYCRR 373-2.28 were subsequently incorporated in CWM's RCRA Sitewide Operating permit. This program was developed for all areas of the Facility that must maintain compliance with these regulations. All references in this plan to the federal Subpart BB regulations (40 CFR 264.1050-1065) should be read as also referring to the parallel NYS regulations in 6 NYCRR 373-2.28. The plan included the following tasks:

Task 1: Identification of Equipment
Task 2: Monitoring Program and Schedule
Task 3: Recordkeeping and Reporting Program

A determination, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with an organic concentration that equals or exceeds 10 percent by weight was made using "Application of Knowledge" as allowed under 40 CFR 264.1063.

It was initially determined that the SLF #1-6 leachate facility; fuels drum bulking area; fuels tanker to tanker transfer; Frac Tank 3, certain manholes/cleanouts in the SLF 1-6, SLF 7, SLF 10 and SLF 11 leachate collection lines; leachate collection sump piping SLF 1-6: L1, L2, L5, L6, L8, L10, L12, L15, L16, L19; SLF 7: L30; SLF10: L35; SLF 11: L38, L39; tanks T-107, T-108, T-109, T-110, T-111, T-158 fell within the specifications of Subpart BB and were therefore required to have a monitoring program for equipment leaks.

Sampling and analysis performed in 2012 and 2014 was used to re-evaluate the leachate from SLF 10 and 11. Leachate samples taken between 10/18/2011 and 7/23/2012 from the SLF 10 storage tanks were single phased and had TOC values from 1860 and 4800 mg/L (ppm). Standpipe L35 on SLF 10 was sampled on 2/22/14. The sample was single phased and had a TOC value of 296 mg/L (ppm). SLF 10 leachate does not contain >10% organics and has been removed from the BB Compliance Plan. Leachate samples taken between 10/18/2011 and 8/6/2012 from the SLF 11 storage tanks were single phased and had TOC values from 174 and 448 mg/L (ppm). Standpipe L39 on SLF 11 was sampled on 2/22/14. The sample was single phased and had a TOC value of 331 mg/L (ppm).). Standpipe L38 on SLF 11 was sampled on 2/28/14. The sample had a small LNAPL layer (max 6.8%) and had a TOC value of 803 mg/L (ppm). SLF 11 leachate does not contain >10% organics and has been removed from the BB Compliance Plan. While the leachate samples from SLF 7 collected between 10/18/2011 and 7/23/2012 only showed a maximum TOC concentration of 7100 mg/L (0.71%), CWM has chosen to conservatively continue to include this landfill and its equipment in the BB program. The leachate from landfill 1-6 is biphased and expected to contain greater than 10% organics by virture of the organic layer. . Copies of the analytical reports used to delete SLFs 10 and 11 from the program are included in Appendix C.

This plan summarizes the compliance program that has been developed for the above equipment.

Based upon process knowledge, there are no other areas or equipment at the Facility believed to manage hazardous waste with greater than or equal to 10 percent organics and fall under these regulations. Aqueous Wastewater Treatment System (AWTS) operations handle only waste with an organic concentration of less than 10 percent.

1.1 Organization of this Compliance Manual:

This compliance manual is organized into five chapters. In Chapter 1, an introduction to the scope and applicability of RCRA subpart BB is presented. Dealt with in Chapter 2, are the protocols used for identification of "affected units". The monitoring program developed is addressed in Chapter 3. The requirements when a leak is observed are detailed in Chapter 4. Delineated in Chapter 5, are the record keeping requirements under subpart BB. Figures and Tables detailing affected equipment are presented in Appendix A. The regulatory requirements as applicable to CWM are outlined in Appendix B. The calculations to determine the type of service is presented in Appendix C. USEPA Method 21 is detailed in Appendix D. A list of equipment that are "Unsafe/Difficult to Monitor" can be found in Appendix E. Appendix F contains examples of recordkeeping forms that will be maintained by CWM for the subpart BB compliance program. Information pertaining to affected equipment that are subject to exemptions or alternative standards can be found in Appendix G.

2.0 IDENTIFICATION OF EQUIPMENT

To determine the applicability, the facility must evaluate the following equipment, which is on site:

Pumps;
Valves;
Flanges and other connectors;
Compressors;
Pressure Relief Devices;
Sampling Systems; and
Open ended Valves or Lines

For a piece of equipment to be affected by Subpart BB, the following questions must all be answered "yes". A "no" response for any of the questions exempts the piece of equipment from falling under Subpart BB.

1. Is the unit/equipment subject to RCRA permitting requirements?

2. Does the equipment contain or contact a hazardous waste with organic concentrations of at least 10 percent by weight?

   Organic concentration that equals or exceeds 10 percent by weight can be determined from one or more of the following:

   Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85; or

   Method 9060 (TOC) or 8260 (VOCs) of SW-846; or

   Application of knowledge.

3. Is the equipment in a service other than vacuum service?

2.1 Unit Description

The units described in the following subsections and their associated equipment were determined to be affected by Subpart BB.

The determination that the affected equipment contains or contacts hazardous waste with organic concentrations equal to or greater than 10 percent by weight was made through "Application of Knowledge".

2.1.1 SLF 1-6 Leachate Facility

The SLF 1-6 leachate collection and storage facility is located South of "M" Street and North of SLF 1-6. It consists of a lift station/storage tank, T-105 and an external storage tank T-130.

The eastern structure contains the lift station, where the storage tank T-105 is used to collect the leachate from SLF 1-6 and pump it to the external storage tank T-130, where initial settling of the heavy/light oil takes place. The leachate is expected to contain >10% organic phase. Methylene chloride is one of the major organic compounds present in the leachate, hence, the leachate from SLF 1-6 will be considered a light liquid. The leachate is transferred by vacuum truck to the SLF 1-11 Oil/Water Separator (OWS) tank T-158.

2.1.2 SLF 7 Leachate Tank

The SLF 7 Leachate Tank is located east of SLF 7 on MacArthur Street. Leachate from SLF 7 will flow by gravity from the landfill standpipes into tank T-107. A vacuum truck is used to transfer the leachate from T-107. It usually is transferred to the AWTS for pre-treatment, prior to shipment off-site for disposal. SLF 7 leachate may also be transferred to Frac Tank 3 for storage. Leachate from SLF 7does not have an oil phase. The TOC concentration is between 0.68 and 0.71% (well under 10%). Historically, floating paste-like material (believed to be polyurethane with MOCA) has shown up in T-107, If this material was present, the total organic content could be >10%. At “best”, this material would qualify the equipment for heavy (non-volatile) liquid service. To be conservative, CWM will continue to monitor T-107 and the associated transfer and storage equipment as light material service under Subpart BB.

2.1.3 SLF 11 Leachate Holding Tank (deleted March 2014)

2.1.4 SLF 10 Leachate Holding Tank (deleted 2014)

2.1.5 SLF 1-11 Oil/Water Separator Building

The SLF 1-11 Oil/Water Separator (OWS) building is located east of the Leachate Tank Farm. Leachate from closed landfills SLF 1-6 is transferred into tank T-158 using a vacuum truck assisted with a pump. Flocculants may be added to enhance phase separation in T-158. By opening the appropriate valve, the aqueous phase is allowed to flow by gravity into tank T-159 (lift station). The oil phase is pumped into a tanker truck for storage and off-site shipment. The aqueous phase leachate from T-159 with <10% organics is pumped to the Leachate Tank Farm for storage, followed by treatment at the AWTS. The aqueous phase is no longer subject to Subpart BB. Either the aqueous phase (non-BB) or the organic phase (BB) may be stored in Frac Tank 3.

2.1.6 Fuels Drum Bulking Area

The fuels drum bulking area is located at the southwest corner of the Drum Storage Building. It consists of a pneumatic double diaphragm pump, which removes liquid organic waste from drums and pumps it to an external tanker truck for shipment off-site. There are two strainers in the system, which filter out the larger sized particulates. The fuels waste may consist of solvents/volatile organics; the equipment is in light liquid service.

2.1.7 Fuels Tanker to Tanker Transfer Area

The fuels tanker to tanker transfer area is located west of the Drum Storage Building. It consists of an electric pump, which can be used to transfer liquid organic waste from one tanker to another. There are two strainers in the system, which filter out the larger sized particulates. The fuels waste may consist of solvents/volatile organics; the equipment is in light liquid service.

2.1.8 Frac Tank 3

Frac Tank 3 is located in the Leachate Tank Farm. It is usually used to store aqueous leachate and thus not subject to Subpart BB, however, if Operations choses to store the organic phase from the oil/water separator (T-158) in the Frac Tank, the Environmental Department must be notified so that the change of services is documented and the required monitoring can be performed.

2.1.9 Leachate Collection Lines

Underground lines used to transfer leachate from the landfill collection sumps to their respective holding tanks pass through leak detection manholes. The leachate collection line manholes M1 through M4 and cleanouts C1 through C4 on SLF 1-6 are subject to Subpart BB. Manhole M7 on SLF 7 is conservatively included in the BB program.

2.1.10 Leachate Collection Sumps

The collection sump piping is used to pump collected leachate from the landfill sumps to the leachate transfer systems. The sumps subject to Subpart BB are: SLF 1-6: L1, L2, L5, L6, L8, L10, L12, L15, L16, L19; and SLF7: L30. All other landfill sumps contain leachate with less than 10 percent organic constituents.

2.2 Type of Service

Once the unit(s) and associated equipment have been determined to be subject to Subpart BB, then the type of service must be determined for each piece of equipment. There are three types of service:

Gas/Vapor Service - the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

Light Liquid Service - the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater that 0.3 kilopascals (0.044 psia) at 20o C, the total concentration of the pure component having a vapor pressure greater than 0.3 kPa (0.044 psia) at 20o C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

Heavy Liquid Service - the piece of equipment is not in gas/vapor service or light liquid service.

Chemical analysis data for landfill leachate, fuels, and leachate oils is summarized in Appendix C: Tables 1-5. Based on these analyses and on vapor pressure data from standard texts, it was calculated (Appendix C) that the equipment for the units determined to be subject to Subpart BB are in light liquid service.

2.3 Equipment Categorized Under Subpart BB

2.3.1 SLF 1-6 Leachate Collection Lines (Manholes/Cleanouts)

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for SLF 1-6 leachate collection lines has been identified in Appendix A: Figure 1 and is presented in Appendix A: Table 1. All the above equipment is installed inside a subsurface piping manhole or cleanout enclosure, i.e., confined space. Consequently, this equipment has been designated as "Unsafe to Monitor".

2.3.2 SLF 1-6 L1 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L1 has been identified in Appendix A: Figure 2 and is presented in Appendix A: Table 2. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.3 SLF 1-6 L2 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L2 has been identified in Appendix A: Figure 3 and is presented in Appendix A: Table 3. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.4 SLF 1-6 L5 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L5 has been identified in Appendix A: Figure 4 and is presented in Appendix A: Table 4. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.5 SLF 1-6 L6 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L6 has been identified in Appendix A: Figure 5 and is presented in Appendix A: Table 5. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated "Unsafe to Monitor".

2.3.6 SLF 1-6 L8 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L8 has been identified in Appendix A: Figure 6 and is presented in Appendix A: Table 6. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.7 SLF 1-6 L10 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L10 has been identified in Appendix A: Figure 7 and is presented in Appendix A: Table 7. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.8 SLF 1-6 L12 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L12 has been identified in Appendix A: Figure 8 and is presented in Appendix A: Table 8. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.9 SLF 1-6 L15 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	YES
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L15 has been identified in Appendix A: Figure 9 and is presented in Appendix A: Table 9. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.9.1 Open ended valve or line

The valve in the piping system in this standpipe is an opened valve, which may be used for sampling. The open end of the line is threaded and fitted with a cap.

2.3.10 SLF 1-6 L16 Leachate Collection Sump
Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	YES
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L16 has been identified in Appendix A: Figure 10 and is presented in Appendix A: Table 10. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.10.1 Open ended valve or line

The valve in the piping system in this standpipe is an opened valve, which may be used for sampling. The open end of the line is threaded and fitted with a cap.

2.3.11 SLF 1-6 L19 Leachate Collection Sump

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	NO	N/A	N/A
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump piping at SLF 1-6 L19 has been identified in Appendix A: Figure 11 and is presented in Appendix A: Table 11. All the above equipment is installed inside a leachate standpipe, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.12 SLF 1-6 Leachate Facility (T-105 and T-130)

Investigation of current schematics and site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	YES	NO	NO
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	YES	YES	YES
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	YES
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for SLF 1-6 leachate facility has been identified in Appendix A: Figure 12 (Sheet 1-3) and is presented in Appendix A: Table 12. Certain valves on the side of tank T-130 are elevated above the working surface and have been designated as "Difficult to Monitor". In addition, some equipment is exempt as explained below.

2.3.12.1 Pumps In Light Liquid Service

There is one submerged pumps in the current system. It is used to lift the waste from the lift station storage tank (T-105) to the surge tank (T-130). As this is a submerged pump, there is no threat of increased air emissions if a pump leak occurs. It is not regulated under Subpart BB.

2.3.12.2 Pressure Relief Devices, Gas/Vapor Service

Tank T-105 has a pressure relief valve (PRV1) on the top of the tank. It is inspected weekly.

2.3.12.3 Open Ended Lines or Valves

The air vent line from the tank is connected to a carbon canister control device.

There are several open ended valves/lines, which are used for connecting hoses during transfers. Caps or plugs are installed when the connection is not in use.

2.3.12.4 Valves In Gas/Vapor Service or In Light Liquid Service

Valves in this system are in light liquid service. Valves on the discharge lines from T-130 are in vacuum service during operation when material is transferred to a vacuum truck. These valves would be classified as exempt from Subpart BB, however, liquid may remain in the line after use. These valves will be monitored and considered part of the BB program.

2.3.12.5 Flanges and Other Connections

Flanges in this system on the discharge lines from T-130 are in vacuum service during operation when material is transferred to a vacuum truck. These flanges would be classified as exempt from Subpart BB, however, liquid may remain in the line after use. These flanges will be identified and inspected as part of the BB program.

2.3.13 SLF 7 L30 Leachate Collection Sump and Manhole M7

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	N/A	N/A
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	NO	NO
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the leachate collection sump and manhole piping at SLF 7 L30 and M7 has been identified in Appendix A: Figure 13 and is presented in Appendix A: Table 13. All the above equipment is installed inside a leachate standpipe or transfer manhole, i.e., confined space, and has been designated as "Unsafe to Monitor".

2.3.13.1 Valves

There is one valve on the transfer line passing through manhole MH-7. As explained in section 2.1.2, the leachate from SLF 7 is only expected to contain >10% organics if a slug of polyurethane polymer material is transferred. Technically, this would be heavy liquid service. CWM chooses to conservatively monitor this system and its valves as light liquid service. There no valves in standpipe L30.

2.3.14 SLF 10 L35 Leachate Collection Sump and Manhole M 10 (deleted)

2.3.15 SLF 11 Leachate Collection Lines (Manhole M11) (deleted)

2.3.16 SLF 11 L38 Leachate Collection Sump (deleted)

2.3.17 SLF 11 L39 Leachate Collection Sump (deleted)

2.3.18 Frac Tank 3

Frac Tank 3 may be used for the storage of the organic phase of leachate; When this type of material is being stored, the tank is in BB service. Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	NO	NO
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	NO
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for Frac Tank 3 has been identified in Appendix A: Figure 18 and is presented in Appendix A: Table 18.

2.3.18.1 Open ended valves and lines

The air vent line from the tank is connected to a carbon canister control device.

There are several open ended valves/lines, which are used for connecting hoses during transfers. Caps or plugs are installed when the connection is not in use.

2.3.18.2 Valves In Gas/Vapor Service or In Light Liquid Service

Valves in this system are in light liquid service. Valves on the discharge lines from Frac Tank 3 are in vacuum service during operation when material is transferred to a vacuum

truck. These valves would be classified as exempt from Subpart BB, however, liquid may remain in the line after use. These valves will be monitored and considered part of the BB program.

2.3.18.3 Flanges and Other Connections

Flanges in this system on the discharge lines from Frac Tank 3 are in vacuum service during operation when material is transferred to a vacuum truck. These flanges would be classified as exempt from Subpart BB, however, liquid may remain in the line after use. These flanges will be identified and inspected as part of the BB program.

2.3.19 Fuels Drum Bulking Area

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	YES	YES	YES
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	NO
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the fuels drum bulking area has been identified in Appendix A: Figure 19 and is presented in Appendix A: Table 19. Some equipment is exempt as explained in the following sections.

2.3.19.1 Pumps In Light Liquid Service

There is a pneumatic double diaphragm pump in the current system. This pump (P1) has no actuated shaft penetrating the pump housing and after initial monitoring, it will be designated as "No Detectable Emissions (NDE) pump." Once designated as NDE, the pump is exempt from the monthly monitoring requirements of Subpart BB. NDE pumps will be monitored initially and annually thereafter. Weekly inspections are performed.

2.3.19.2 Valves In Gas/Vapor Service or In Light Liquid Service

Valves in the current system are in light liquid service. Valves located inside the building on non-PCB transfer line on the suction side of the pump are in vacuum service during

operation. These valves would be considered exempt from Subpart BB. As liquid may remain in the lines after a transfer, the valves will be monitored as part of the BB program. The valves on the discharge side of the pump on the non-PCB transfer line are subject to Subpart BB.

PCB liquids are transferred from containers using a vacuum pump. The valves in vacuum service would be considered exempt from Subpart BB. As liquid may remain in the lines after a transfer, the valves will be monitored as part of the BB program.

2.3.19.3 Flanges and Other Connections

Flanges in this system are in light liquid service. Flanges located inside the building on non-PCB transfer line on the suction side of the pump are in vacuum service during operation. These flanges would be considered exempt from Subpart BB. As liquid may remain in the lines after a transfer, the flanges will be identified and inspected as part of the BB program. The flanges on the discharge side of the pump on the non-PCB transfer line are subject to Subpart BB. The tops of the filter housings are considered flanges and will be inspected for leaks as part of the BB program.

PCB liquids are transferred from containers using a vacuum pump. The flanges in vacuum service would be considered exempt from Subpart BB. As liquid may remain in the lines after a transfer, the flanges will be identified and inspected as part of the BB program.

2.3.20 Fuels Tanker to Tanker Transfer Area

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	YES	YES	YES
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	NO
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the fuels tanker to tanker transfer area has been identified in Appendix A: Figure 20 and is presented in Appendix A: Table 20. Some equipment is exempt as described in the following sections.

2.3.20.1 Pumps in Light Liquid Service

The fuels tanker to tanker transfer pump (P1) is equipped with a dual mechanical seal with barrier fluid and so will be designated as "No Detectable Emissions (NDE) pump", which is exempt from the monthly monitoring requirements. NDE pumps are monitored initially and annually thereafter.

2.3.20.2 Valves In Gas/Vapor Service or In Light Liquid Service

Valves in the current system are in light liquid service. Valves on the suction side of the pump are in vacuum service during operation. These valves would be considered exempt from Subpart BB. As liquid may remain in the lines after a transfer, the valves will be

monitored as part of the BB program. The valves on the discharge side of the pump are subject to Subpart BB.

2.3.20.3 Flanges and Other Connections

Flanges in this system are in light liquid service. Flanges on the suction side of the pump are in vacuum service during operation. These flanges would be considered exempt from Subpart BB. As liquid may remain in the lines after a transfer, the flanges will be identified and inspected as part of the BB program. The flanges on the discharge side of the pump are subject to Subpart BB. The tops of the filter housings are considered flanges and will be inspected for leaks as part of the BB program.

2.3.21 SLF 7 Leachate Pump Station (T-107)

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	YES	NO	NO
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	N/A	N/A
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	YES
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	YES	YES	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for T-107 has been identified in Appendix A: Figure 21 and is presented in Appendix A: Table 21. Some equipment is exempt as explained in the following section.

2.3.21.1 Pumps in Light Liquid Service

There is one submerged pump installed inside tank T-107 to transfer the leachate through the T-108 building to a tanker or vacuum truck in the T-108 loading/unloading containment area. As this is a submerged pump, there is no threat of increased air emissions when a pump leak occurs. Consequently, it is not regulated under subpart BB.

2.3.21.2 Valves

As explained in section 2.1.2, the leachate from SLF 7 is only expected to contain >10% organics if a slug of polyurethane polymer material is transferred from the landfill. Technically, this would be heavy liquid service. CWM chooses to conservatively monitor this system and its valves as light liquid service.

2.3.21.3 Open ended valves and lines

The air vent line from the tank is connected to a carbon canister control device.

There is open ended valve/line, which may be used for connecting hoses. A caps or plug is installed when the connection is not in use.

2.3.22 SLF 7 Transfer line through the T-108 Building

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	NO	NO	NO
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	NO	NO	NO
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	NO	N/A	N/A
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the transfer line through the T-108 building 1 has been identified in Appendix A: Figure 23 and is presented in Appendix A: Table 23.

2.3.23 SLF 1-11 Oil/Water Separator Building (T-158)

Site inspections have identified the following equipment:

EQUIPMENT	PRESENT	REGULATED UNDER SUBPART BB	MONITORING REQUIRED
Pumps Light Liquid Service	YES	YES	YES
Compressors	NO	N/A	N/A
Pressure Relief Devices Gas/Vapor Service	YES	YES	YES
Sampling Connecting Systems	NO	N/A	N/A
Open Ended Valves or Lines	YES	YES	YES
Valves Gas/Vapor or Light Liquid Service	YES	YES	YES
Pumps Heavy Liquid Service	NO	N/A	N/A
Valves Heavy Liquid Service	NO	N/A	N/A
Pressure Relief Devices Light or Heavy Liquid Service	NO	N/A	N/A
Flanges and Other Connections	YES	YES	YES

Equipment for the SLF 1-11 OWS has been identified in Appendix A: Figure 24 and is presented in Appendix A: Table 24.

2.3.23.1 Pumps

There are two centrifugal pumps (P3 and P4), which require weekly inspection and monthly monitoring.

2.3.23.2 Open ended valves and lines

The air vent line from the tank is connected to a carbon canister control device.

There several ended valves/lines. A cap or plug is installed on the end of each line.

2.3.23.3 Valves In Gas/Vapor Service or In Light Liquid Service

Valves in the current system are in light liquid service. Valves on the discharge side of the pump are subject to Subpart BB. Valves on the suction side of the pump are in vacuum service during normal operation, however, as residual material remains in the line, these valves would be subject to Subpart BB when the pump is not running.

2.3.23.4 Flanges and Other Connections

Flanges and other connections on the discharge side of the pump are subject to Subpart BB.Flanges and other connections located on the suction side of the pump are in vacuum service during normal operation, however, as residual material remains in the line, these flanges would be subject to Subpart BB when the pump is not running.

2.3.23.5 Pressure Relief Device

Tank T-158 has a pressure relief valve (PRV4) on top of the tank. The PRV is inspected weekly.

3.0 MONITORING

According to the equipment categorization in Appendix B.2, only valves, flanges, pumps and pressure relief devices need to be inspected/monitored for leaks. Carbon canisters on air vent lines are monitored for no detectable emissions.

3.1 Techniques

The following sections describe the techniques that are employed to monitor/inspect equipment subject to Subpart BB. The procedures for monitoring are detailed in Section 3.3.3.

3.1.1 Visual Inspection

The visual inspection examines equipment for leaks without the use of a monitoring instrument. This is either a visual observation for pumps or pressure relief devices, or a visual, audible, and olfactory inspection for flanges and other connections. Just visual inspection monitoring is not sufficient for valves. Valves must also be monitored using the leak/no-leak technique.

If a leak is detected by visual, audible or olfactory inspection for flanges and other connections, it must be monitored by the leak/no-leak technique within five days. No monitoring need be performed if the equipment has been taken out of service for repair within 5 days.

No later than 5 days after a pressure release from a PRV in gas/vapor service, the PRV must be monitored to confirm no detectable emissions (see section 3.1.3). PRVs are visually inspected on a weekly basis to verify that they are in a closed position and appear to be operating correctly.

Pumps are inspected weekly for active or signs of liquid drippage. Leak detection monitoring (see section 3.1.2) is performed monthly for pumps (except those with dual mechanical seals).

All hazardous waste handling systems (including pumps and transfer lines with valves and flanges are visually inspected for leaks on operating days as part of the facility's RCRA Inspection Plan, Attachment F of the Sitewide Operating Permit. Under this program, if a leak is identified and it is not repaired by the end of the next business day, an Environmental Work Order (EWO) is issued to track the repair.

3.1.2 Leak /No-Leak

This procedure is based on total monitored concentration at the equipment. It is a pass/fail test. If the monitoring instrument reading is 10,000 ppm or greater, a leak is detected.

3.1.3 No Detectable Emissions

This procedure considers background concentration in the area of the equipment. If the monitoring instrument reading is less than 500 ppm above background, then no leak is detected. Pumps may be designated as equipment with no detectable emissions. Equipment designated as "no detectable emissions" must be tested initially and annually thereafter.

3.1.4 "Unsafe to Monitor"

This procedure will be used on equipment located within confined spaces. It involves visual inspections and/or monitoring of the confined space atmosphere. Equipment located within confined spaces is designated as "Unsafe to Monitor" due to potentially noxious and /or oxygen deficient environment. Wearing of self-contained breathing apparatus and other personal protective equipment does not completely eliminate these potential hazards. Equipment located inside confined spaces such as leachate collection line manholes and sumps have been designated as "Unsafe to Monitor". This equipment will be collectively monitored by inserting the FID probe into the confined space, while the monitoring personnel will remain outside. If the FID indicates VO concentration greater than the leak definition concentration, then a confined space entry may be performed by qualified personnel to correct the situation. Background concentration will be assumed to be either zero or a value equal to the prevalent VO concentration outside the confined space. A listing of equipment that have been classified as "Unsafe to Monitor" can be found in Appendix E.

3.1.5 "Difficult to Monitor"

This procedure will be used for valves that have been designated as "Difficult to Monitor" (valves greater than 2 meters above surface level) . A listing of valves that have been classified as "Difficult to Monitor" can be found in Appendix E along with a monitoring schedule.

3.2 Frequency

The monitoring schedule for valves, flanges and pumps subject to Subpart BB was developed in accordance with the regulatory requirements presented in Appendix B.

3.2.1 Valves

Each valve not designated as "Unsafe to Monitor" or "Difficult to Monitor" must initially be monitored monthly by the Leak/No-Leak technique to detect leaks. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

Valves designated as "Unsafe to Monitor" or "Difficult to Monitor" will be monitored annually by the "Unsafe to Monitor" or "Difficult to Monitor" techniques.

Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter until a leak is detected. If a leak is detected the valve must be monitored monthly until a leak is not detected for two successive months.

Alternative standards including "percent of valves allowed to leak" and "skip period leak detection" may be elected . A summary of the monitoring requirements for these alternate standards is presented in Section B.3 of Appendix B. CWM opted to use the "skip period leak detection" alternate standard (264.1062(b)/6 NYCRR 373-2.28(m)(2)(ii)). The NYSDEC was notified of the selection of an alternate monitoring program. Based on a record successful valve monitoring, leak detection using the FID will be performed semi-annually. A flow chart summarizing the monitoring requirements is included in this section.

See Flow Chart of Valve Monitoring

3.2.2 Flanges and Other Connections

Flanges require monitoring only if a potential leak is detected by visual, audible, olfactory, or any other detection method. Flanges will be visually inspected during the routine valve monitoring. If evidence of a potential leak is found, the flange or other connection will be monitored by the Leak/No-Leak technique. If a meter reading of 10,000 ppm or greater is measured, a leak is detected. Note: flanges on tanks and transfer lines are inspected daily as part of the facility's daily RCRA Inspection by the Site Inspector.

Flanges located in manholes and buildings designated as confined space will be inspected in accordance with the "Unsafe to Monitor" technique.

If the flange is found to be leaking by visual, audible, olfactory or any other detection method, it must be monitored by the Leak/No-Leak technique within 5 days (or the equipment take out of service for repair).

3.2.3 Pumps

All pumps must be visually inspected weekly. If there are indications of liquids dripping from the pump seal, a leak is detected.

Pumps must be monitored monthly by the Leak/No-Leak technique and visually inspected weekly. If a meter reading of 10,000 ppm or greater is measured, a leak is detected.

Pump(s) with no externally actuated shaft penetrating the pump housing may be designated as "No Detectable Emissions" (NDE) in accordance with 40 CFR 1052(e); this will exempt them from monthly monitoring. Pumps to be designated as NDE must

be monitored initially by the No Detectable Emissions technique. If the meter reading is less than 500 ppm above background the pump will be designated as no detectable emissions. Once designated, the pump must be monitored annually by the no detectable emissions technique and confirmed to be <500 ppm.

If the pump cannot be designated as no detectable emissions (meter reading over 500 ppm above background), it must be monitored monthly by the Leak/No-Leak technique.

3.2.4 Pressure Relief Devices in Gas/Vapor Service

Pressure relief devices must be operated with No Detectable Emissions, as indicated by an instrument reading of less than 500 ppm above background. After each identified pressure release, the device must be brought back to normal operating conditions as soon as practicable. Monitoring must be performed with an instrument within five days of the identified release to ensure that the pressure relief device is operating under conditions of No Detectable Emissions. Weekly visual inspection of each pressure relief device in service is performed to ensure that a release has not taken place and left the PRV in the open position .

3.2.5 Carbon Canister Controls on Open Lines

The vent on the carbon canister on the air vent line from storage tanks containing hazardous waste with >10% organics will be monitored weekly using the FID to verify no detectable emissions. Monitoring form with list of tanks is included in Appendix F. Spent carbon will be replaced with fresh carbon when a reading above 500 ppm is obtained.

3.3 Procedures

A portable direct reading instrument is used to detect volatile organic carbon (VOC) leaks from individual sources including pumps, valves, flanges, and other potential leak sources. The procedure is intended to locate leaks and is not intended to be used as a direct measure of mass emission rates.

This section briefly describes the monitoring procedure required under Subpart BB in accordance with the regulatory requirements delineated in Appendix B (section B.4.1). Refer to EPA Method 21 (Appendix D) for more information.

The leak detection procedure will be broken into two parts, screening and leak detection. Initial calibration will be done using a zero gas and a calibration gas in air mixture (500-5000 ppmv). If the instrument is pegged at the calibration gas concentration, higher concentration calibration gases may be used to determine the extent of a leak and action to be taken.

3.3.1 Instrument Calibration

The portable VOC meter must be calibrated prior to each day's use. It is recommended that calibration take place at the start of each day when field measurements are to be taken.

Calibration is performed by inserting a gas of known concentration into the probe and adjusting the meter until a correct reading occurs. Calibration is done for two standards, one being a clean mixture of air (less than 10 ppm VOC) and the other having a VOC concentration close to the leak concentration being measured. This procedure ensures accurate meter readings during sampling.

The instrument manual should contain complete calibration instructions. If a calibration gas other than methane or n-hexane is used, a conversion factor must be determined.

3.3.2 Instrument Response Factor and Response Time Determination

Prior to placing a measuring instrument into use, it must be tested for its response factor and response time. The instrument response factor is the ratio of the known concentration to the meter reading. This value gives an indication of meter performance. According to Subpart BB, it must be less than 10 at all times.

A response factor must be determined for each compound that is to be measured, either by testing or from reference sources. The manual for the measurement instrument usually lists response factors for various chemicals. If no reference sources are available, testing can be performed by inserting standard compound concentrations through the device. After the factors have been determined for a specific meter, they do not have to be determined again.

The response time is the time it takes for the meter to record 90% of the sample concentration being measured. According to EPA Method 21, this time must be less than 30 seconds.

3.3.3 Individual Source Surveys

3.3.3.1 Leak/No-Leak Technique

After calibration is performed for screening, the probe tip should be placed near the surface of the valve, flange, or pump seal where potential leakage could occur. The probe should be moved around the connections while observing the meter readout. If a reading above background is observed, the air should be sampled until the meter stabilizes.

If the meter reading during screening is pegged, the instrument will be rezeroed/recalibrated (if necessary) and the equipment will be monitored again for a leak.

The concentration measured is to be recorded on the appropriate data sheet (examples in Appendix F). If the maximum meter reading is greater than or equal to 10,000 ppm, then a leak is said to be detected.

For external pipes covered in insulation, it is not necessary to remove the insulation as the valves protrude through the insulation. The affected equipment will be monitored at this point.

3.3.3.2 No Detectable Emissions

For equipment to be monitored for "No Detectable Emissions", the background concentration must also be measured. This is accomplished by randomly moving the probe upwind and downwind 1-2 meters from the source. The background measurement should not be taken less than 25 cm from the source.

Once the background measurement is taken and recorded, the source is monitored as per Leak/No-Leak procedures. If the source is less than 500 ppm over background, then it has "No Detectable Emissions". If the source measurement is greater than 500 ppm above background, then a leak is detected.

3.3.3.3 "Unsafe to Monitor"

Valves in manholes and other confined spaces will be monitored by inserting the probe into the confined space. If the instrument reading is greater than or equal to 10,000 ppm in the confined space atmosphere, then a leak investigation would be initiated. If needed, a confined space entry may be performed by qualified personnel to assess/correct the situation.

A flash light may also be used to visually check the valves and flanges in manholes/stand pipes for leaks. If a leak is detected by visual observation, then the "Unsafe to Monitor" technique will be used to determine the presence of a leak.

Some manholes, through which leachate lines pass, include leak detection probes with alarms. If a leak detection alarm goes off inside a manhole, then the cover will be removed and the bottom visually inspected for liquid. If liquid is present, it will be sampled and tested to determine if it is water (condensation, stormwater or groundwater) or leachate. It it is determined to be leachate, then the manhole will be monitored using the "Unsafe to Monitor" technique by inserting the FID probe into the manhole. Appropriate action will be taken if the monitoring indicates a leak from a leachate line inside the manhole. Alternately, the system may be repaired immediately or taken out of service for repair. A false alarm will be assumed if no liquid is present.

3.3.3.4 "Difficult to Monitor"

Some valves on tank T-130 are elevated above the working surface and have been designated as "Difficult to Monitor" as detailed in Appendix E. Equipment designated as "Difficult to Monitor" will be monitored annually using a man-lift or other equipment and the Leak/No leak Technique.

4.0 LEAKS AND REPAIR

4.1 Leaks

A leak may be detected through monitoring or by visual observation. If the leak is detected by visual observation, then monitoring to confirm the leak is not required, except for flanges and other connections, which must be verified through monitoring within 5 days or taken out of service.

When a leak is detected, a weatherproof and readily visible "LEAK DETECTED" identification tag must be attached to the leaking equipment and the "Leak Detection Report" (Appendix F) filled out. A tag is not required for pressure relief devices after a pressure release.

The tag shall be marked with the equipment identification number, date that evidence of a potential leak was found, and the date that the leak was detected.

The leak identification tag, may be removed from the piece of equipment after it has been repaired, except for a valve. The identification tag on a valve may only be removed after it has been monitored for 2 successive months with no leaks.

4.2 Repairs

When a leak is detected, it must be repaired as soon as practicable, but no later than 15 days after detection. A first attempt repair must be made no later than 5 days after detection.

4.2.1 Delay of Repairs

Delay of repair of equipment for which leaks have been detected is allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. Repair of this equipment must occur before the end of the next hazardous waste management unit shutdown.

If the leaking component is isolated and prevented from contacting the waste by shutting down or disconnecting the equipment, then the equipment is no longer subject to BB. Repairs can be delayed indefinitely, but repair must be completed prior to returning the equipment in service.

4.2.1.1 Valves

Delay of repair is allowed for valves provided:

- The emissions of purged material resulting from immediate repair are greater than the emissions likely to result from a delay; and

- When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 264.1033.

Delay of repair beyond a hazardous waste management unit shutdown is allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted and assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown is not allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

4.2.1.2 Pumps

Delay of repair is allowed for pumps provided:

- Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and
- Repair is completed as soon as practicable, but not later than 6 months after detection.

4.3 Follow-up Monitoring

After completing repairs, monitoring for valves must be performed for two successive months during which no leaks are detected and then the monitoring may revert back to the previously scheduled frequency (see Valve Monitoring Flow Chart). Monitoring of pumps, flanges and other connections is not required until the next regularly scheduled monitoring event. Pressure relief devices must be monitored using the No Detectable Emissions technique within 5 days of a pressure release.

Table 4.1: Summary of Requirements for Leaks, Repairs and Follow-up Monitoring

Item	Leak Detected	Monitoring to Confirm Leak	Install Tag	First Attempt at Repair[1]	Complete Repair[1]	Remove Tag	Post-repair Monitoring
Valves	Instrument reading ≥ 10,000 ppm	Not Required	When leak is first detected	Within 5 days of detecting leak	Within 15 days of detecting leak	After no leaks for 2 successive months after completing repair	2 successive months without leaks, then back to regular schedule
Pumps	Visual drippage or Instrument reading ≥ 10,000 ppm or visual	Not Required	When leak is first detected	Within 5 days of detecting leak	Within 15 days of detecting leak	After completing repair	Next regularly scheduled monitoring (monthly)
No Detectable Emission Pumps	Instrument reading ≥ 500 ppm above background or visual drippage	Not Required	When leak is first detected	Within 5 days of detecting leak	Within 15 days of detecting leak	After completing repair	Next regularly scheduled monitoring (annual)
Flanges and Other Connections	Visual, audible or olfactory, or instrument reading ≥ 10,000 ppm	Instrument reading within 5 days of suspected visual, audible or olfactory leak[2]	When leak is first suspected or detected	Within 5 days of detecting leak	Within 15 days of detecting leak	After completing repair	Next regularly scheduled inspection
Pressure Relief Devices	Instrument reading ≥ 500 ppm above background or visual after PRV release	Not Required	Not Required	Not Required	Not Required	Not Required	Instrument reading < 500 ppm above background within 5 days of pressure release

[1] Delay of repair may be allowed per Section 4.2.1 [2] Not required if taken out of service

5.0 RECORDKEEPING

5.1 Equipment Inventory

Equipment that is likely to be in contact with waste having an organic content greater than 10 percent has been identified in the Figures and Tables in Appendix A. Appendix includes a diagram of each system and a listing of affected equipment and the assigned identification numbers.

5.2 Leaks

In accordance with the regulatory requirements presented in Appendix B, a "Leak Detection Report" (Appendix F) has been created to allow entry of the required information during the leak detection/repair phase.

These records will be maintained for until the closure of the facility in accordance with 6 NYCRR 373-2.5(c)(2), which references 373-2.28(o).

5.3 Exemptions and Alternative Standards

Information pertaining to equipment that are subject to exemptions or alternative standards (Appendix B: Section B.5.2) are provided in Appendix G.

5.4 Applicability

The following information for use in determining exemptions and applicability must be documented and kept in the facility operating record:

- Analysis determining the design capacity of the hazardous waste management unit;
- Statement listing the hazardous waste influent and effluent from each hazardous waste treatment unit;
- Analysis determining whether hazardous wastes are heavy liquids;
- Up-to-date analysis and the supporting information and data used to determine if equipment is subject to the requirements (e.g., 10 percent organics).

5.5 Reporting Requirements

A semi-annual report must be sent to the NYS DEC Commissioner only if leaks from valves or connections are not repaired as required by the regulations. If the leaks are not repaired as per the regulations, the report must contain the following information:

- EPA identification number, name and address;
- Identification number of each valve, pump and compressor and month for which a leak was not repaired;

- Date(s) of hazardous waste management unit shutdown(s); and
- Dates for each month that a control device exceeded or operated outside design specifications and was not corrected within 24 hours, duration and cause of the exceedance, and any corrective measures taken.

F/N: Document1

APPENDIX A

FIGURES AND TABLES

BB Plan - List of Tables

Table	Equipment included	Valves?	Flanges?	Associated Monitoring Form
1	SLF 1-6 Leachate Collection Lines (incl. manholes,	Y	Y	SLF 1-6 Leachate Collection Lines
2	SLF 1-6 Leachate Sump L1	N	Y	SLF 1-6 Standpipes
3	SLF 1-6 Leachate Sump L2	Y	Y	
4	SLF 1-6 Leachate Sump L5	N	Y	
5	SLF 1-6 Leachate Sump L6	N	Y	
6	SLF 1-6 Leachate Sump L8	N	Y	
7	SLF 1-6 Leachate Sump L10	N	Y	
8	SLF 1-6 Leachate Sump L12	N	Y	
9	SLF 1-6 Leachate Sump L15	Y	Y	
10	SLF 1-6 Leachate Sump L16	Y	Y	
11	SLF 1-6 Leachate Sump L19	N	Y	
12	SLF 1-6 Leachate Facility, T-105 and T-130	Y	Y	SLF 1-6 Pretreat (T150, T130)
13	SLF 7 Leachate Sump L30 and Manhole M7	Y	Y	SLF 7 Standpipes
14 (deleted)	SLF 10 Leachate Sump L35 and Manhole M10	Y	Y	SLF 10 Standpipes
15 (deleted)	SLF 11 Leachate Collection Lines, Manhole M11	Y	Y	SLF 11 Leachate Collection Lines (M11)
16 (deleted)	SLF 11 Leachate Sump L38	Y	Y	SLF 11 Standpipes
17 (deleted)	SLF 11 Leachate Sump L39	Y	Y	
18	Frac Tank 3	Y	Y	Frac Tank 3
19	Fuels Drum Bulking Operation	Y	Y	Fuels Bulking Operation
20	Fuels Tanker to Tanker Transfer Operation	Y	Y	Fuels Tanker to Tanker
21	T-107	Y	Y	SLF 7 Leachate Lift Station (T-107)
22 (deleted)	T-109 and T-110	Y	Y	SLF 10 Leachate Collection System (T110, T109)
23 (deleted	T-111 and T-108	Y	Y	SLF 7 & 11 Leachate Collection System (T111, T108)
23	T-108 Building (T-107 transfer line)		Y	SLF 7 Leachate Lift Station (T-107)
24	T-158	Y	Y	SLF 1-11 Leachate Collection System T158)

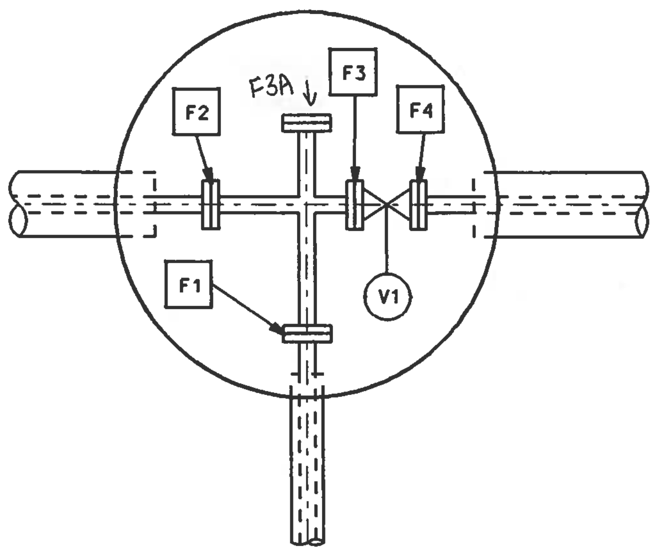
updated 3/24/14

Table 1
Subpart BB Affected Equipment : SLF 1-6 Leachate Collection Lines

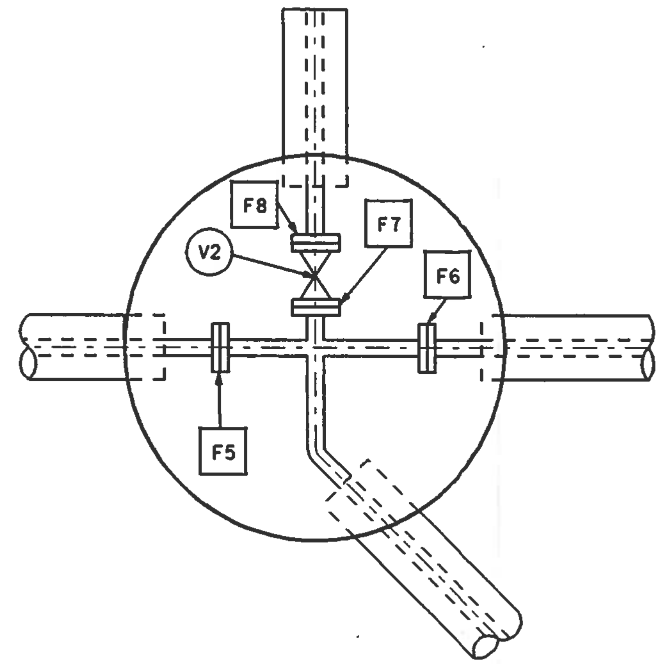
ID #	Description	Location
V1	Valve	Manhole # M1
V2	Valve	Manhole # M2
V3	Valve	Manhole # M3
V4	Valve	Manhole # M3
V5	Valve	Manhole # M4
V6	NOT ASSIGNED	
V7	NOT ASSIGNED	
V8	NOT ASSIGNED	
V9	NOT ASSIGNED	
V10	NOT ASSIGNED	
V11	NOT ASSIGNED	
F1	Flange	Manhole # M1
F2	Flange	Manhole # M1
F3	Flange	Manhole # M1
F3A	Flange	Manhole #M1
F4	Flange	Manhole # M1
F5	Flange	Manhole # M2
F6	Flange	Manhole # M2
F7	Flange	Manhole # M2
F8	Flange	Manhole # M2
F9	Flange	Manhole # M3
F10	Flange	Manhole # M3
F11	Flange	Manhole # M3
F12	Flange	Manhole # M3
F13	Flange	Manhole # M3
F14	Flange	Manhole # M4
F15	Flange	Manhole # M4
F16	Flange	Manhole # M4
F16A	Flange	Manhole # M4
F17	Flange	Manhole # M4
F18	Flange	Cleanout # C1
F18A	Flange	Cleanout # C1
F19	Flange	Cleanout # C1
F19A	Flange	Cleanout # C1
F20	Flange	Cleanout # C2
F20A	Flange	Cleanout # C2
F21	Flange	Cleanout # C2
F21A	Flange	Cleanout # C2
F22	Flange	Cleanout # C3
F22A	Flange	Cleanout # C3
F23	Flange	Cleanout # C3
F23A	Flange	Cleanout # C3
F24	Flange	Cleanout # C4

F24A	Flange	Cleanout # C4
F25	Flange	Cleanout # C4
F25A	Flange	Cleanout # C4
F26	NOT ASSIGNED	
F27	NOT ASSIGNED	
F28	NOT ASSIGNED	
F29	NOT ASSIGNED	
F30	NOT ASSIGNED	

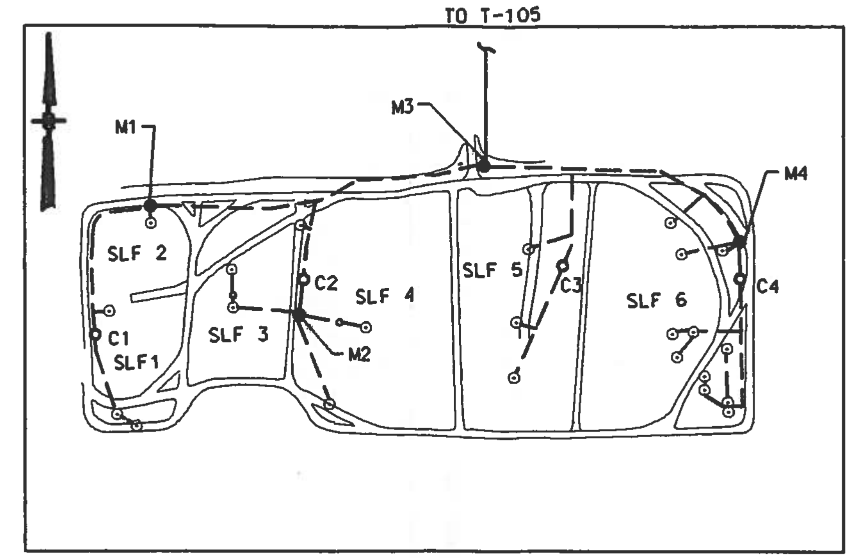
SLF 1-6 LEACHATE COLLECTION LINES



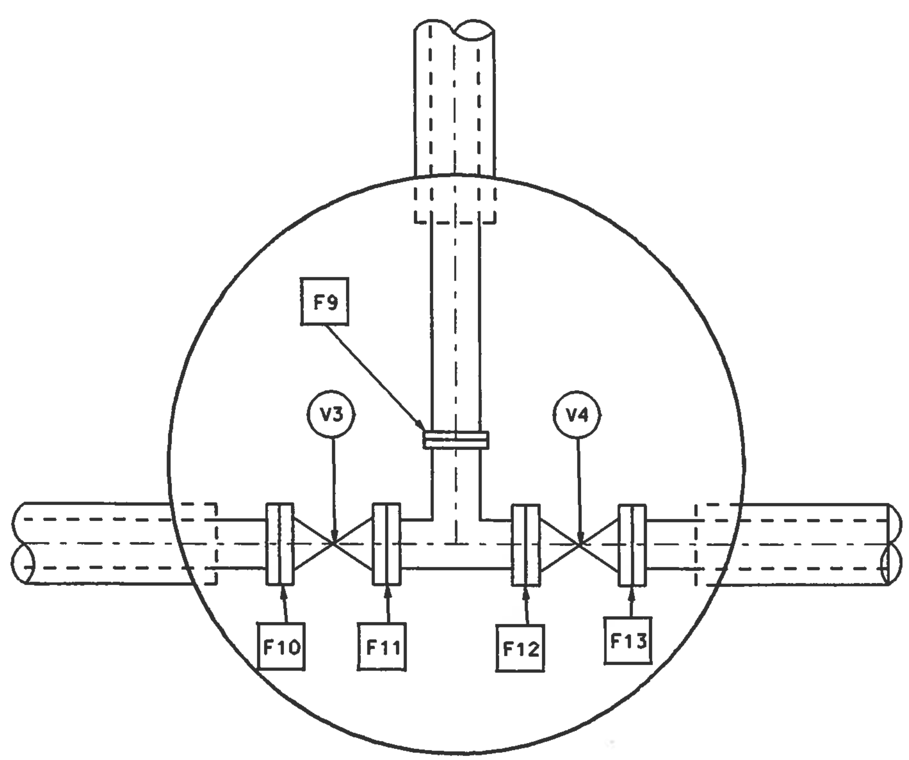
MANHOLE M1
PLAN



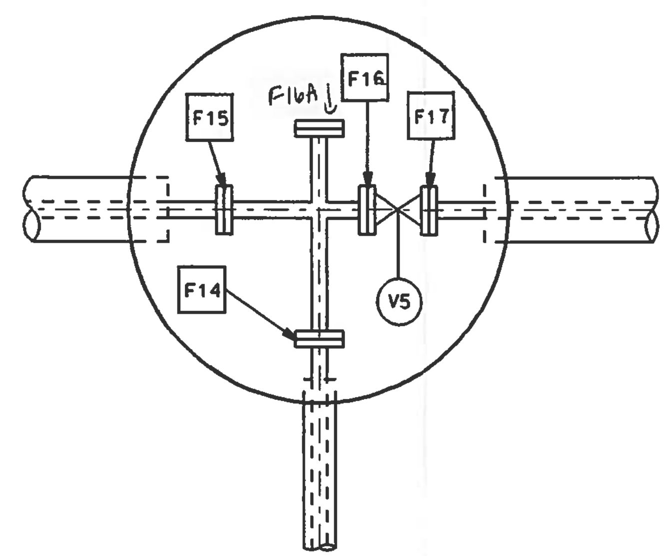
MANHOLE M2
PLAN



LOCATION PLAN



MANHOLE M3
PLAN



MANHOLE M4
PLAN

LEGEND

- ● M1 ACCESS MANHOLE
- ○ C1 CLEANOUT MANHOLE
- ⋈ BALL VALVE
- QUICK DISCONNECT ADAPTER WITH DUST CAP AND CHAIN
- (V99) VALVE ID No.
- [F99] FLANGED/THREADED JOINT ID No.

NOTES: SCHEMATIC ONLY - NO SCALE

No.	Revision	By	Date
	update		3/13/14

Scale	None
Date	Sept. 1996
Designer	—
Drafter	VPR
Checker	FAS
Approver	CPB

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SLF 1-6 LEACHATE COLLECTION LINES
SUBPART BB PROGRAM
CWM CHEMICAL SERVICE, LLC.
MODEL CITY, NY

Figure No. 1
Off. Loc. | Sheet No. 1
Project No. 39520
Drawing No. L-78a

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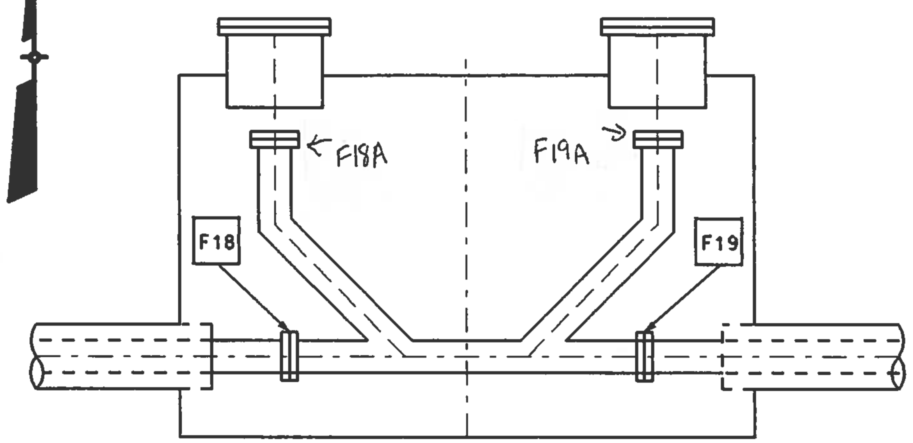
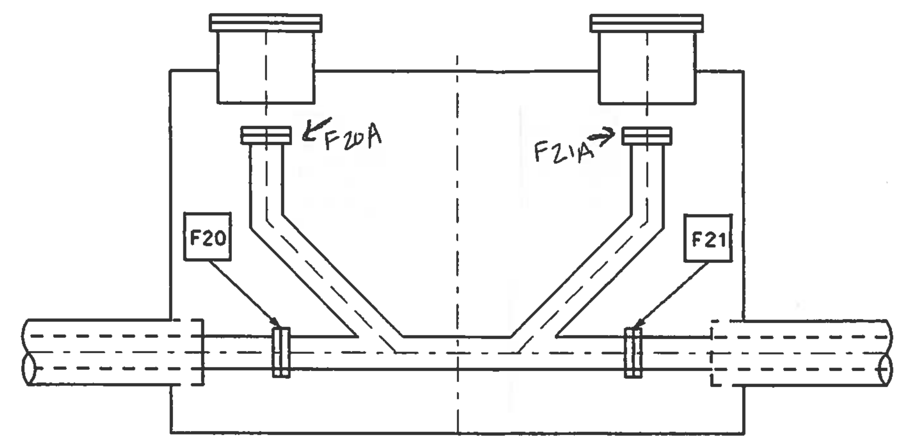
Subpart BB
V001
F001
F002
F003
F004
DANGER
PERMIT REQUIRED
CONFINED SPACE
DO NOT ENTER

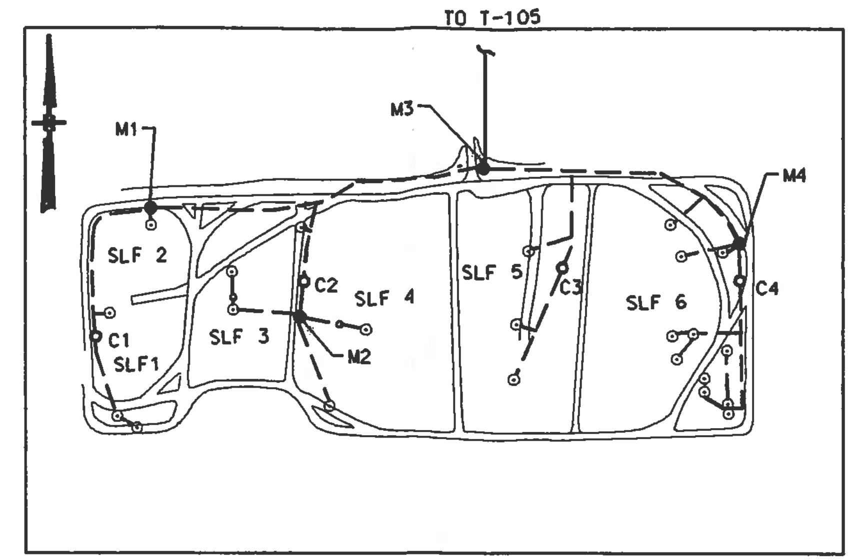
SLF 1-6 LEACHATE COLLECTION LINES



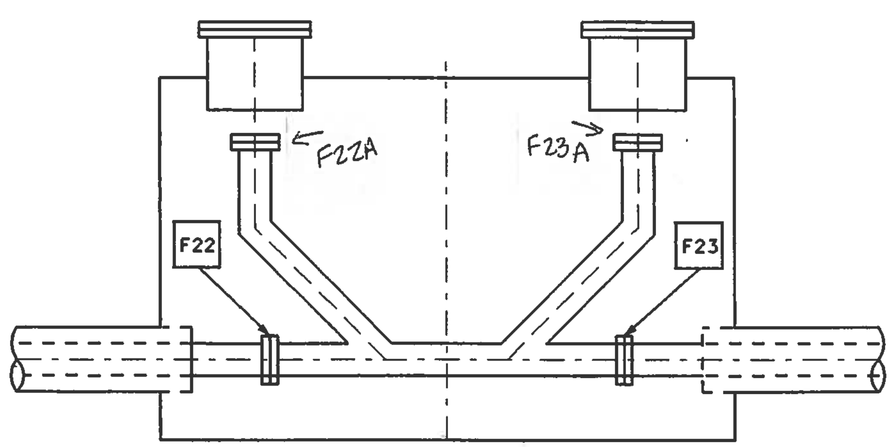
CLEANOUT C1
SECTION



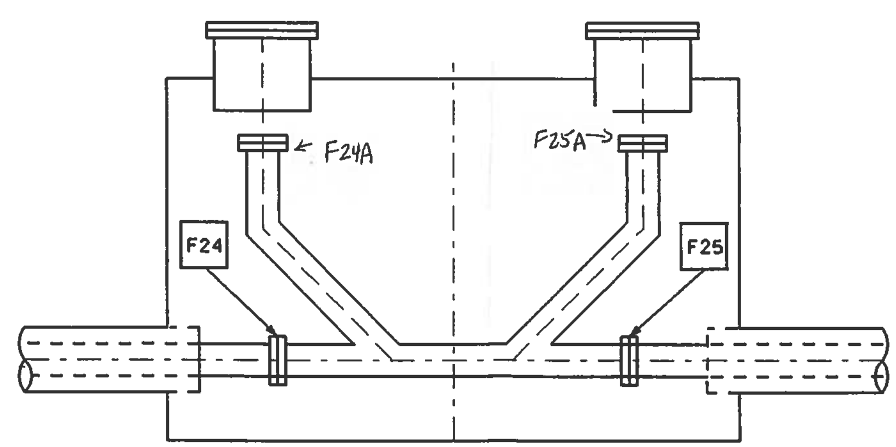
CLEANOUT C2
SECTION



LOCATION PLAN



CLEANOUT C3
SECTION



CLEANOUT C4
SECTION

LEGEND

● M1	ACCESS MANHOLE
○ C1	CLEANOUT MANHOLE
⋈	BALL VALVE
—⊐	QUICK DISCONNECT ADAPTER WITH DUST CAP AND CHAIN
V99	VALVE ID No.
F99	FLANGED/THREADED JOINT ID No.

NOTES: SCHEMATIC ONLY - NO SCALE

Scale	None
Date	Sept.1996
Designer	—
Drafter	VPR
Checker	FAS
Approver	CPB

No.	Revision	By	Date
	update		3/13/14

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SLF 1-6 LEACHATE COLLECTION LINES
SUBPART BB PROGRAM
CWM CHEMICAL SERVICE, LLC.
MODEL CITY, NY

Figure No. 1
Off. Loc. | Sheet No. 2
Project No. 39520
Drawing No. L-78.DGN

27-MAY-1998 13:03

Table 2
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L1

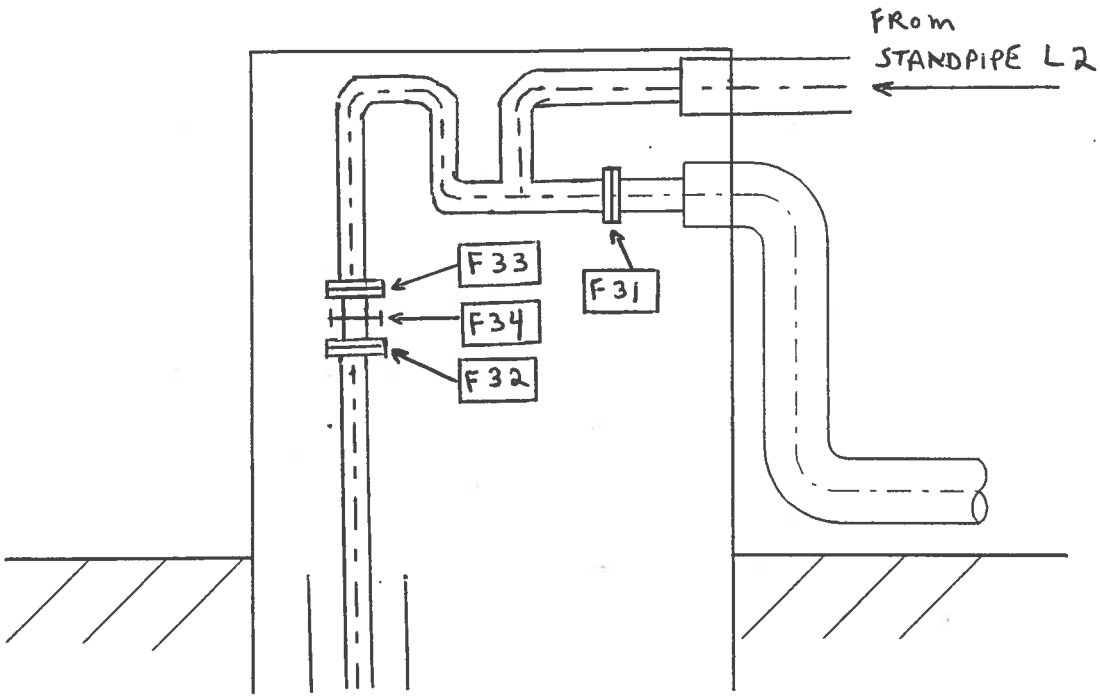
ID #	Description	Location
V12	NOT ASSIGNED	
V13	NOT ASSIGNED	
V14	NOT ASSIGNED	
F31	Flange	Inside Standpipe
F32	Flange	Inside Standpipe
F33	Flange	Inside Standpipe
F34	Coupling	Inside Standpipe

Table 3
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L2

ID #	Description	Location
V15	Valve	Inside Standpipe
V16	NOT ASSIGNED	
V17	NOT ASSIGNED	
F35	Elbow	Inside Standpipe
F36	Tee	Inside Standpipe
F37	Flange	Inside Standpipe
F38	NOT ASSIGNED	
F39	Coupling	Inside Standpipe
F40	NOT ASSIGNED	

Table 4
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L5

ID #	Description	Location
V18	NOT ASSIGNED	
V19	NOT ASSIGNED	
F41	Flange	Inside Standpipe
F42	Compression Fitting	Inside Standpipe
F43	Compression Fitting	Inside Standpipe
F44	NOT ASSIGNED	
F45	NOT ASSIGNED	
F46	NOT ASSIGNED	



LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Scale	None				
Date	Sept. 1996				
Designer	—				
Drafter	VPR	2	ADD F33 AND F34	JH	3/14/01
Checker	FAS	1	DELETE V12, ADD F32	JH	5/1/03
Approver	CPB	No.	Revision	By	Date

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SLF 1-6 LEACHATE
STANDPIPE L1
SUBPART BB PROGRAM

CWM CHEMICAL SERVICE, LLC
MODEL CITY, NY

Figure No.	2
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG2.DGN

28-MAY-1998 09:22

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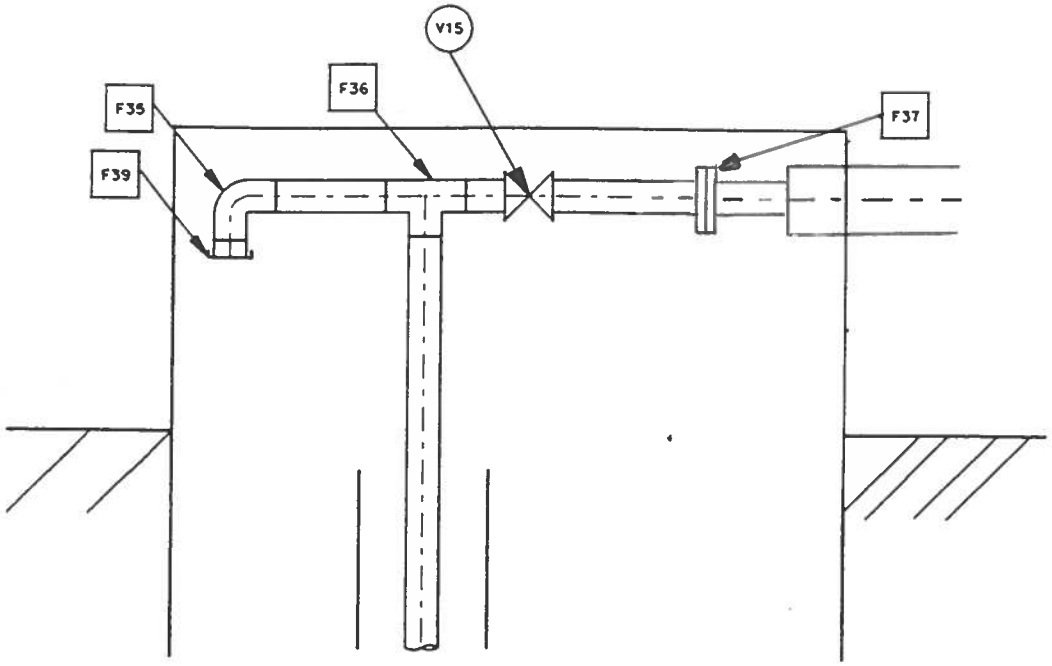

LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Scale	None				
Date	Sept. 1996				
Designer	—				
Drafter	VPR	2	ADD FLANGE, DELETE F38	FH	5/1/03
Checker	EAS	1	MOVED VALVE, ADDED COUPLING		
Approver	CPA	No.	Revision	By	Date

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SLF 1-6 LEACHATE
STANDPIPE L2
SUBPART BB PROGRAM

CWM CHEMICAL SERVICE, LLC
MODEL CITY, NY

Figure No.	3
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG3.DGN

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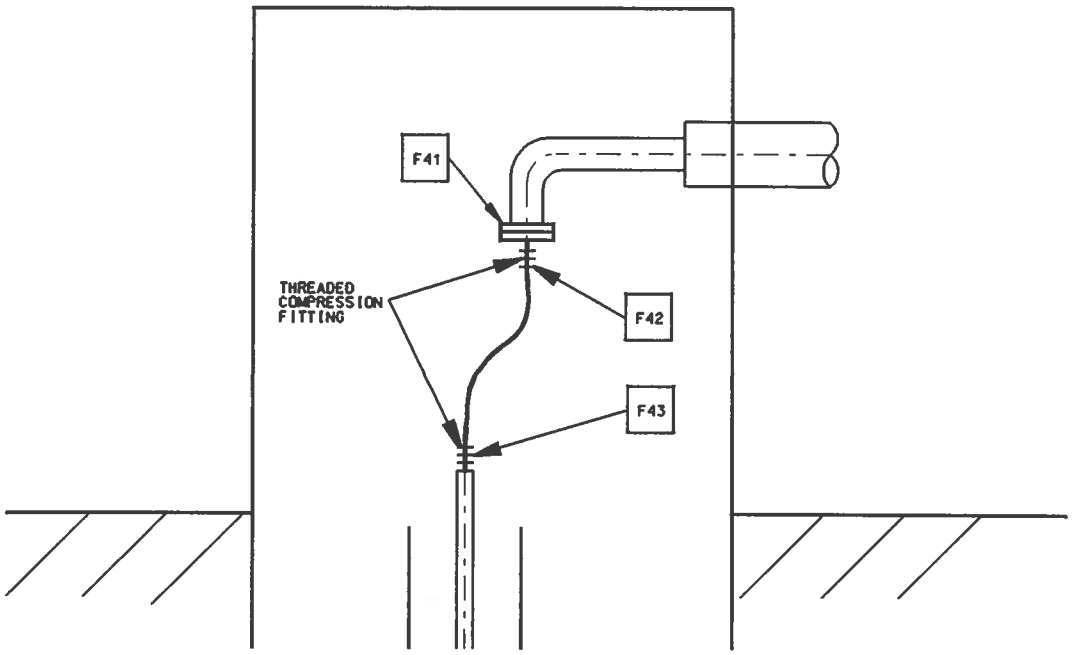

LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Scale	None						
Date	Sept. 1996						
Designer	——						
Drafter	VPR						
Checker	FAS						
Approver	CPB	No.	Revision	By	Date		

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SLF 1-6 LEACHATE
STANDPIPE L5
SUBPART BB PROGRAM

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Figure No.	4
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG4.DGN

28-MAY-1998 09:15

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Table 5
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L6

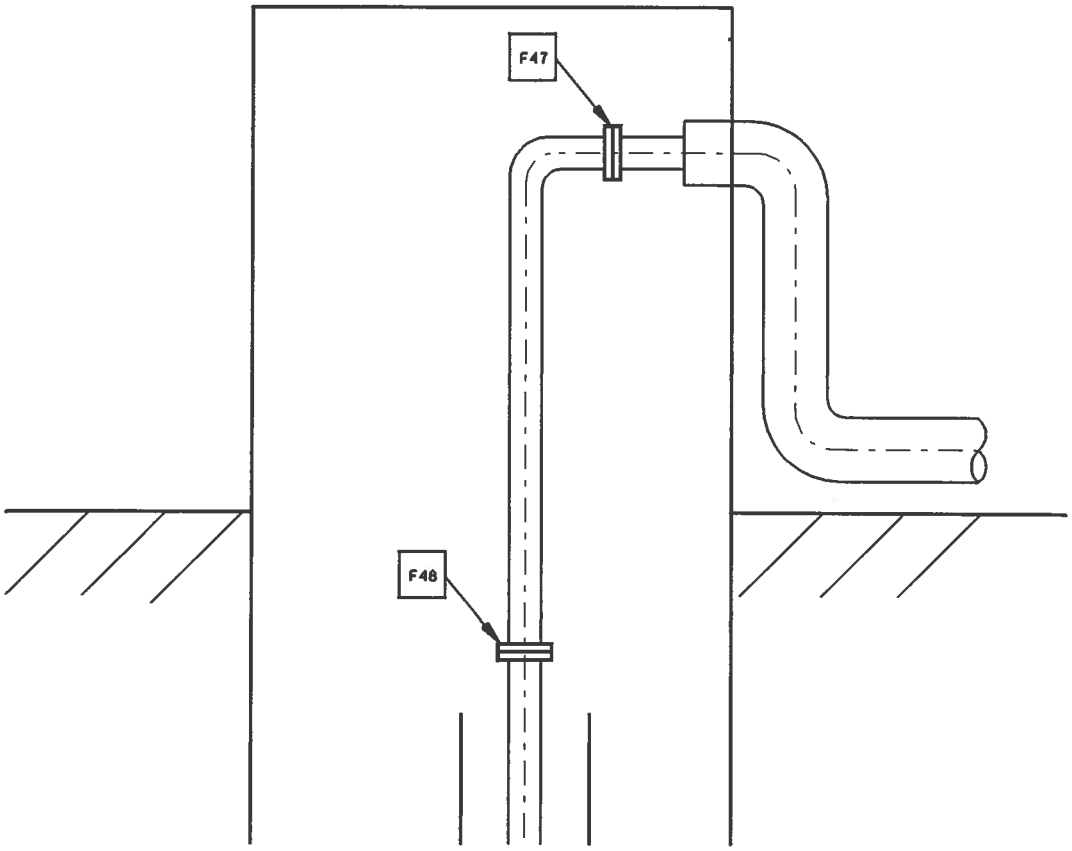
ID #	Description	Location
V20	NOT ASSIGNED	
V21	NOT ASSIGNED	
F47	Flange	Inside Standpipe
F48	Flange	Inside Standpipe
F49	NOT ASSIGNED	
F50	NOT ASSIGNED	
F51	NOT ASSIGNED	

Table 6
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L8

ID #	Description	Location
V22	NOT ASSIGNED	
V23	NOT ASSIGNED	
F52	Flange	Inside Standpipe
F53	Flange	Inside Standpipe
F54	NOT ASSIGNED	
F55	NOT ASSIGNED	
F56	NOT ASSIGNED	

Table 7
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L10

ID #	Description	Location
V24	NOT ASSIGNED	
V25	NOT ASSIGNED	
F57	Flange	Inside Standpipe
F58	Compression Fitting	Inside Standpipe
F59	Compression Fitting	Inside Standpipe
F60	NOT ASSIGNED	
F61	NOT ASSIGNED	
F62	NOT ASSIGNED	



LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Revision	By	Date

Scale	None
Date	Sept.1996
Designer	___
Drafter	VPR
Checker	FAS
Approver	CPR

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SLF 1-6 LEACHATE
STANDPIPE L6
SUBPART BB PROGRAM

CWM CHEMICAL SERVICE, LLC
MODEL CITY, NY

Figure No.	5
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG5.DGN

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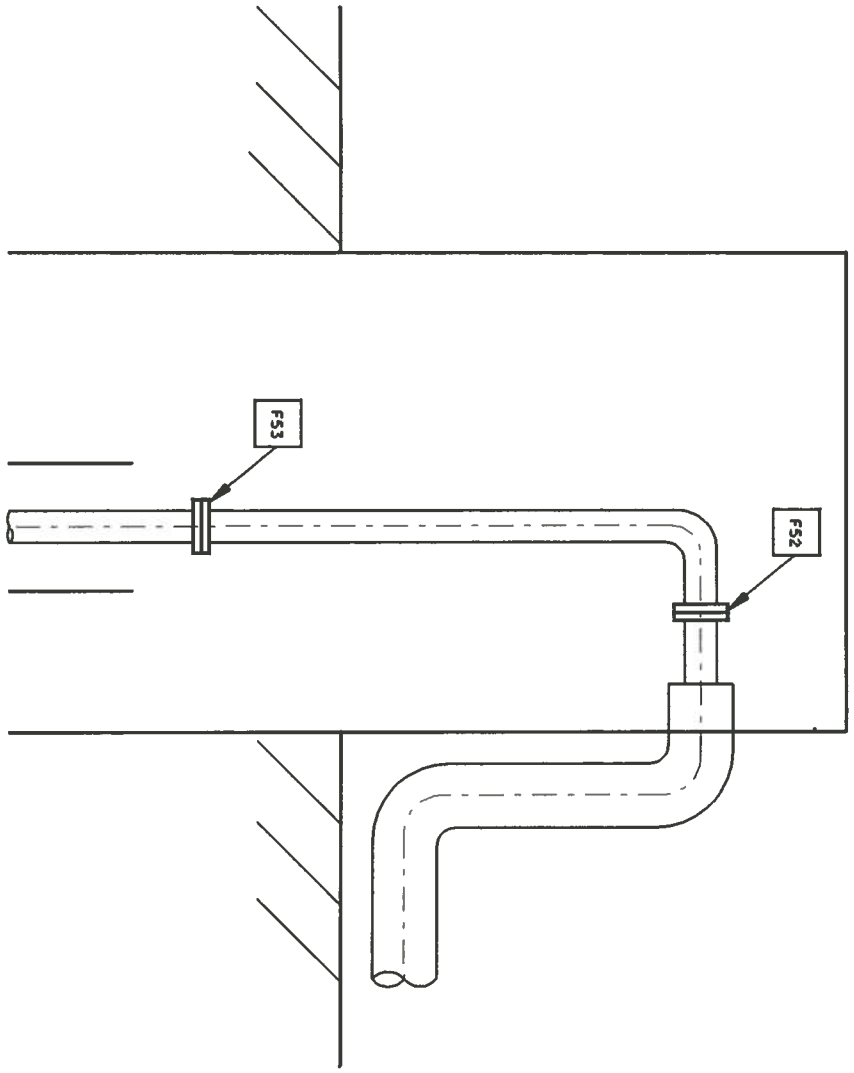
LEGEND

⋈ BALL VALVE

(V99) VALVE ID NO.

[F99] FLANGED/THREADED JOINT ID NO.



SLF 1-6 LEACHATE STANDPIPE L8 SUBPART BB PROGRAM

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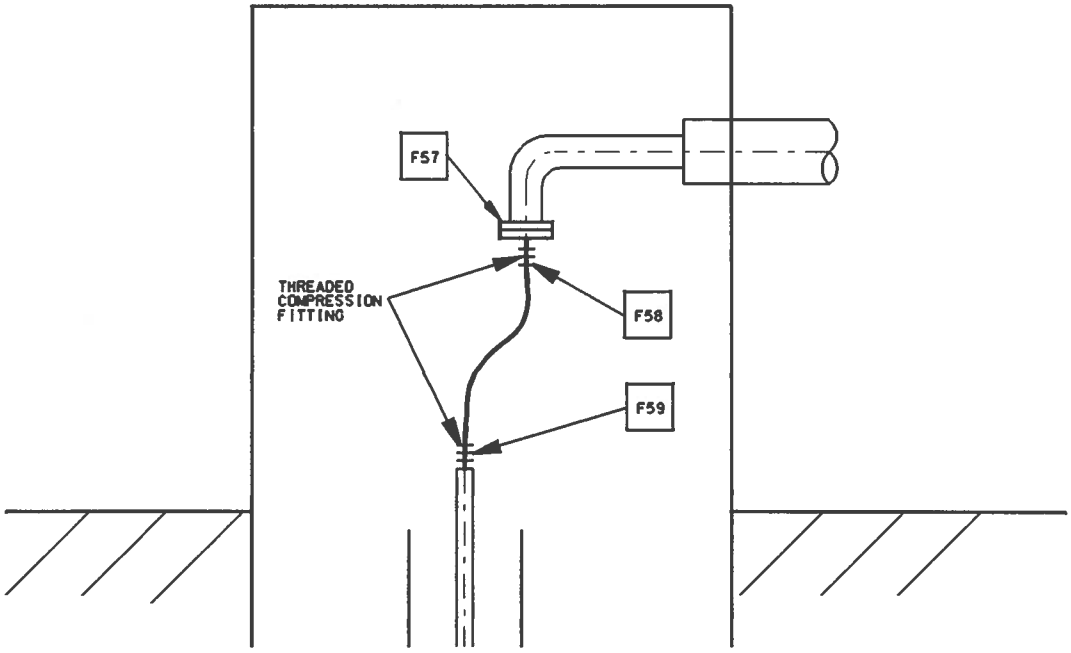
Scale	None
Date	Sept. 1996
Designer	—
Drafter	VPR
Checker	FAS
Approver	CPB

No.	Revision	By	Date

Drawing No. L-FIG6.DGN | Project No. 39520 | Off. Loc. | Sheet No. | Figure No. 6



LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Scale	None		
Date	Sept. 1996		
Designer	———		
Drafter	VPR		
Checker	FAS		
Approver	CPB	No.	Revision By Date

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SLF 1-6 LEACHATE
STANDPIPE L10
SUBPART BB PROGRAM

CWM CHEMICAL SERVICE, LLC
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Figure No.	7
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG7.DGN

28-MAY-1998 09:09

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Table 8
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L12

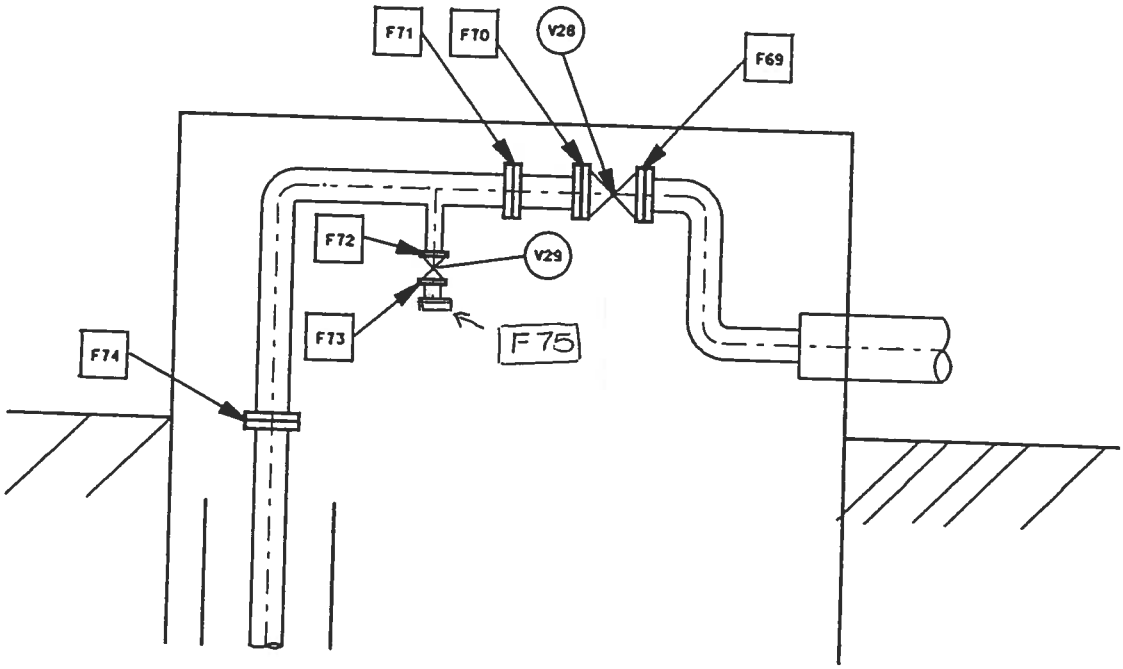
ID #	Description	Location
V26	NOT ASSIGNED	
V27	NOT ASSIGNED	
F63	Flange	Inside Standpipe
F64	Flange	Inside Standpipe
F65	NOT ASSIGNED	
F66	NOT ASSIGNED	
F67	NOT ASSIGNED	

Table 9
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L15

ID #	Description	Location
V28	Valve	Inside Standpipe
V29	Valve	Inside Standpipe
V30	NOT ASSIGNED	
V31	NOT ASSIGNED	
F68	NOT ASSIGNED	
F69	Flange	Inside Standpipe
F70	Flange	Inside Standpipe
F71	Flange	Inside Standpipe
F72	Flange	Inside Standpipe
F73	Flange	Inside Standpipe
F74	Flange	Inside Standpipe
F75	Connector (Kamlock fitting w/cap)	Inside Standpipe
F76	NOT ASSIGNED	
F77	NOT ASSIGNED	

Table 10
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L16

ID #	Description	Location
V32	Valve	Inside Standpipe
V33	Valve	Inside Standpipe
V34	NOT ASSIGNED	
F78	Flange	Inside Standpipe
F79	Flange	Inside Standpipe
F80	Flange	Inside Standpipe
F81	Flange	Inside Standpipe
F82	Connector (Kamlock fitting w/cap)	Inside Standpipe
F83	NOT ASSIGNED	
F84	NOT ASSIGNED	



LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Scale	None				
Date	Sept. 1996				
Designer	—				
Drafter	VPR				
Checker	FAS	1	DELETED F68		
Approver	CPB	No.	Revision	By	Date

3/13/14 update

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SLF 1-6 LEACHATE
STANDPIPE L15
SUBPART BB PROGRAM

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Figure No.	9
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG9.DGN

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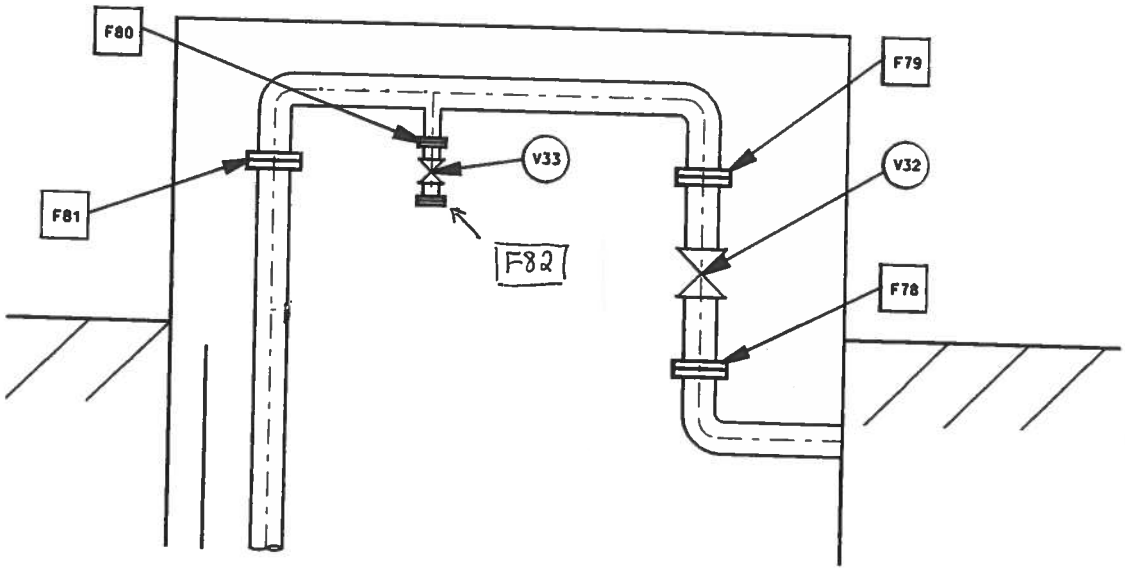

LEGEND

- ⋈ BALL VALVE
- (V99) VALVE ID No.
- [F99] FLANGED/THREADED JOINT ID NO.

Revision	By	Date

Scale	None
Date	Sept. 1996
Designer	—
Drafter	VPR
Checker	FAS
Approver	CPB
No.	

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SLF 1-6 LEACHATE
STANDPIPE L16
SUBPART BB PROGRAM

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Figure No.	10
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG10.DGN

update

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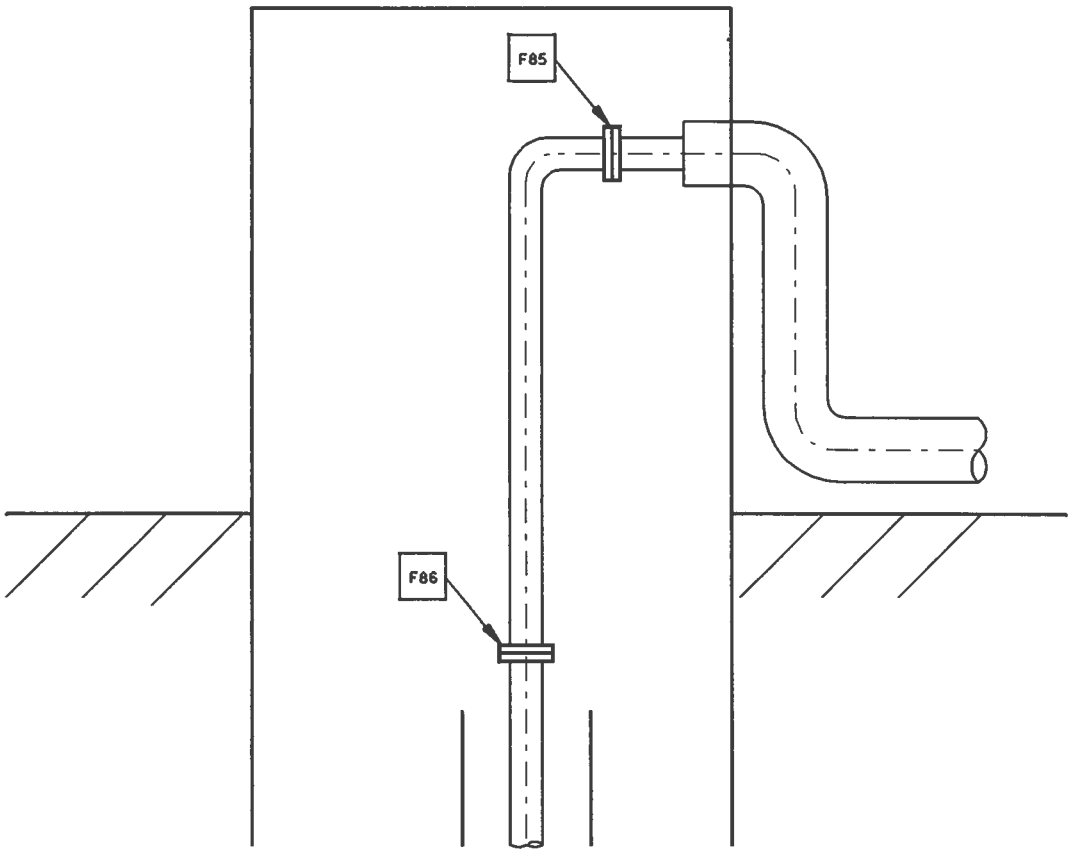
Table 11
Subpart BB Affected Equipment : SLF 1-6 Leachate Sump # L19

ID #	Description	Location
V35	NOT ASSIGNED	
F85	Flange	Inside Standpipe
F86	Flange	Inside Standpipe
F87	NOT ASSIGNED	



LEGEND

⋈ BALL VALVE

(V99) VALVE ID No.

[F99] FLANGED/THREADED JOINT ID No.

Scale	None					
Date	Sept.1996					
Designer	——					
Drafter	VPR					
Checker	FAS					
Approver	GPB	No.	Revision	By	Date	

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SLF 1-6 LEACHATE
STANDPIPE L19
SUBPART BB PROGRAM

CWM CHEMICAL SERVICE, LLC
MODEL CITY, NY

Figure No.	11
Off. Loc.	Sheet No.
Project No.	39520
Drawing No.	L-FIG11.DGN

28-MAY-1998 09:02
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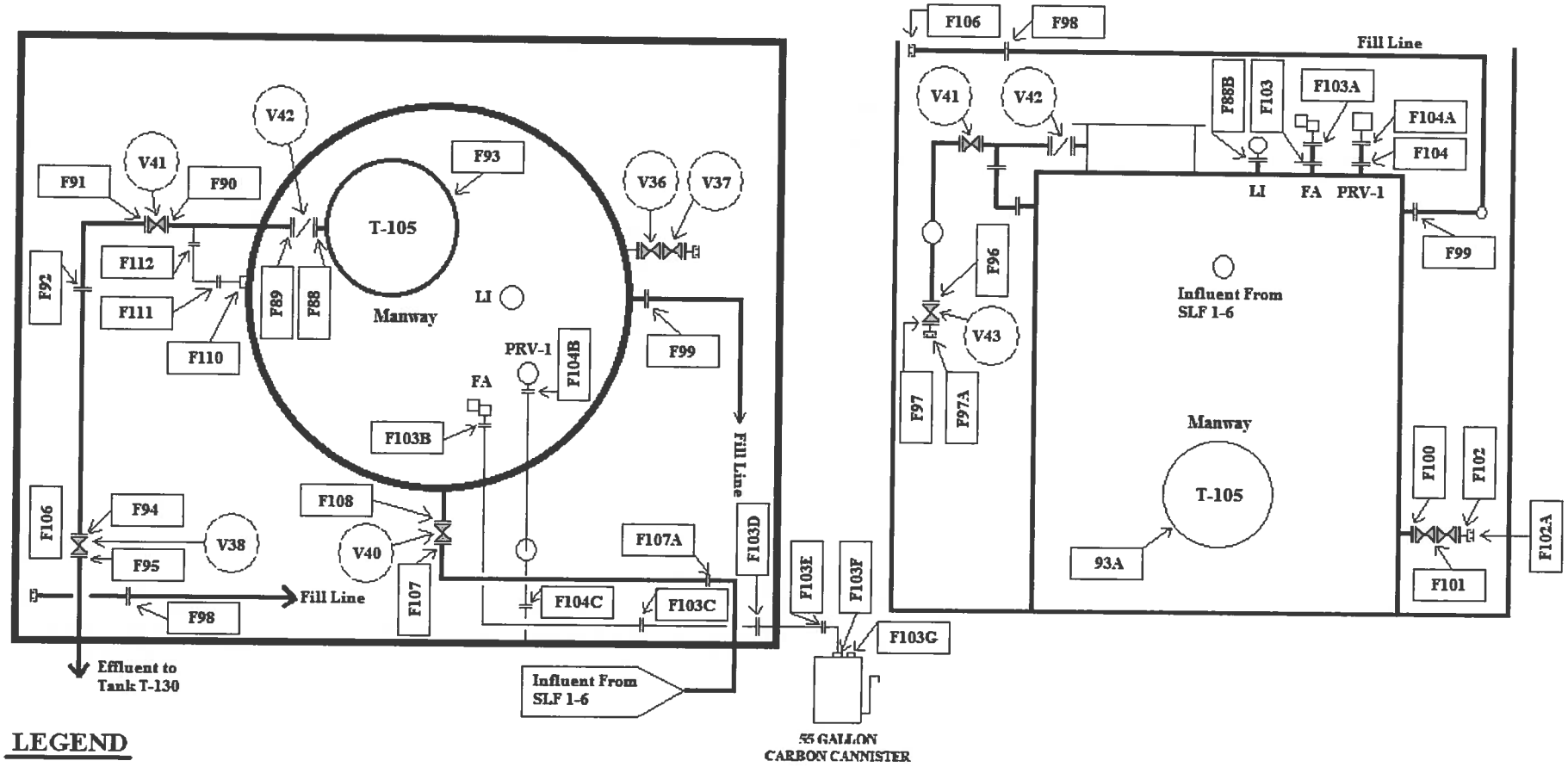
Table 12
Subpart BB Affected Equipment : SLF 1-6 Leachate Facility
(T-105; T-130)

ID #	Description	Location
PRV1	Pressure Relief Valve	Top of T-105
V36	Valve	Tank T-105 Bottom
V37	Valve	Tank T-105 Bottom
V38	Valve	N. Wall T-105
V39	NOT ASSIGNED	
V40	Motorized Valve	W. T-105
V41	Motorized Valve	N. T-105
V42	Check Valve	N. T-105
V43	Valve	Drain line on N. Wall
V44	NOT ASSIGNED	
V45	NOT ASSIGNED	
V46	NOT ASSIGNED	
V47	NOT ASSIGNED	
V48	Valve	Pretreat Dike T-105/ T-130
V49	Valve	Pretreat Dike T-105 /T-130
V50	Valve	Top Valve on T-130
V51	Valve	Second Valve on T-130
V52	Valve	Third Valve on T-130
V53	Valve	Fourth Valve (bottom) on T-130
V54	Valve	South Dike
V55	Valve	South Dike
V56	Valve	South Dike
V57	NOT ASSIGNED	
V58	NOT ASSIGNED	
V59	NOT ASSIGNED	
V60	NOT ASSIGNED	
V61	Valve	Bottom of T-130
V62	Valve	Overflow pipe T-130
V63	Valve	Inside Storage Building
V64	Valve	Bottom of T-130
V65	Valve	Bottom of T-130
V66	Valve	Overflow pipe T-130
V67	Valve	Overflow pipe T-130
V68	NOT ASSIGNED	

Table 12 continued on next page.

Table 12 (contd.)		
ID #	**Description**	**Location**
F88	Flange	T-105 Effluent
F88B	Flange	Level indicator, top of T-105
F89	Flange	T-105 Effluent
F90	Flange	T-105 Effluent
F91	Flange	T-105 Effluent
F92	Flange	T-105 Effluent
F93	Flange	T-105 top hatch
F93A	Flange	T-105 side manway
F94	Flange	T-105 Effluent
F95	Flange	T-105 Effluent
F96	Flange	T-105 Effluent Drain Line
F97	Flange	T-105 Effluent Drain Line
F97A	Hose Connection with cap	T-105 Effluent Drain Line
F98	Flange	T-105 Influent Line – NW wall
F99	Flange	T-105 Influent Line – S. T-105
F100	Flange	Bottom of T-105
F101	Flange	Bottom of T-105
F102	Flange	Bottom of T-105
F102A	Hose Connection with cap	Bottom of T-105
F103	Flange	Flame arrestor (FA), top of T-105
F103A	Flange	Vent line from FA to carbon canister
F103B	Flange	Vent line from FA to carbon canister
F103C	Flange	Vent line from FA to carbon canister
F103D	Flange	Vent line from FA to carbon canister
F103E	Flange	Vent line from FA to carbon canister
F103F	Flange	Vent line connection to carbon canister
F103G	Flange	Carbon canister
F104	Flange	PRV-1, top of T-105
F104A	Flange	PRV-1 vent line to outside
F104B	Flange	PRV-1 vent line to outside
F104C	Flange	PRV-1 vent line to outside
F105	Hose Connection	T-105 Influent
F106	Hose Connection	T-105 Influent
F107	Flange	W. T-105
F108	Flange	W. T-105
F109	Flange	Bottom of T-130
F109A	Flange	Bottom of T-130
F110	Flange	T-105 effluent
F111	Flange	T-105 effluent
F112	Flange	T-105 effluent
F113	Hose Connection	T-130 Outlet
F114	Flange	T-130 Inlet from T-105
F114A	Tee	T-130 Inlet
F114B	Flange	T-130 Inlet
F115	Flange	T-130 Inlet
F115A	Flange	T-130 Inlet

	Table 12 (contd.)	
ID #	**Description**	**Location, Tank T-130**
F116	Hose Connection	T-130 Inlet
F116A	Flange	To Hose connection
F117	Flange	Level Indicator
F117A	Flange	Flame Arrestor
F117B	Flange	Top Hatch
F117C	Flange	Air vent line
F117D	Flange	Top of tank
F117E	Flange	Decant piping, before/after valve
F117F	Flange	Decant piping, before/after valve
117G	Flange	Decant piping, before/after valve
F117H	Flange	Decant piping, before/after valve
F117I	Flange	Decant piping, before/after valve
F117J	Flange	Decant piping, before/after valve
F117K	Flange	Decant piping, before/after valve
F117L	Flange	Decant piping, before/after valve
F117M	Flange	Decant piping, before/after valve
F117N	Flange	Decant piping, before/after valve
F117P	Flange	Decant piping, before/after valve
F117Q	Flange	Decant piping, before/after valve
F118	Flange	Manway, side of tank
F118A	Flange	Overflow line
F118B	Flange	Overflow line
F118C	Flange	Overflow line
F118D	Flange	Overflow line
F118E	Flange	End of Overflow line
F118F	Flange	Bottom Drain line
F118G	Flange	End of Overflow line
F118H	Flange	Overflow pipe T-130
F118J	Flange	Overflow pipe T-130
F119	Coupler	Vent line to carbon canister
F119A	Connection	Vent line to carbon canister
F119B	Threaded bung	Carbon canister
F120	Flange	Decant piping, end of line
F121	Flange	Decant piping, end of line
F122	Flange	Inside Storage Building
F123	Flange	Inside Storage Building
F124	Flange	Bottom of T-130
F125	Flange	Bottom of T-130
F126	Flange	Bottom of T-130
F127	Hose Connection	Bottom of T-130
F128	Hose Connection	Bottom of T-130
F129	Flange	Bottom of T-130



LEGEND

FLANGED VALVE

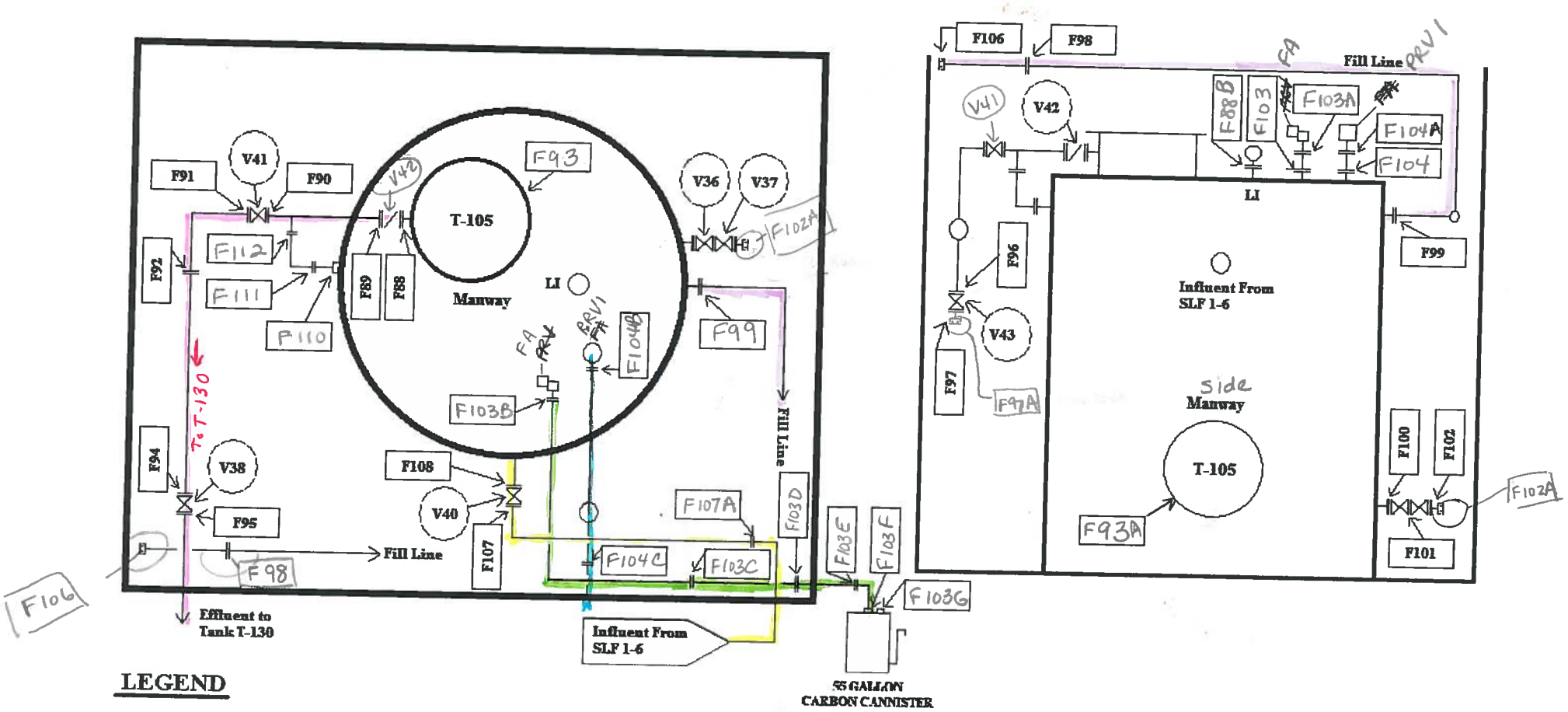
QUICK CONNECT COUPLER

V123 VALVE ID NO.

F172 FLANGED/THREADED JOINT ID NO.

TANK T-105
SUBPART BB PROGRAM
CWM CHEMICAL SERVICES LLC.
MODEL CITY FACILITY
FIGURE NO.
April 2014

NO.	REVISION	BY	DATE

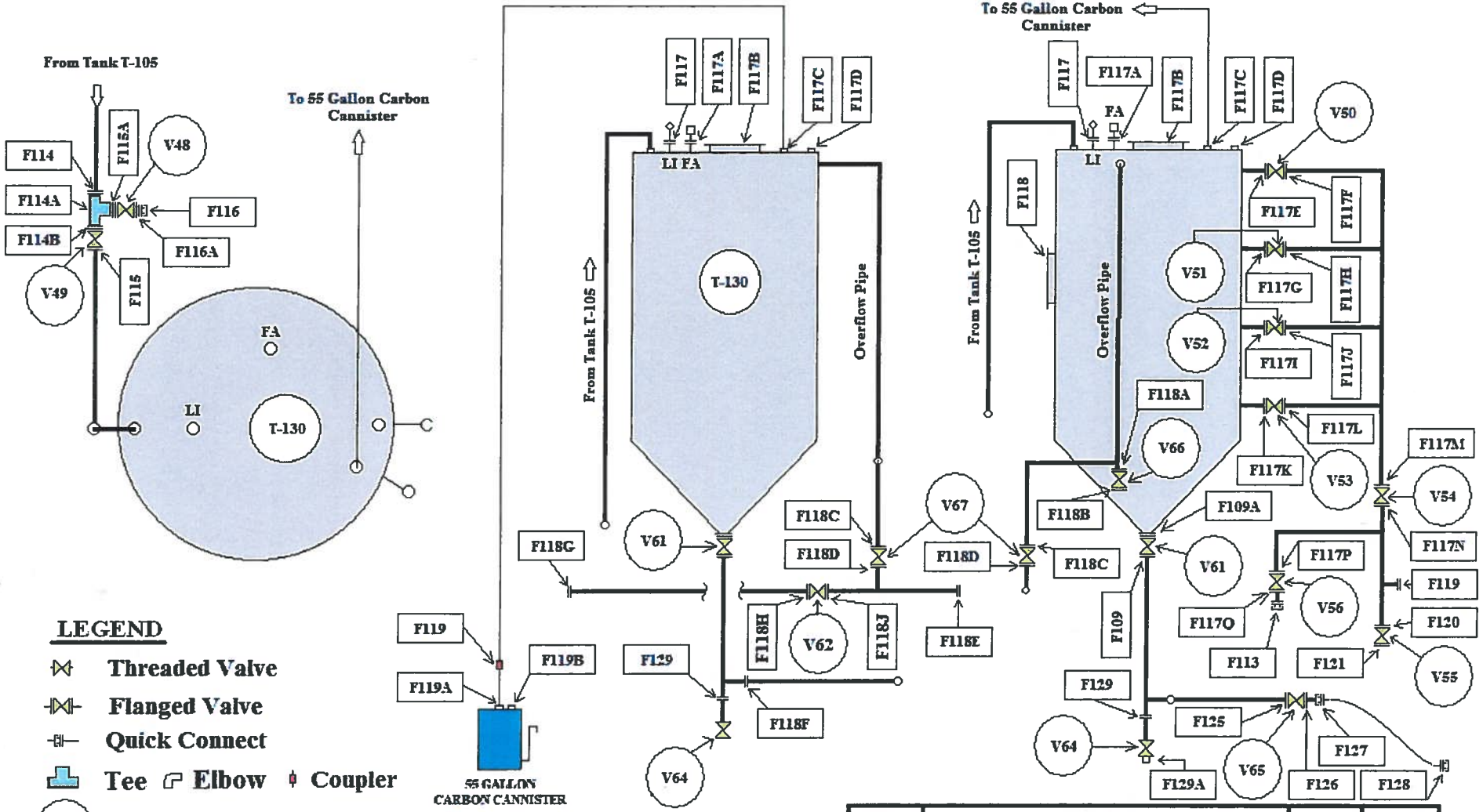


LEGEND

- BALL VALVE
- QUICK DISCONNECT ADAPTER WITH DUST CAP AND CHAIN
- V123 — VALVE ID NO.
- F172 — FLANGED/THREADED JOINT ID NO.

T-105
SUBPART BB PROGRAM
CWM CHEMICAL SERVICES LLC.
MODEL CITY FACILITY
FIGURE NO.
April 2014

NO.	REVISION	BY	DATE



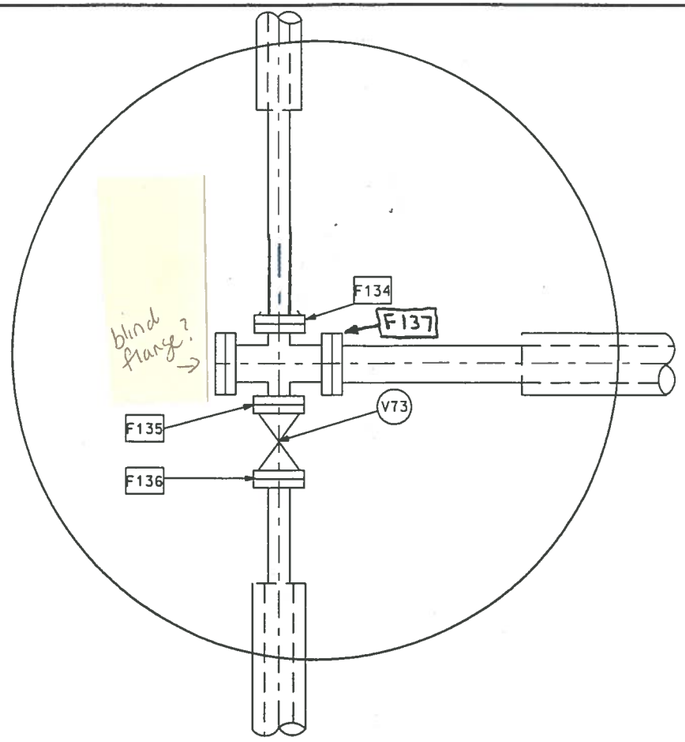
NO.	REVISION	BY	DATE

TANK T-130 AREA
SUBPART BB PROGRAM
CWM CHEMICAL SERVICES LLC.
MODEL CITY FACILITY
FIGURE NO. 12
MAY 2014

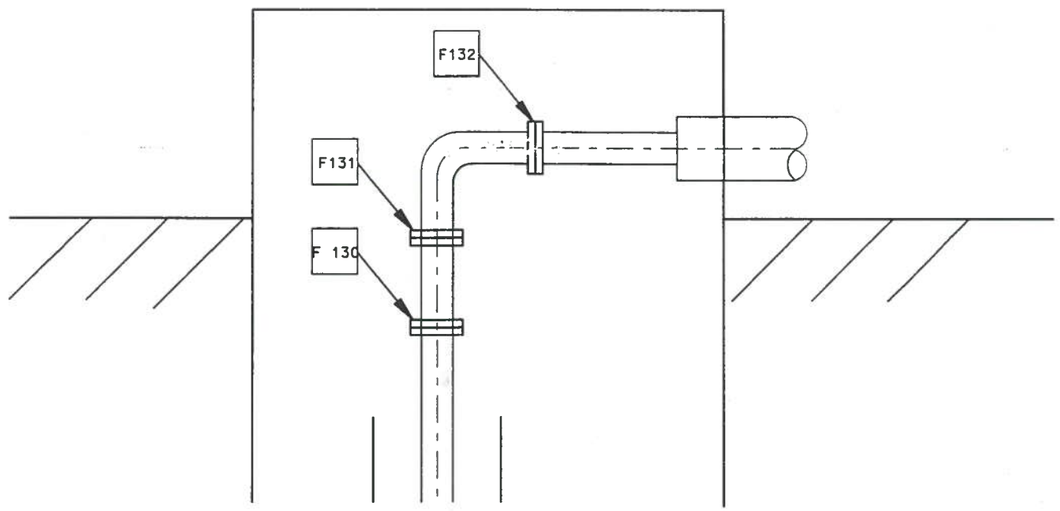
Table 13

Subpart BB Affected Equipment : SLF 7 Leachate Sump # L30 and Manhole M7

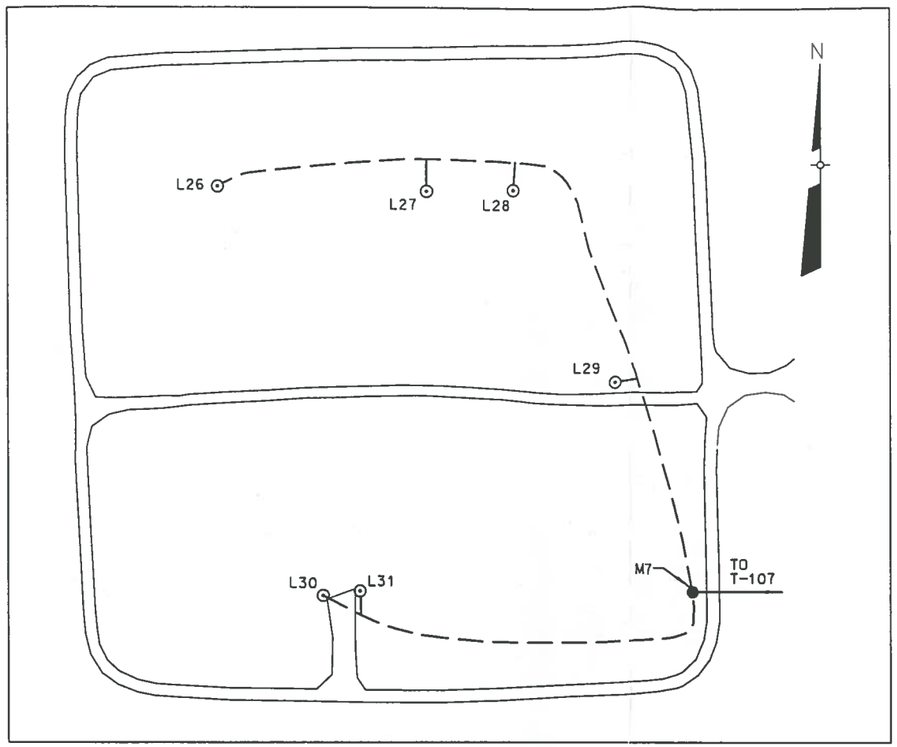
ID #	Description	Location
V69	NOT ASSIGNED	
V70	NOT ASSIGNED	
V71	NOT ASSIGNED	
V72	NOT ASSIGNED	
V73	Valve	Inside Manhole
F130	Flange	Inside Standpipe
F131	Flange	Inside Standpipe
F132	Flange	Inside Standpipe
F133	NOT ASSIGNED	
F134	Flange	Inside Manhole
F135	Flange	Inside Manhole
F136	Flange	Inside Manhole
F137	Flange	Inside Manhole
F138	NOT ASSIGNED	
F139	NOT ASSIGNED	
F140	NOT ASSIGNED	



MANHOLE M7
PLAN



LEACHATE STANDPIPE L30



LOCATION PLAN

LEGEND

● M1	ACCESS MANHOLE
○ C1	CLEANOUT MANHOLE
⊙ L35	LEACHATE STANDPIPE
⋈	BALL VALVE
⊣	QUICK DISCONNECT ADAPTER WITH DUST CAP AND CHAIN
V99	VALVE ID No.
F99	FLANGED/THREADED JOINT ID No.

NOTES: SCHEMATIC ONLY - NO SCALE

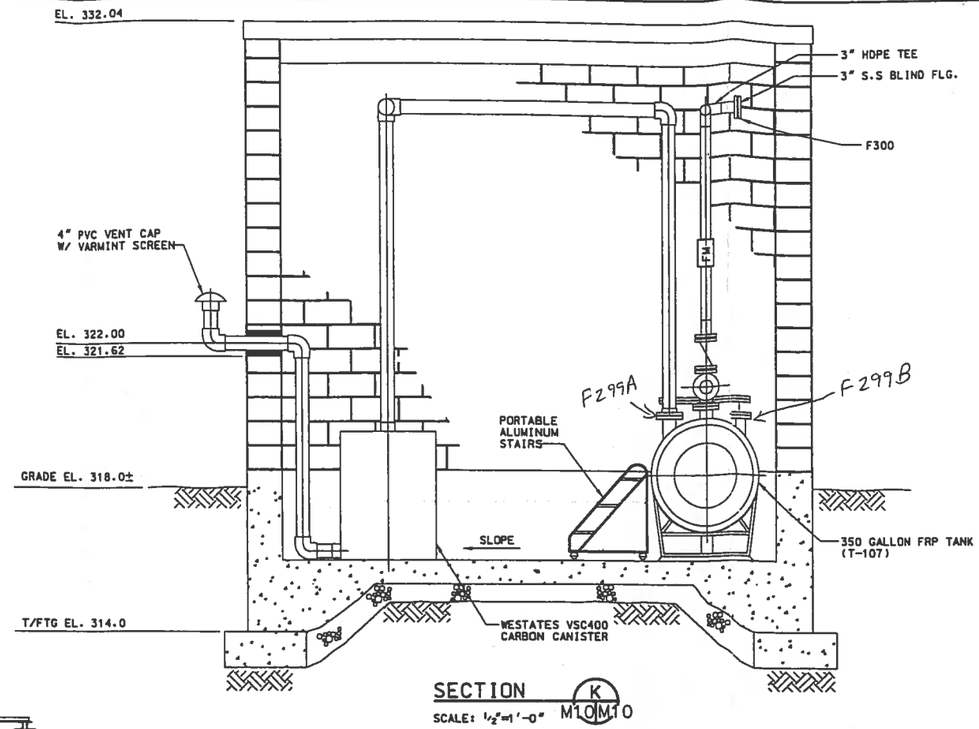
Scale	None				
Date	Sept. 1996				
Designer	——				
Drafter	VPR	2	DELETED V72 + F133 AT M7	SAH	12/09
Checker	FAS	1	REVISED L30, ADDED M7		9/99
Approver	CPB	No.	Revision	By	Date

EARTH TECH
412 LINCOLN HIGHWAY
SUITE 300
TREVOSE, PA. 19053
Tel. (215) 244-7100
FAX (215) 244-7179

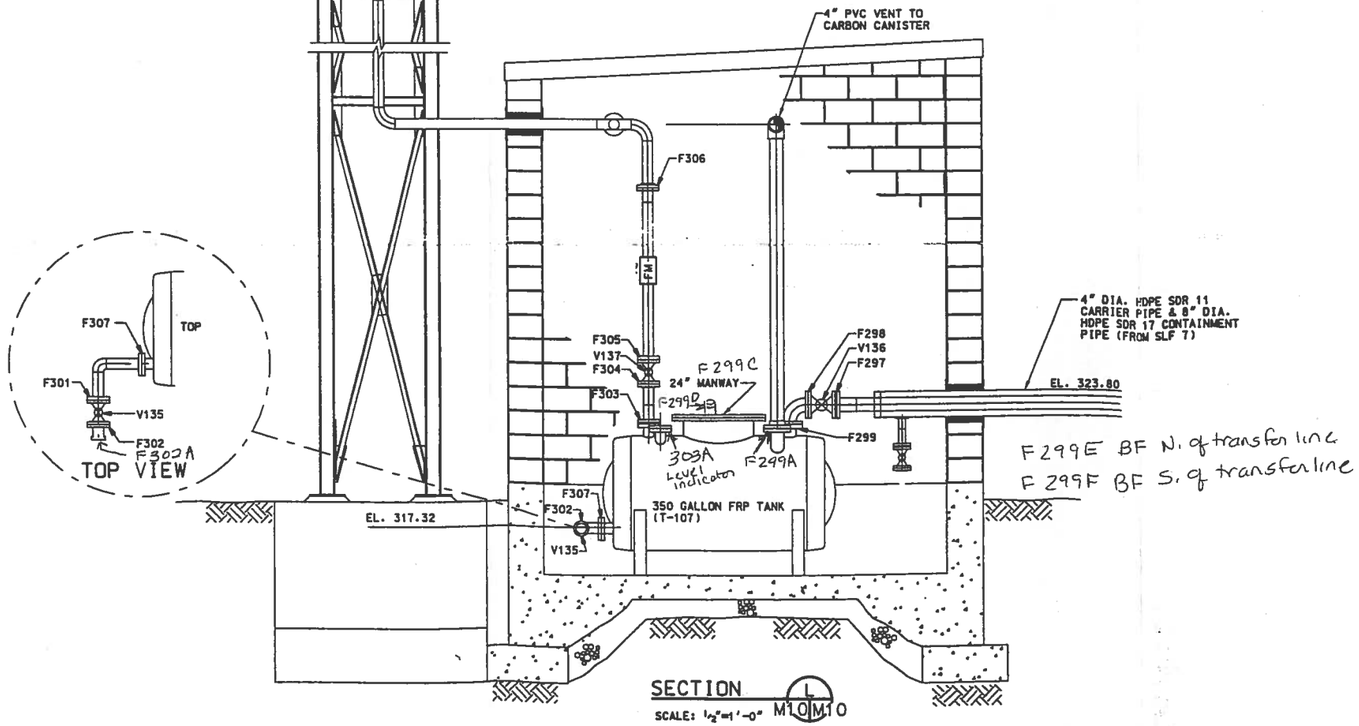
SLF 7 LEACHATE
COLLECTION LINES
SUBPART BB PROGRAM
CWM CHEMICAL SERVICES, LLC.
MODEL CITY, NY

Figure No. 13
Off. Loc. | Sheet No. 1
Project No. 39520
Drawing No. L-FIG13.DGN

i:\group\cadd\mcity\ben\39520\9-99\78-9-99.dgn 01 SEP 1999



SECTION K
SCALE: 1/2"=1'-0" M10M10



SECTION L
SCALE: 1/2"=1'-0" M10M10

NOTES

1. ALL PIPING AND FITTINGS ARE HDPE SDR 11 UNLESS OTHERWISE NOTED.
2. ALL FLANGES ARE 150 lb. W/ STAINLESS STEEL NUTS & BOLTS.
3. ALL OUTSIDE PIPING IS INSULATED W/2" FIBERGLASS AND ALUMINUM JACKETING.
4. PIPE SUPPORTS AND HANGERS NOT SHOWN FOR CLARITY.

I:\group\cadd\mcity\ben\39520\9-99\8761mb21.dgn 01 SEP 1999

NOTE

WARNING: IT IS A VIOLATION OF ARTICLE 145, SEC. 7209(2) OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS THAT PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN THIS DOCUMENT IN ANY WAY.

REV. NO.	CODE	CIRCLES	DATE	DESCRIPTION	CWM APPROVED
1	H		5/21/95	FINAL RECORD REVISION	
	CKF			AS PER WEHRAN	
				Q.A. MARK UPS.	
2			9/99	REVISION T107	
	VPR			DRAINAGE PIPING	
			3/20/14	F299A → F F302A	
				F303A, ~~F308~~	

NOTE: CIRCLE ALL REVISIONS. IDENTIFY WITH DIAMOND. NUMBER AND ARROW. REMOVE ONLY CIRCLE AND ARROW BEFORE NEXT REVISION.

REV. BY

ISSUE CODE					
A	PRELIMINARY	D	MAT'L T.O.	F	CONST'N
B	DESIGN	E	MAT'L PURC.	G	NYSDEC REVIEW
		E	BIDS	H	RECORD DWG.

SEAL

SIGNATURE

DATE

DR. JWH	DATE MARCH 95
DSGN.	CWM FILE NUMBER
CK.	
DPE	PER NO. 378-378-10A
CAD FILE NO. 8761MB21	SCALE AS NOTED
PROJECT NO. 38761.400	

CWM CHEMICAL SERVICES, LLC
MODEL CITY FACILITY

RUST ENVIRONMENT & INFRASTRUCTURE
Quality through teamwork

PROJECT TITLE

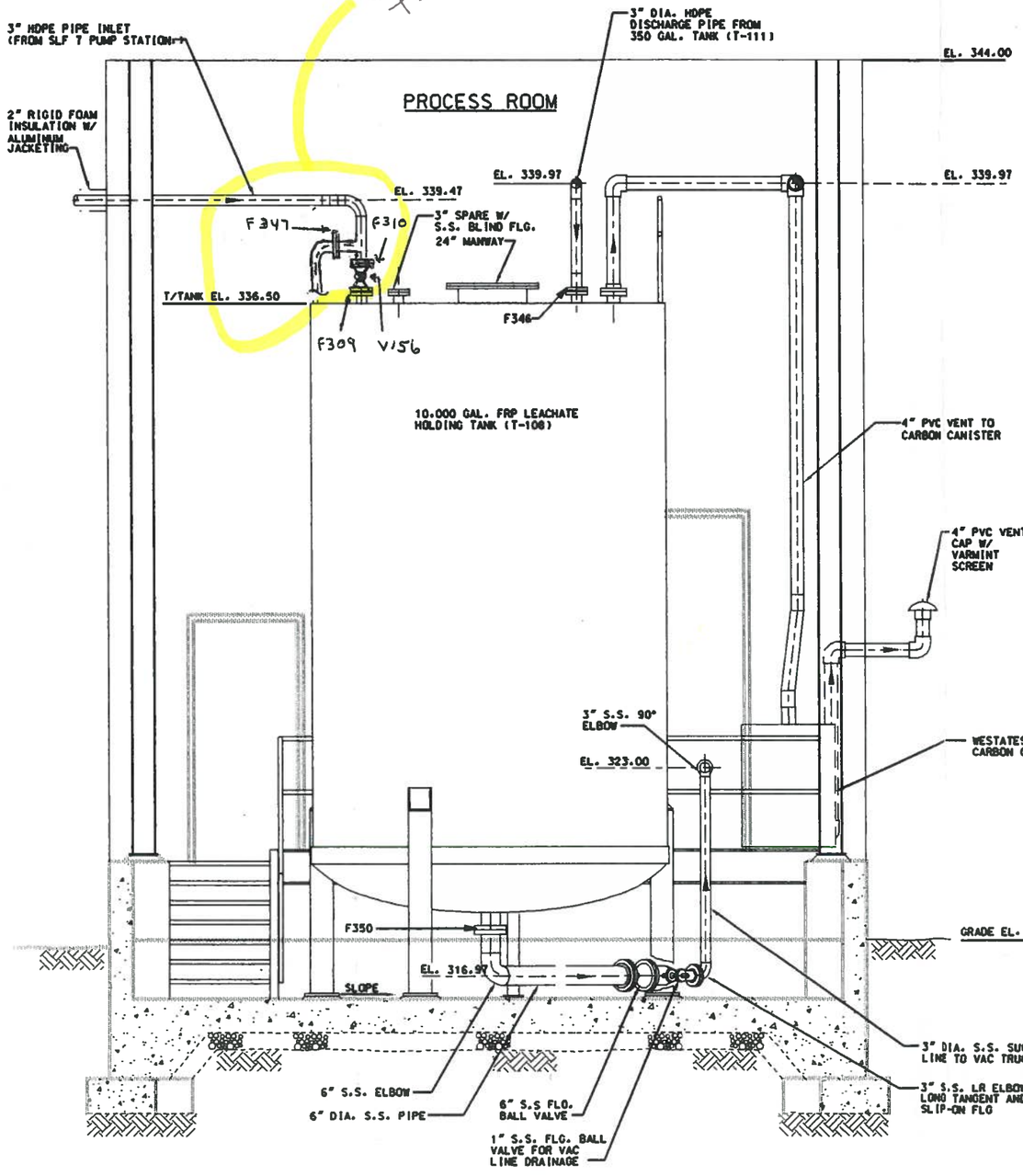
SUBPART BB
COMPLIANCE PROGRAM

DRAWING TITLE

SLF 7 PUMP
STATION PIPING
PLAN AND SECTION
(T-107)

CLIENT DRAWING NUMBER	REV NO.
FIGURE #21	1

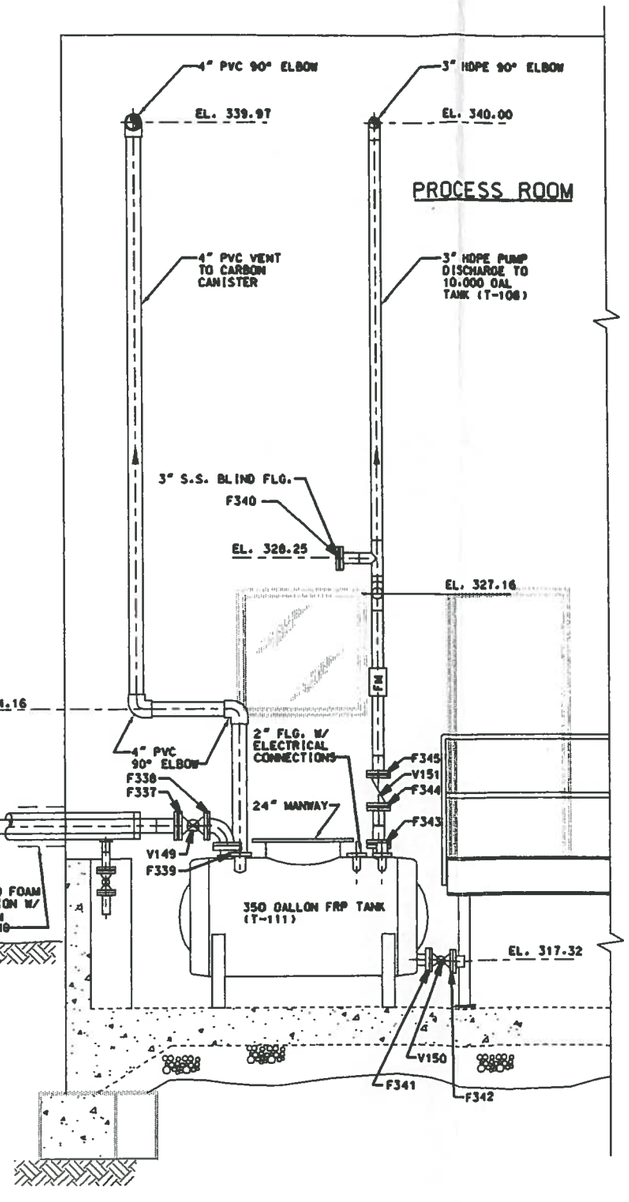
used to transfer T-107 material



SECTION B
SCALE: 1/2"= 1'-0" M1 M2

NOTES

1. ALL PIPING AND FITTINGS ARE HDPE SDR 11 UNLESS OTHERWISE NOTED.
2. ALL FLANGES ARE 150 lb. W/ STAINLESS STEEL NUTS & BOLTS.
3. PIPE SUPPORTS AND HANGERS NOT SHOWN FOR CLARITY.



SECTION C
SCALE: 1/2"= 1'-0" M1 M2

NOTE

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REV. NO.	CODE	CIRCLES	DATE	DESCRIPTION	CWM APPROVED
1	H		5/21/95	FINAL RECORD REVISION	
	CKF			AS PER WEHRAN	
				O.A. MARK UPS.	
2	384		3/13/96	ADDED F310, F347, V156	

NOTE: CIRCLE ALL REVISIONS, IDENTIFY WITH DIAMOND, NUMBER AND ARROW. REVISE ONLY CIRCLE AND ARROW BEFORE NEXT REVISION.

REV. BY

ISSUE CODE					
A	PRELIMINARY	C	MAT'L T.O.	F	CONST'N
B	DESIGN	D	MAT'L PURC.	G	NYSDEC REVIEW
		E	BIDS	H	RECORD DWG

SEAL

SIGNATURE

DATE

DR. JWH	DATE MARCH 95
DSGN.	CWM FILE NUMBER
CK.	
DPE	PER NO. 378-378-10A
CAD FILE NO. 87611803	SCALE AS NOTED
PROJECT NO. 38761.400	

CWM CHEMICAL SERVICES, LLC
MODEL CITY FACILITY

RUST ENVIRONMENT & INFRASTRUCTURE
Quality through teamwork

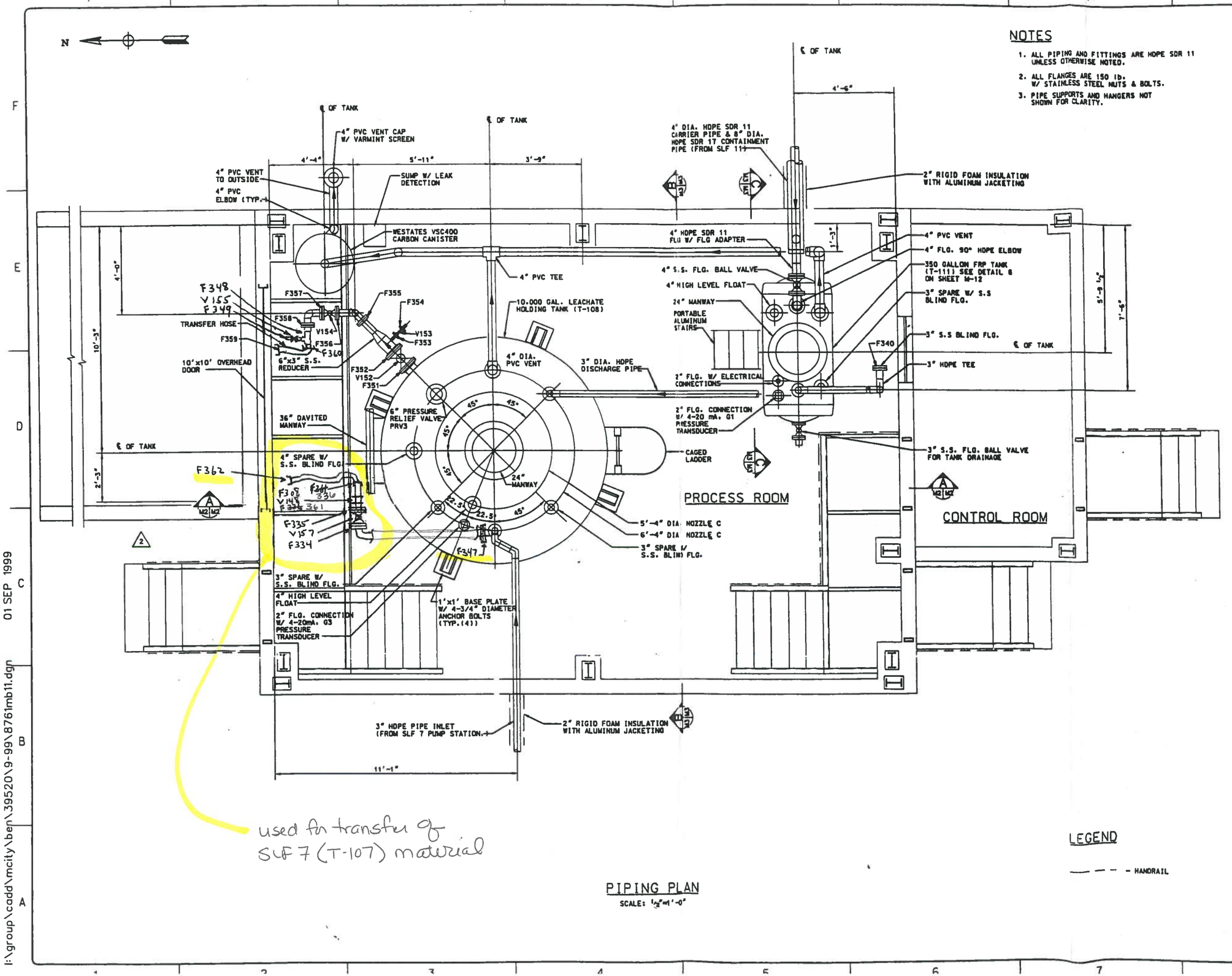
PROJECT TITLE

SUBPART BB COMPLIANCE PROGRAM

DRAWING TITLE

SLF 7 AND SLF 11 HOLDING TANK BUILDING PIPING SECTION (T-108 AND T-111)

CLIENT DRAWING NUMBER	REV NO.
FIGURE #23 SHEET 2 OF 2	2



NOTE

WARNING: IT IS A VIOLATION OF ARTICLE 145, SEC. 7209(2) OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS THAT PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN THIS DOCUMENT IN ANY WAY.

REV. NO.	CODE	CIRCLES REV. BY	DATE	DESCRIPTION NOTE: CIRCLE ALL REVISIONS; IDENTIFY WITH SYMBOL. CHANGED AND ADDED: REQUIRE ONLY CIRCLE AND ADDED BEFORE NEXT REVISION.	CWM APPROVED
1	G JWH		5/17/95	ORIENTATION OF QUICK DISCONNECT MODIFIED	
2	G JWH		5/18/95	CONTAINMENT AREA DRAIN ADDED	
3	H CKF		5/21/96	FINAL RECORD REVISION AS PER WEHRAN Q.A. MARK UPS.	
4	VPR			REVISED T108 DRAINAGE PIPING	
5	JBH		9/15/97	ADDED F348, V155 AND F349	
6	JBH		3/13/99	ADDED F347, F334, F335, F336, F308 F361 F362, V148, V157	

ISSUE CODE			
A	PRELIMINARY	D	MAT'L PURC.
B	DESIGN	E	BIDS
C	MAT'L T.O.	F	CONST'N
G	HYSDEC REVIEW	H	RECORD DWG.

SEAL

SIGNATURE

DATE

DR. JWH	DATE MARCH 95
DSGN.	CWM FILE NUMBER
CK.	
DPE	PER NO. 378-378-10A
CAD FILE NO. 8761MB11	SCALE AS NOTED
PROJECT NO. 38761.400	

CWM CHEMICAL SERVICES, LLC
MODEL CITY FACILITY

RUST ENVIRONMENT & INFRASTRUCTURE
Quality through teamwork

PROJECT TITLE
SUBPART BB COMPLIANCE PROGRAM

DRAWING TITLE
SLF 7 AND SLF 11 HOLDING TANK BUILDING PIPING PLAN (T-108 AND T-111)

CLIENT DRAWING NUMBER
FIGURE #23
SHEET 1 OF 2

REV NO.
6

01 SEP 1999

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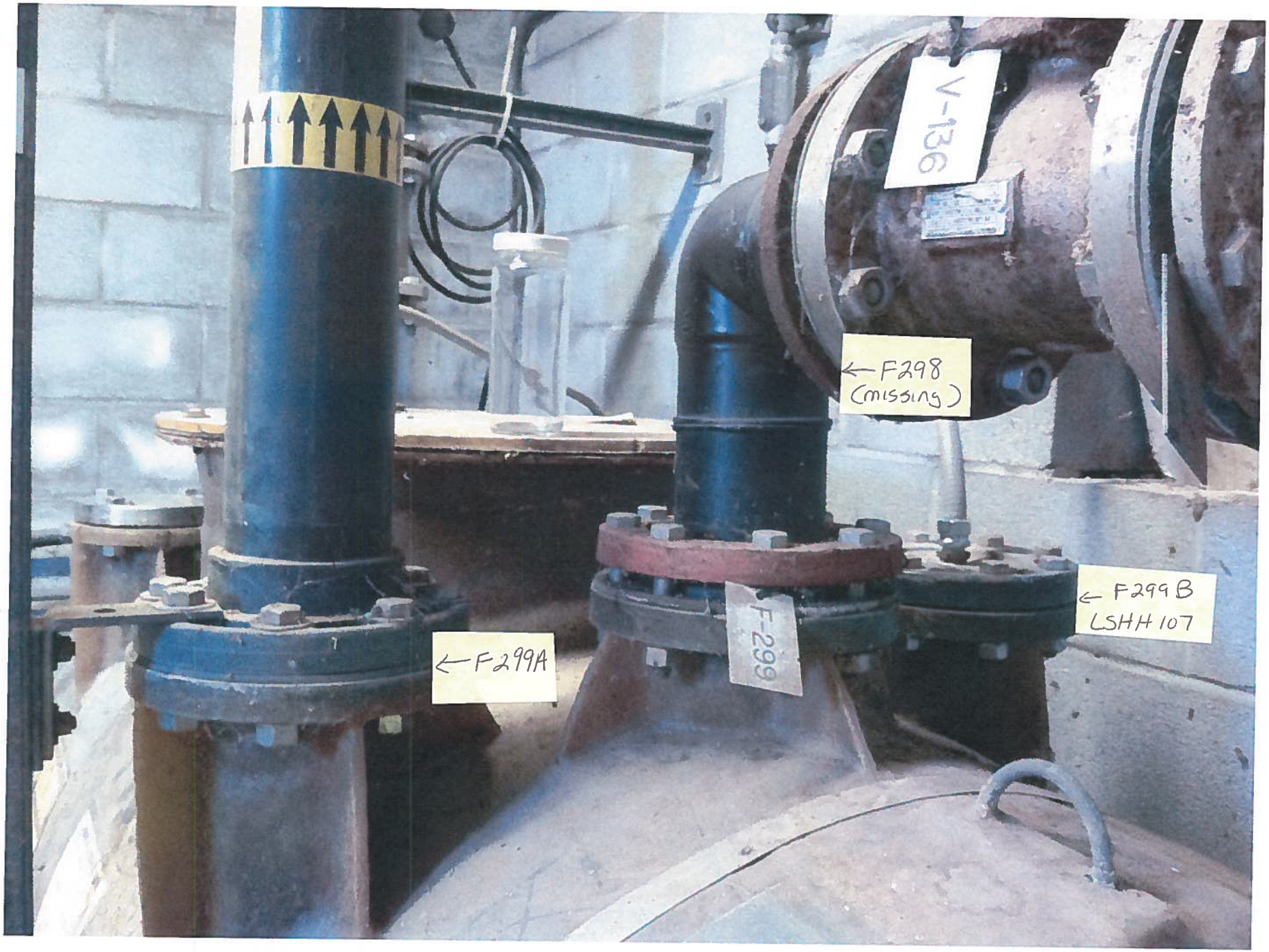
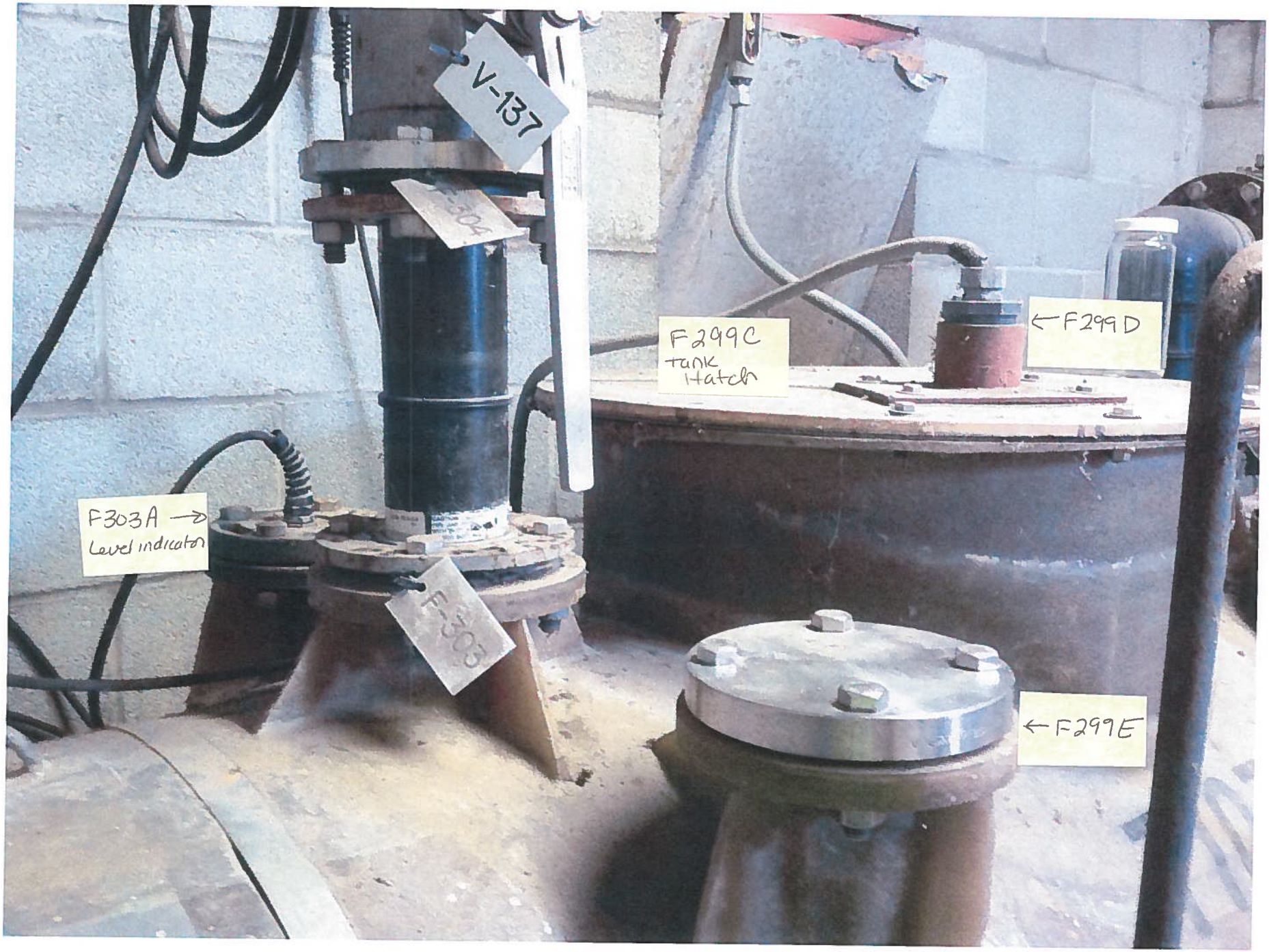
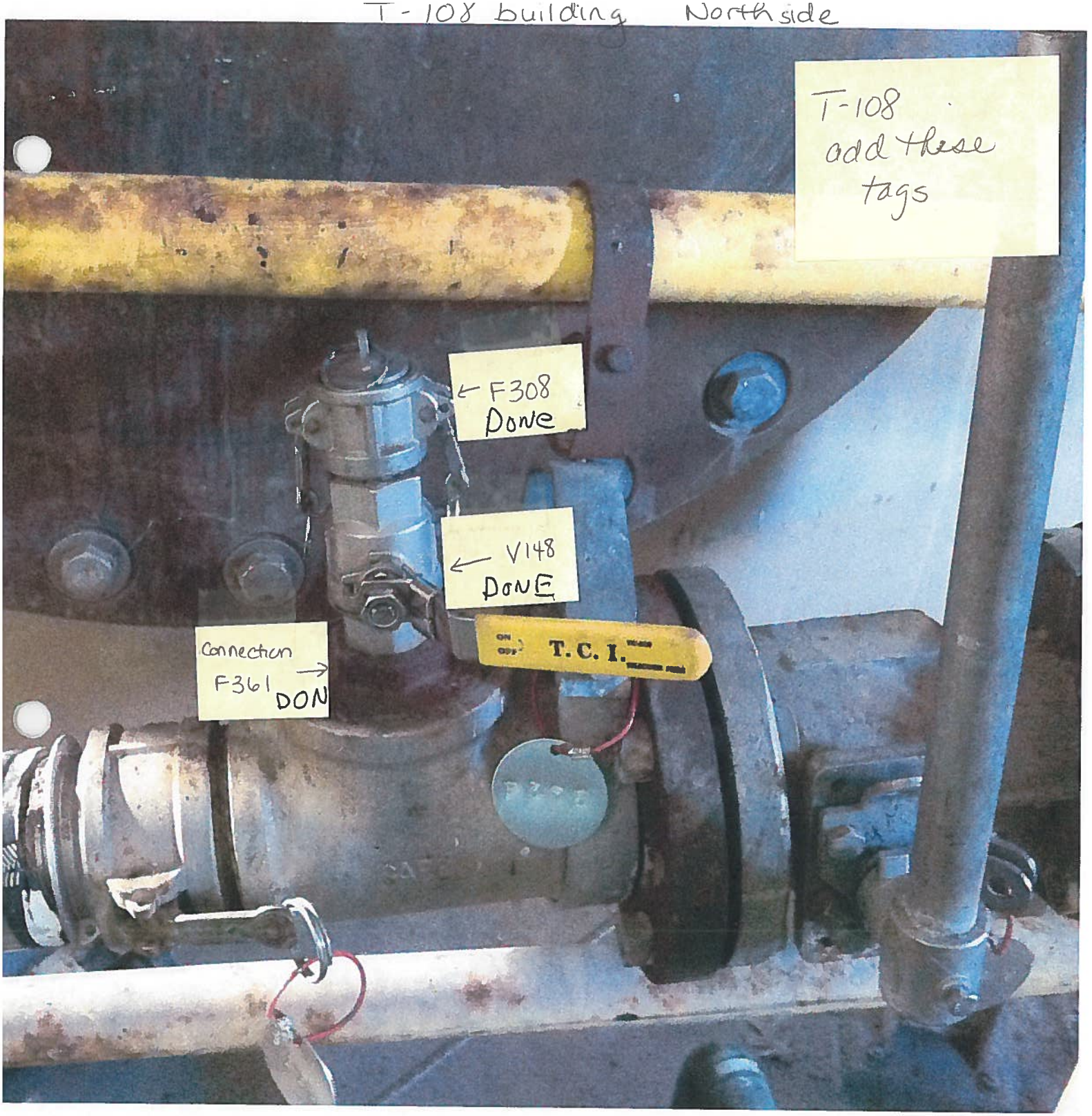

V-136
←F298
(missing)
←F299A
F-299
←F299B
LSHH 107


V-137
F-304
F299C
tank
Hatch
←F299D
F303A →
Level indicator
F-303
←F299E


F299F
F303A
Level
indicator
F299E
T10

T-108 building Northside



cap at end of black hose F-362

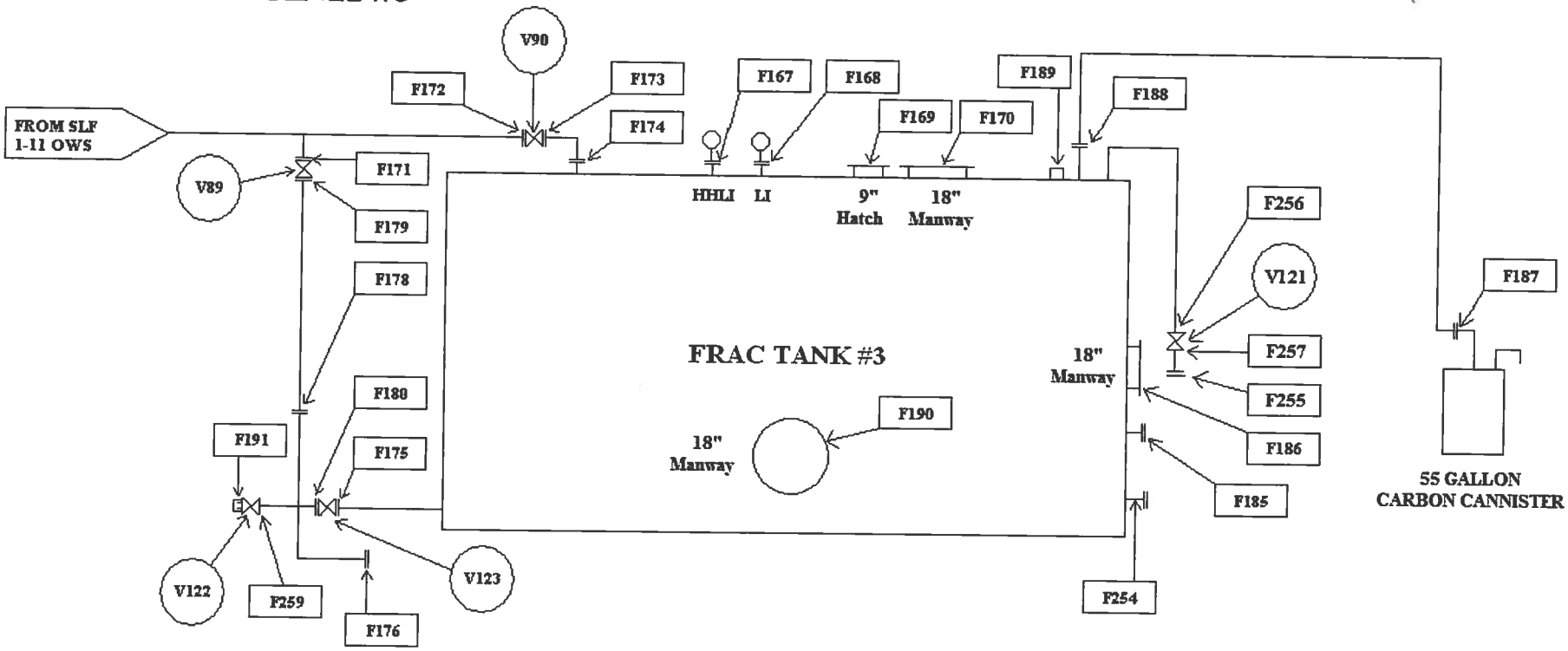
Done

Table 18
Subpart BB Affected Equipment : Frac Tank 3

ID #	Description	Location
P5	Pump	Bottom outlet
V89	Valve	Influent from T-158 to Frac Tank 3
V90	Valve	Influent from T-158 to Frac Tank 3
V91	Valve	(deleted)
V92	Valve	(deleted)
V93	Valve	(deleted)
V94-V100	NOT ASSIGNED	
V101-116	See Tables 15, 16, 17	See Tables 15, 16, 17
V117-V120	NOT ASSIGNED	
V121	Valve	Overflow
V122	Valve	Bottom outlet
V123	Valve	Bottom outlet
F158-F164	NOT ASSIGNED	
F165	Hose Connection	(deleted)
F166	Hose Connection	(deleted)
F167	Flange	HHLI
F168	Flange	LI
F169	Flange	Small hatch
F170	Flange	18" manway on top
171	Flange	Influent from T-158 to Frac Tank 3
F172	Flange	Influent from T-158 to Frac Tank 3
F173	Flange	Influent from T-158 to Frac Tank 3
F174	Flange	Influent from T-158 to Frac Tank 3
F175	Flange	Bottom outlet
F176	Flange	Bottom outlet
F177	Tee	(deleted)
F178	Flange	Influent from T-158 to Frac Tank 3
F179	Flange	Influent from T-158 to Frac Tank 3
F180	Flange	Bottom outlet
F181	Threaded Connection	(deleted)
F182	Tee	(deleted)
F183	Flange	(deleted)
F184	Threaded Connection	(deleted)
F185	Flange	Spare nozzle
F186	Flange	18" manway, east end
F187	Flange	Flange on air vent line near carbon
F188	Flange	Flange- air vent line near tank top
F189	Connector	Small connector on top of tank
F190	Flange	18" manway on side
F191	Hose Connection	Bottom outlet
F192	Hose Connection	(deleted)
F193-F200	NOT ASSIGNED	
F201-F249	See Tables 15, 16, 17	See Tables 15, 16, 17

F250-F253	NOT ASSIGNED	
F254	Flange	Bottom drain
F255	Flange	Overflow
F256	Threaded Connection	Overflow
F257	Threaded Connection	Overflow
F258	NOT ASSIGNED	
F259	Threaded Connection	Bottom outlet
F260-F261	NOT ASSIGNED	

FRAC TANK #3



LEGEND

- BALL VALVE
- QUICK DISCONNECT ADAPTER WITH DUST CAP AND CHAIN
- V123 VALVE ID NO.
- F172 FLANGED/THREADED JOINT ID NO.

FRAC TANK #3
SUBPART BB PROGRAM
CWM CHEMICAL SERVICES LLC.
MODEL CITY FACILITY
FIGURE NO. 18
JUNE 2009

NO.	REVISION	BY	DATE
1	Review of Tank System upon Startup	SR	10/12/09
2	Addition of Manways & Carbon Cannister Removed P-5 pumping system	SR	3/24/14

Table 19
Subpart BB Affected Equipment : Fuels Drum Bulking Operation

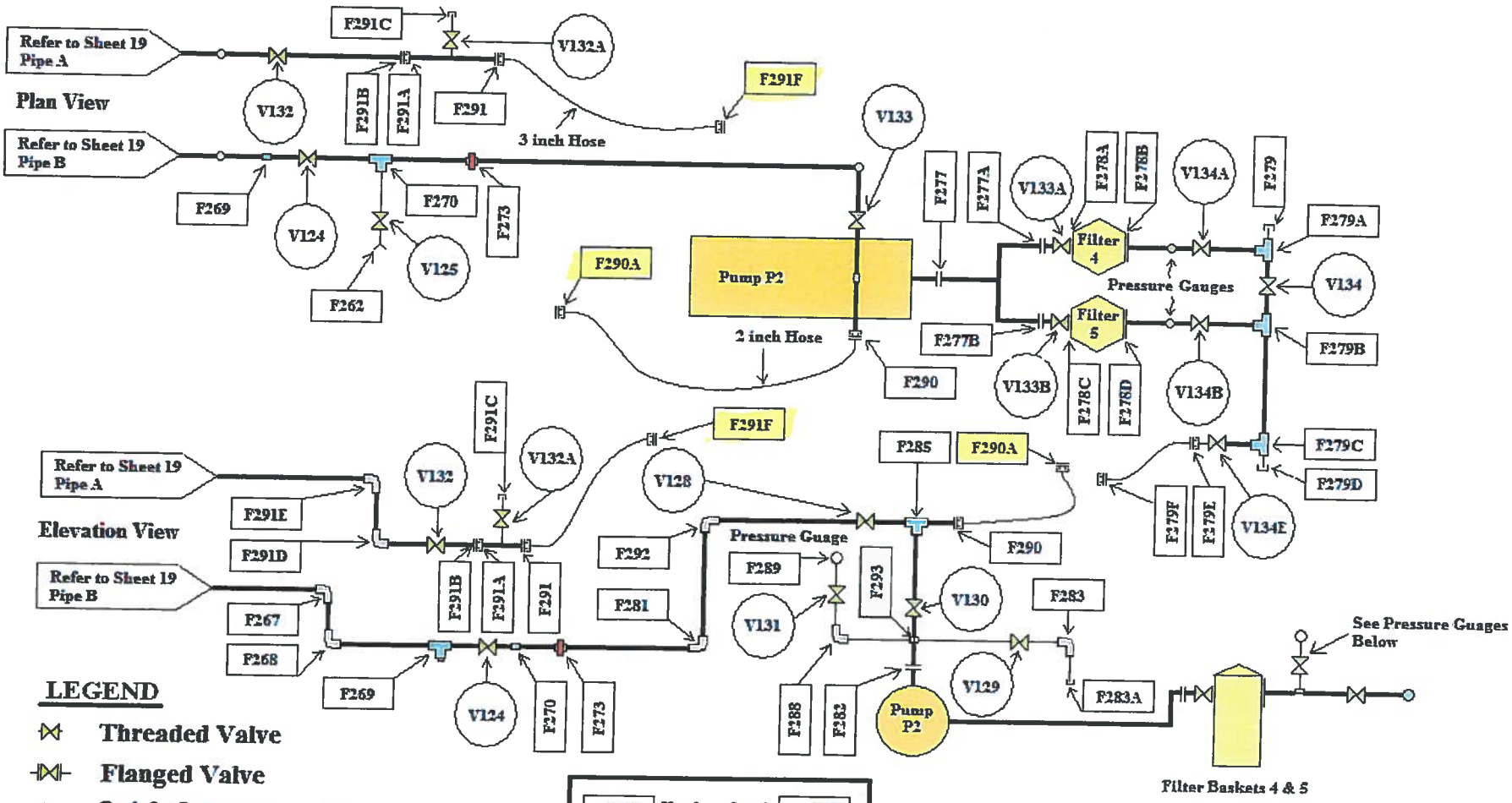
ID #	Description	Location
		Non-PCB system using P1
		Drum Pumping Room
P1	Pneumatic pump	Drum Building enclosure
F274N	Hose connection with cap	Connects to dip leg
F274M	Hose connection	Suction side of pump before filters
F274H	Tee	Suction side of pump before filters
F274G	Threaded connection	Suction side of pump before Filter 2
V127A	**Valve**	Suction side of pump, before Filter 2
F274F	Elbow	Suction side of pump, before Filter 2
F274E	Flange	Suction side of pump, before Filter 2
Filter 2	**Flange with wing nuts**	Top of filter
F274D	Flange	Suction side of pump, after Filter 2
F274C	Elbow	Suction side of pump, after Filter 2
V127B	**Valve**	Suction side of pump, after Filter 2
F274B	Threaded connection	Suction side of pump, after Filter 2
F274A	Tee	Suction side of pump, after Filters
V127C	**Valve**	Suction side of pump, before Filter 3
F274I	Elbow	Suction side of pump, before Filter 3
F274J	Flange	Suction side of pump, before Filter 3
Filter 3	**Flange with wing nuts**	Top of filter
F274K	Flange	Suction side of pump, after Filter 3
F274L	Elbow	Suction side of pump, after Filter 3
V127D	**Valve**	Suction side of pump, after Filter 3
F274	Tee	Suction side of pump, after Filters
F274P	Elbow	Suction side of pump, filter by-pass
V127E	**Valve**	Suction side of pump, filter by-pass
F274Q	Threaded connection	Suction side of pump, filter by-pass
F274R	Elbow	Suction side of pump, filter by-pass
F271	Threaded connection	Suction side of pump, after Filters
F264	Elbow	Suction side of pump, after Filters
P1	**Pump**	
F272	Connection	Effluent from pump
F263	Elbow	Pump effluent
F274T	Connection to pump	Pump effluent
F274S	Connection to pressure gauge	Pressure gauge line
F265	Elbow	Pump effluent, inside at building wall
F275	Flange	Pump effluent, inside leading to outside
F266	Flange	Inside leading to outside
		(continued next page)

		Outside, Drum Building Ramp
F267	Elbow	Outside ramp, pump effluent
F268	Elbow	Outside ramp, pump effluent
F269	Tee	Outside ramp, pump effluent
V124	**Valve**	Outside ramp, pump effluent
F270	Tee	Outside ramp, pump effluent
V125	**Valve**	To Chicago fitting
F262	Chicago blow-off fitting	
F271	Coupling	Outside ramp, pump effluent
F273	Threaded Connection	Outside ramp, pump effluent
F281	Elbow	Outside ramp, pump effluent
F292	Elbow	Outside ramp, pump effluent
V128	**Valve**	Outside ramp, pump effluent
V133	**Valve**	Outside ramp, pump effluent
F285	Tee	Outside ramp, pump effluent
F290	Hose Connection	Outside ramp, pump effluent
F290A	Hose connection with cap	Outside ramp, pump effluent
		PCB system, vacuum line (Pipe A)
		Drum Pumping Room
F276F	Hose connection with cap	Vac line connects to dip leg
V126	**Valve**	Vac line before Filter 1
F276E	Hose connection	Vac line before Filter 1
F276D	Elbow	Vac line before Filter 1
F276C	Flange	Vac line before Filter 1
Filter 1	**Flange with wing nuts**	Top of filter, Vac line
F276B	Flange	Vac line after Filter 1
F276A	Flange	Vac line after Filter 1
F276	Flange	Vac line after Filter 1
		Outside, Drum Building Ramp
V132	**Valve**	Vac line outside, ramp
F291B	Flange	Vac line outside, ramp
F291A	Connection	Vac line outside, ramp
F291	Hose connection	Vac line outside, ramp
V132A	**Valve**	Air break on vac line
F291C	Threaded cap on air break	Vac line outside, ramp
F291F	Hose connection with cap	Vac line outside, ramp

Table 20
Subpart BB Affected Equipment :
Fuels Tanker to Tanker Transfer Operations

ID #	Description	Location
		Tanker to Tanker Transfer
		Drum Building Ramp
P2	Pump	Tanker to Tanker Transfer Area
F279F	Hose connection with cap	Suction side of pump, before filters
F279E	Hose connection	Suction side of pump, before filters
V134E	**Valve**	Suction side of pump, before filters
F279D	Connection with Cap	Suction side of pump, before filters
F279C	Tee	Suction side of pump, before filters
F279B	Tee	Suction side of pump, before filters
V134	**Valve**	Suction side of pump, before filters
F279A	Tee	Suction side of pump, before filters
F279	Connection with Cap	Suction side of pump, before filters
V134B	**Valve**	Suction line, before Filter 5
F278G	Connection	Line to Pressure Gauge
V134D	**Valve**	Line to Pressure Gauge
F278H	Connection	Pressure Gauge
F278D	Flange	Inlet for Filter 5
Filter 5	**Flanged top with wing nuts**	Filter
F278C	Flange	Outlet for Filter 5
V133B	**Valve**	Suction side after Filter 5
F277B	Flange	Suction side after Filter 5
V134A	**Valve**	Suction line, before Filter 4
F278E	Connection	Line to Pressure Gauge
V134C	**Valve**	Line to Pressure Gauge
F278F	Connection	Pressure Gauge
F278B	Flange	Inlet for Filter 4
Filter 4	**Flanged top with wing nuts**	Filter
F278A	Flange	Outlet for Filter 4
V133A	**Valve**	Suction side after Filter 4
F277A	Flange	Suction side after Filter 4
F277	Flange	Suction side after filters
P2	**Pump**	
F282	Flange	Pump Effluent Line
F293	Connection	Pump Effluent Line
V130	**Valve**	Pump Effluent Line
F285	Tee	Pump Effluent Line
F290	Hose Connection	Transfer hose
V129	**Valve**	Pump effluent line
F283	Elbow	Pump effluent line
F283A	Hose Connection	Pump Effluent Line

ID #	Description	Location
		Tanker to Tanker Transfer
		Drum Building Ramp
F288	Elbow	Line to pressure gauge
V131	**Valve**	Line to pressure gauge
F289	Connection	Pressure Gauge
F284	NOT ASSIGNED	
F286	NOT ASSIGNED	
F287	NOT ASSIGNED	
F293	NOT ASSIGNED	
F294	NOT ASSIGNED	
F295	NOT ASSIGNED	
F296	NOT ASSIGNED	



DRUM BUILDING RAMP AREA
SUBPART BB PROGRAM
CWM CHEMICAL SERVICES LLC.
MODEL CITY FACILITY
FIGURE NO. 20
April 2014

Note 1: Pipe A - vacuum line, PCB waste

NO.	REVISION	BY	DATE

Table 21
Subpart BB Affected Equipment : T-107

ID #	Description	Location
V135	Ball Valve	Drainage E. side of T-107
V136	Ball Valve	Influent line from SLF 7
V137	Ball Valve	Effluent line to T-108/transfer line
V138	NOT ASSIGNED	
V139	NOT ASSIGNED	
F297	Flange	Influent line from SLF 7
F298	Flange	Influent line from SLF 7
F299	Flange	Influent line from SLF 7
F299A	Flange	Air vent line
F299B	Flange	LSHH107
F299C	Flange	Tank hatch (on top)
F299D	Flange	Threaded connector in hatch cover
F299E	Flange	Blind flange
F299F	Flange	Blind Flange
F303A	Flange	Level indicator
F300	Flange	Effluent line to T-108
F301	Flange	Drainage E. side of T-107
F302	Flange	Drainage E. of side T-107
F302A	Connection	Hose connection with cap
F303	Flange	Effluent line to T-108/transfer line
F304	Flange	Effluent line to T-108/transfer line
F305	Flange	Effluent line to T-108/transfer line
F306	Flange	Effluent line to T-108/transfer line
F307	Flange	Drainage line E. side of T-107
F307A	Connection	Airline to carbon canister
		T-108 Building:
F308	Flange	T-107 Transfer line in T-108 building
F310	Flange	Influent line for T-108 from T-107 (top)
V156	Valve	T-107 Transfer line to T-108 in T-108 building (closed position)
F347	Flange	T-107 Transfer line in T-108 building
F334	Flange	T-107 Transfer line in T-108 building
V157	Valve	T-107 Transfer line in T-108 building
F335	Flange	T-107 Transfer line in T-108 building
F361	Connection	Connection (bushing) transfer line
V148	Valve	T-107 Transfer line in T-108 building
F336	Flange	T-107 Transfer line in T-108 building
F362	Connection	Hose connection with cap

T-107 leachate is being transferred from tank T-107 in the T-107 building to a transfer line in the T-108 building to a vac truck in the loading/unloading area. It is no longer being transferred into T-108.

Table 24
Subpart BB Affected Equipment : T-158

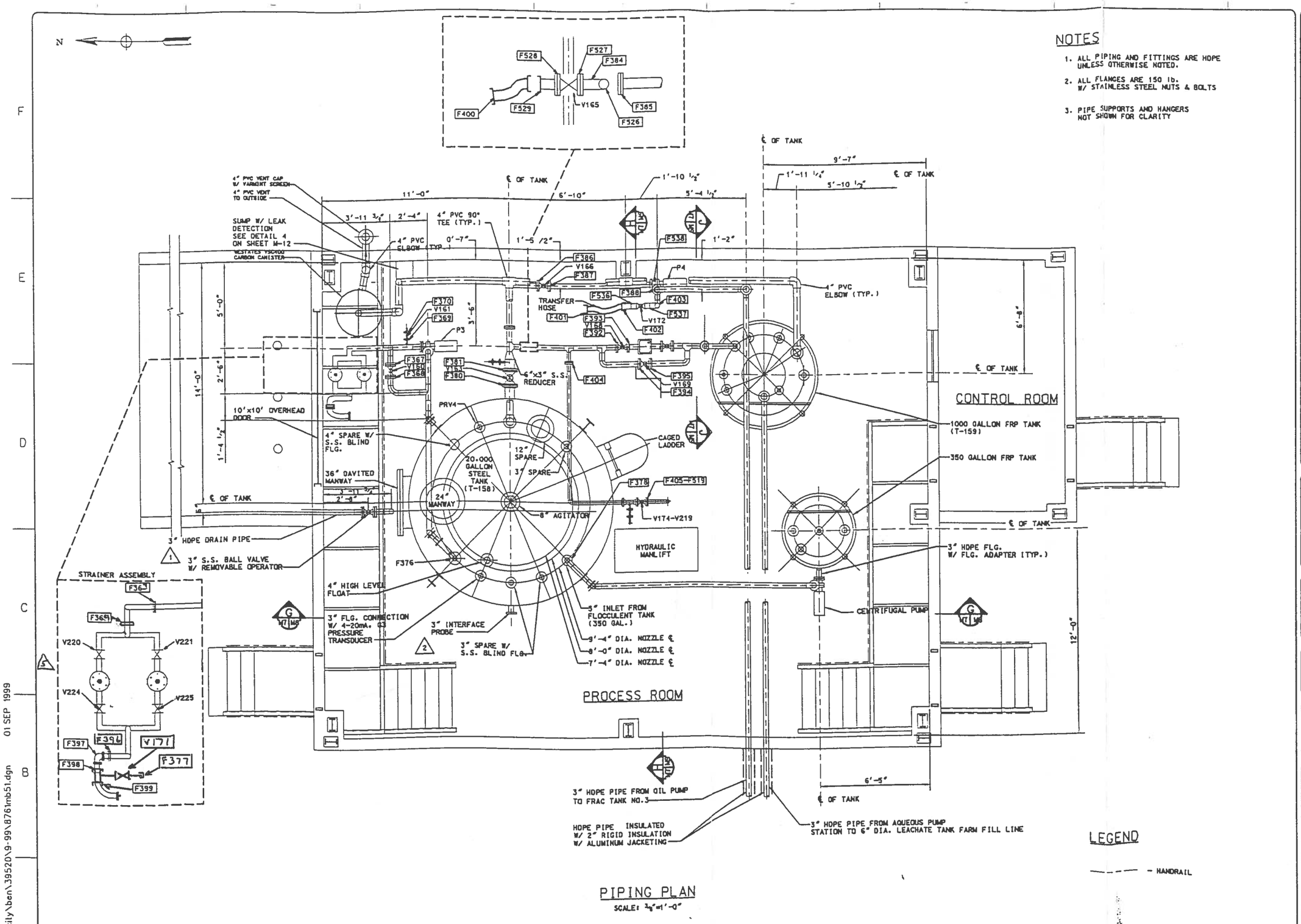
ID #	Description	Location
P3	Pump	N.E of T-158 (T-158 influent)
P4	Pump	East wall (T-158 effluent)
PRV4	Pressure Relief Valve	Top of T-158
V158	Ball Valve	Influent line to T-158 near hose connect
V159	Ball Valve	Influent line to T-158 near hose connect
V160	Ball Valve	Influent line to T-158 near hose connect
V161	Ball Valve	Drainage line near pump P3
V162	Ball Valve	Effluent line from P3 (Top)
V163	Ball Valve	Effluent line from bottom of T-158
V164	Ball Valve	Drainage line bottom of T-158.
V165	Ball Valve	Next to Tee separating aq. and oil phase
V166	Ball Valve	East wall upstream of pump P4
V167	Ball Valve	Effluent line from pump P4 (E. wall)
V168	Ball Valve	N. of T-159 and E. of T-158
V169	Ball Valve	Bypass Valve for manual ctrl. on aq. line
V170	Ball Valve	Effluent line from pump P4 (E. wall)
V171	Ball Valve	Influent line to T-158
V172	Ball Valve	Effluent line from P4 (top)
V173	Check Valve	Effluent line from P3 (top)
V174-V219	Valves	Sample ports at diff. elevations of T-158
V220	Valve	T-158 Influent strainer
V221	Valve	T-158 Influent strainer
V222	Valve	T-158 Influent strainer
V223	Valve	T-158 Influent strainer
V224	Valve	T-158 Influent strainer
V225	Valve	T-158 Influent strainer
V226	NOT ASSIGNED	
V227	NOT ASSIGNED	
F363	Flange	Influent line to T-158 near hose connect
F364	Flange	Influent line to T-158 near hose connect
F365	Flange	Influent line to T-158 near hose connect
F366	Flange	Influent line to T-158 near hose connect
F367	Flange	Influent line to T-158 near hose connect
F368	Flange	Influent line to T-158 near hose connect
F369	Flange	Drainage line near pump P3
F370	Flange	Drainage line near pump P3
F371	Slip on Flange	Influent line to pump P3
F372	Flange	Effluent line from P3 (Top)
F373	Flange	Effluent line from P3 (Top)
F374	Flange	Effluent line from P3 (Top)
F375	Flange	Effluent line from P3 (Top)

Table 24 continued on next page

Table 24 (continued)		
ID #	**Description**	**Location**
F376	Flange	Inf. line top of T-158 from Hose connect.
F377	End Cap	Influent line to T-158
F378	Flange	Infl. line to T-158 from 350 gal. FRP tank
F379	Flange	Bottom of T-158
F380	Flange	Eff. line: Bottom of T-158
F381	Flange	Eff. line: Bottom of T-158
F382	Flange	Drainage line bottom of T-158.
F383	Flange	Drainage line bottom of T-158.
F384	Elbow	Next to Tee separating aq. and oil phase
F385	Blind Flange	Aqueous line N. of T-158
F386	Flange	East wall upstream of pump P4
F387	Flange	East wall upstream of pump P4
F388	Flange	East wall upstream of pump P4
F389	Flange	Effluent line from pump P4 (E. wall)
F390	Flange	Effluent line from pump P4 (E. wall)
F391	Flange	Effluent line from pump P4 (E. wall)
F392	Flange	Aqueous line N. of T-159
F393	Flange	Aqueous line N. of T-159
F394	Flange	Bypass line for manual ctrl. on aq. line
F395	Flange	Bypass line for manual ctrl. on aq. line
F396	Flange	Influent line to T-158 near hose connect
F397	Elbow	Influent line to T-158 near hose connect
F398	Hose Connection	Influent line to T-158
F399	Hose Connection	Influent line to T-158
F400	Hose Connection	Effluent line bottom of T-158
F401	Hose Connection	Effluent from P4
F402	Hose Connection	Effluent from P4
F403	Elbow	Effluent from P4
F404	Flange	N. of T-159 and E. of T-158
F405-519	Flange	Sample ports at diff. elevations of T-158
F520	NOT ASSIGNED	
F521	NOT ASSIGNED	
F522	Flange	Strainer cover
F523	Flange	Strainer cover
F524	NOT ASSIGNED	
F525	NOT ASSIGNED	
F526	Flange	Transfer off main
F527	Flange	Transfer off main
F528	Flange	Transfer off main
F529	Hose Connection	Effluent line bottom of T-158
F530	Flange	Effluent line from pump P4 (E. wall)
F531	Flange	Effluent line from pump P4 (E. wall)

Table 24 continued on next page

Table 24 (continued)		
ID #	**Description**	**Location**
F532	Hose Connection	Effluent line from pump P4 (E. wall)
F533	NOT ASSIGNED	
F534	Hose Connection	Drainage line bottom of T-158
F535	NOT ASSIGNED	
F536	Threaded Connection	Effluent from P4
F537	Threaded Connection	Effluent from P4
F538	Threaded Connection	Pump P4 suction



PIPING PLAN

SCALE: 3/8"=1'-0"

01 SEP 1999

\\group\cadd\mcity\ben\39520\9-99\B761mb51.dgn

NOTE

WARNING: IT IS A VIOLATION OF ARTICLE 145, SEC. 7209(2) OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS THAT PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN THIS DOCUMENT IN any WAY.

REV. NO.	CODE	CIRCLES	REV. BY	DATE	DESCRIPTION
1	G		JWH	5/21/98	CONTAINMENT AREA DRAIN ADDED
2	G		JWH	8/18/98	INTERFACE PROBE ADDED
3	H		CKF	3/7/99	FINAL RECORD REVISION AS PER WEHRAN Q.A. MARK UPS.
4	H		VPR	1/99	ADDED STRAINER ASSEMBLY
4			VPR		ADDED F536.F537.F538
5			JBH	5/04	DELETED V226, V227 F524 F525, SWITCHED F363/F364
6			JBH		ADDED F377 + V171

NOTE: CIRCLE ALL REVISIONS. IDENTIFY WITH DIAMOND, NUMBER AND APPROP. INITIALS. ONLY CIRCLE AND APPROP. BEFORE NEXT REVISION. CWM APPROVED

ISSUE CODE			
A PRELIMINARY	D MAT'L PURC.	G MYSDEC REVIEW	
B DESIGN	E BIDS	H RECORD DWG.	

SEAL

SIGNATURE

DATE

DR. JWH	DATE MARCH 95
DSGN.	CWM FILE NUMBER
CK.	
DPE	PER NO. 378-376-10A
CAD FILE NO. B761MB51	SCALE AS NOTED
PROJECT NO. 38761.400	

CWM CHEMICAL SERVICES, LLC
MODEL CITY FACILITY

EARTH TECH

PROJECT TITLE

SUBPART BB COMPLIANCE PROGRAM

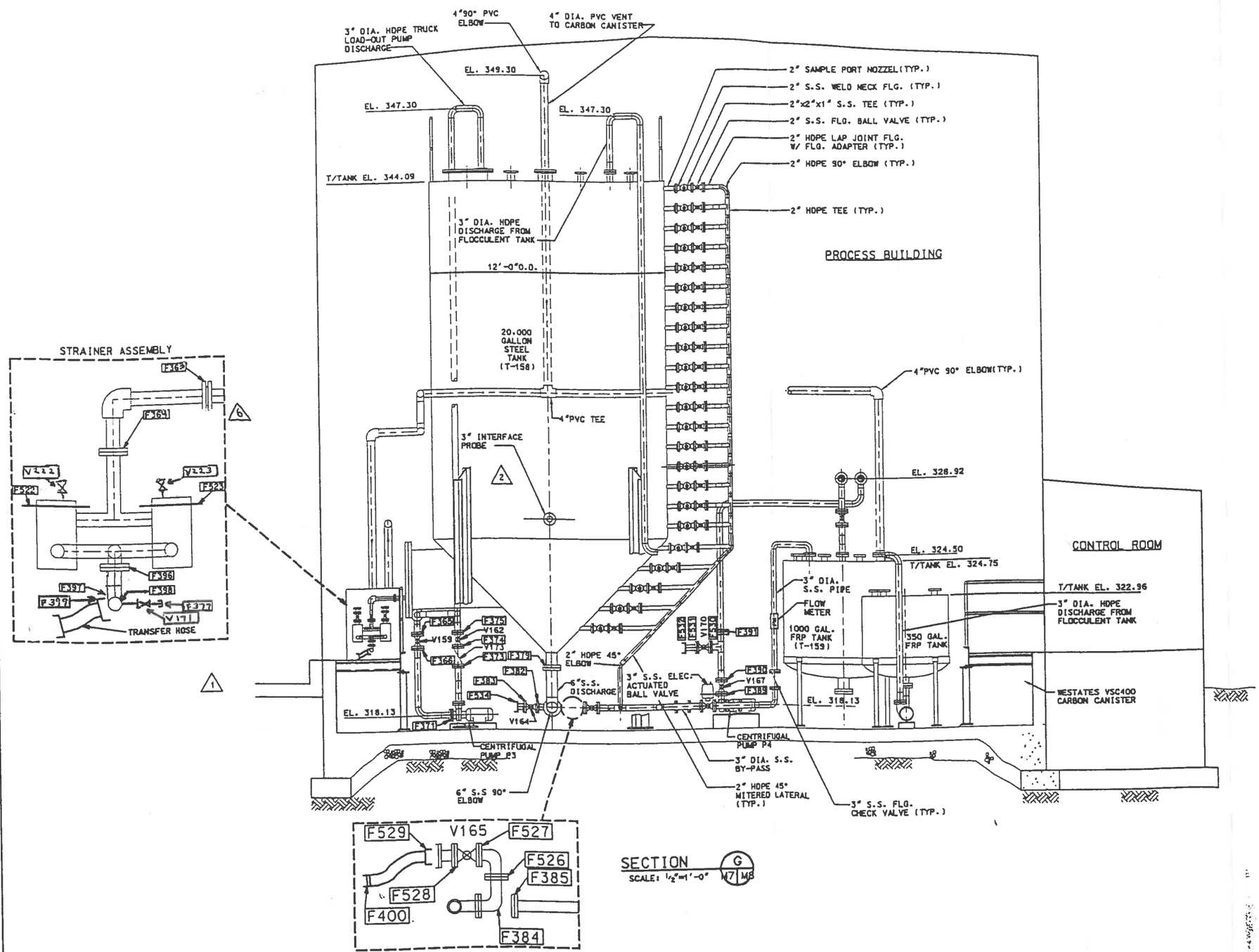
DRAWING TITLE

OIL/WATER SEPARATOR BUILDING PIPING PLAN (T-158 AND T-159)

CLIENT DRAWING NUMBER	REV NO.
FIGURE #24 SHEET 1 OF 2	6

NOTES

1. ALL PIPING AND FITTINGS ARE HDPE SDR 11 UNLESS OTHERWISE NOTED.
2. ALL FLANGES ARE 150 lb. , W/ STAINLESS STEEL NUTS & BOLTS
3. PIPE SUPPORT AND HANGERS NOT SHOWN FOR CLARITY



NOTE

WARNING: IT IS A VIOLATION OF ARTICLE 145, SEC. 7209(2) OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS THAT PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN THIS DOCUMENT IN ANY WAY.

REV. NO.	CODE	CIRCLES	DATE	DESCRIPTION	CWM APPROVED
1	Q		7/18/95	CONTAINMENT AREA	
	JWH			DRAIN ADDED	
2	Q		10/18/95	INTERFACE PROBE	
	JWH			ADDED	
3	H		5/21/96	FINAL RECORD REVISION	
	CKF			AS PER WEHRAN	
				Q.A. MARK UPS.	
4	H		1/99	ADDED STRAINER ASSEBLY	
	VPR				
5			9/99	REVISED PUMP P4	
	VPR			DISCHARGE. ADDED F534	
6			5/04	DELETED F520, F521, SWITCH 60	
	JGH			F363 / F364	
				ADDED F377 + V171	
7	JGH				

ISSUE CODE			
A	PRELIMINARY	D	MAT'L PURC.
B	DESIGN	E	BIDS
C	MAT'L T.O.	F	CONST'N
G	NYSDEC REVIEW	H	RECORD DWG.

NOTE: CIRCLE ALL REVISIONS. IDENTIFY WITH DIAMOND. NUMBER AND APPROP. REMOVE ONLY CIRCLE AND APPROV BEFORE NEXT REVISION.

SEAL

SIGNATURE

DATE

DR. JWH	DATE MARCH 95
DSGN.	CWM FILE NUMBER
CK.	
DPE	PER NO. 378-378-10A
CAD FILE NO. r8761m831	SCALE AS NOTED
PROJECT NO. 38761.400	

CWM CHEMICAL SERVICES, LLC
MODEL CITY FACILITY

EARTH TECH

PROJECT TITLE

SUBPART BB COMPLIANCE PROGRAM

DRAWING TITLE

OIL/WATER SEPARATOR BUILDING PIPING PLAN (T-158 AND T-159)

CLIENT DRAWING NUMBER	REV NO.
FIGURE #24 SHEET 2 OF 2	7

APPENDIX B

REGULATORY REQUIREMENTS

APPENDIX B
REGULATORY REQUIREMENTS

Subpart BB 40 CFR 264.1050 through 1079 effective December 21, 1990, applies to owners and operators of facilities that treat, store and dispose of hazardous waste. Through various rule makings, the effective date of these regulations has been extended to December 6, 1996 for the Model City Facility. New York adopted these regulations and added them to the state's RCRA regulations at 6 NYCRR 373-2.28.

B.1 Applicability (§264.1050)

This subpart applies to equipment that contains or contacts hazardous waste with organic concentrations of at least 10 percent by weight that is managed in:

- Units that are subject to RCRA permitting requirements; or
- Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to RCRA permitting requirements.

Equipment that is in vacuum service is excluded from the requirements of parts 264.1050-1060.

B.2 Standards

The requirements of 40 CFR 264.1052 through 1059 and 6 NYCRR 373-2.28 are summarized in the following subsections. This summary provides requirements and exemptions for equipment regulated under Subpart BB.

B.2.1 Pumps In Light Liquid Service (§264.1052)

In light liquid service means that a piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater that 0.3 kilopascals (0.044 psia) at 20^{o} C, the total concentration of the pure component having a vapor pressure greater than 0.3 kPa (0.044 psia) at 20^{o} C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

Each pump in light liquid service must be monitored monthly to detect leaks and visually inspected weekly for indications of liquids dripping from the pump seal. If an instrument reading of 10,000 ppm or greater is measured or there are indications of liquids dripping from the pump seal, a leak is detected.

When a leak is detected, it must be repaired as soon as practicable, but not later than 15 days after detection. A first attempt repair (e.g., tightening the packing gland) must be made no later than 5 days after detection.

B.2.1 A) Exemptions

I) Dual Mechanical Seals With Barrier Fluid

Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements provided:

- Each dual mechanical seal system is:
  - Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
  - Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with 40 CFR 264.1033; or
  - Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.
- The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight; and
- Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, barrier fluid, or both. Each sensor must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure it is functioning properly.

Criteria must be developed that indicates failure of the seal system, the barrier fluid, or both. If there are indications of liquids dripping from the pump seal or the sensor indicates failure based on developed criteria a leak is detected.

When a leak is detected, it must be repaired as soon as practicable, but not later than 15 days after detection. A first attempt repair must be made no later than 5 days after detection .

II) No Detectable Emissions

Any pump designated for no detectable emissions is exempt from the requirements provided the pump:

- Has no actuated shaft penetrating the pump housing;
- Is operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background; and
- Is tested initially and annually for no detectable emissions.

III) Closed-Vent Systems

Any pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal(s) to a control device that complies with 40 CFR 264.1033 is exempt from the requirements.

B.2.1 B) Applicability

Applicable: CWM does have pumps in light liquid service that are regulated under subpart BB.

B.2.2 Compressors (§264. 1053)

Each compressor must be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere. Each compressor seal system shall be:

- Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure; or
- Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with 40 CFR 264/265.1033; or
- Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight and equipped with a sensor that will detect failure of the seal system, barrier fluid, or both. Each sensor must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure it is functioning properly.
Criteria must be developed that indicates failure of the seal system, the barrier fluid, or both. If the sensor indicates failure based on developed criteria a leak is detected.

When a leak is detected, it must be repaired as soon as practicable, but not later than 15 days after detection. A first attempt repair must be made no later than 5 days after detection .

B.2.2.A) Exemptions

I) No Detectable Emissions

Any compressor designated for no detectable emissions is exempt from the requirements provided the compressor:

- Is operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background; and
- Is tested initially and annually for no detectable emissions.

II) Closed-Vent Systems

Any compressor equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with 40 CFR 264.1033 is exempt from the requirements.

B.2.2 B) Applicability

Not Applicable: CWM does not have any compressor that is regulated under subpart BB.

B.2.3 Pressure Relief Devices In Gas/Vapor Service (§264.1054)

In gas/vapor service means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

Except during pressure releases, each pressure relief device (device) must be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background. After each pressure release, the device must be returned to a condition of no detectable emissions and be monitored to confirm the condition, as soon as practicable, but no later than 5 days after the release.

B.2.3.A) Exemptions

I) Closed-Vent Systems

Any device equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with 40 CFR 264.1033 is exempt from the requirements.

B.2.3 B) Applicability

Applicable: CWM does have pressure relief devices in gas/vapor service that are regulated under subpart BB. CWM does not store or transfer hazardous waste in a gaseous state, but there may be a vapor phase above the liquid stored in a tank that could trigger a release from a PRV.

B.2.4 Sampling Connecting Systems (§ 264.1055)

Each sampling connection system must be equipped with a closed purged system or closed-vent system.

Each closed purge system or closed-vent system shall:

- Return the purged hazardous waste stream directly to the hazardous waste process line with no detectable emissions to the atmosphere; or

- Collect and recycle the purged hazardous waste stream with no detectable emissions to the atmosphere; or
- Be designed and operated to capture and transport all the purged hazardous waste stream to a control device that complies with 40 CFR 264.1033.

B.2.4.A) Exemptions

I) In-situ Sampling Systems

In-situ sampling systems are exempt from the requirements.

B.2.4 B) Applicability

Not Applicable: CWM does not have any sampling connecting system that is regulated under subpart BB.

B.2.5 Open-ended Valves or Lines (§ 264.1056)

Each open-ended valve or line must be equipped with a cap, blind flange, plug or second valve. The cap, blind flange, plug or second valve must seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line. Monitoring of open ended valves or lines that are equipped with a cap, blind flange, plug or second valve is not required.

Each open-ended valve or line equipped with a second valve must be operated in a manner such that the valve on the hazardous waste stream end is closed first. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting but must comply with the requirements at all other times.

Open-ended lines such as an air vent line from a storage tank must have a control device to prevent the release of volatile organics.

B.2.5 A) Exemptions

None.

B.2.5 B) Applicability

Applicable: CWM does have open ended valves and lines that are regulated under subpart BB. They are often used for hose connections or as sampling devices. CWM also has tanks with air vent lines (open ended lines) on which a carbon canister is used as a control device.

B.2.6 Valves In Gas/Vapor Service or In Light Liquid Service (§ 264.1057)

Each valve in gas/vapor or light liquid service must be monitored monthly to detect leaks. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter until a leak is detected. If a leak is detected the valve must be monitored monthly until a leak is not detected for two successive months.

When a leak is detected, it must be repaired as soon as practicable, but not later than 15 days after detection. A first attempt repair must be made no later than 5 days after detection .

B.2.6.A) Exemptions

I) No Detectable Emissions

Any valve designated for no detectable emissions is exempt from the requirements provided the valve:

- Has no actuating mechanism in contact with the hazardous waste stream;
- Is operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background; and
- Is tested initially and annually for no detectable emissions.

II) "Unsafe to Monitor"

Any valve that is designated as unsafe-to-monitor is exempt from the requirements provided:

- It is determined that personnel would be exposed to an immediate danger as a consequence of monitoring; and
- A written plan that requires monitoring as frequently as practicable during safe-to-monitor times is followed.

III) "Difficult to Monitor"

Any valve that is designated as difficult-to-monitor is exempt from the requirements provided:

- It is determined that personnel would be elevated more than 2 meters above a support surface;
- The hazardous waste management unit in which the valve is located was in operation before June 21, 1990; and
- A written plan that requires monitoring at least once per year is followed.

B.2.6 B) Applicability

Applicable: CWM does have valves in light liquid service that are regulated under subpart BB. Several valves have been designated Unsafe to Monitor and Difficult to Monitor (see Appendix E).

B.2.7 Pumps and Valves In Heavy Liquid Service, Pressure Relief Devices In Light Liquid or Heavy Liquid Service, Flanges and Other Connectors (§264.1058)

In heavy liquid service means that the piece of equipment is not in gas/vapor service or light liquid service.

Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors must be monitored within 5 days if evidence of a potential leak is found by visual, audible, olfactory or any other detection method. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

When a leak is detected, it must be repaired as soon as practicable, but not later than 15 days after detection. A first attempt repair must be made no later than 5 days after detection.

B.2.7 A) Exemptions

None.

B.2.7 B) Applicability

Not Applicable: CWM does not have any equipment that is routinely in heavy liquid service. (See section on T-107 and SLF 7 leachate). CWM does not have pressure relief devices in liquid service that are regulated under subpart BB.

Applicable: CWM does have flanges and other connections that are in light liquid service and thus are regulated under subpart BB.

B.2.8 Delay of Repairs (§ 264.1059)

Delay of repair of equipment for which leaks have been detected is allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. Repair of this equipment must occur before the end of the next hazardous waste management unit shutdown.

Delay of repair is allowed for valves provided:

- The emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay; and
- When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 264.1033.

Delay of repair is allowed for pumps provided:

- Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and
- Repair is completed as soon as practicable, but not later than six months after detection.

Delay of repair beyond a hazardous waste management unit shutdown is allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted and assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown is not allowed unless the next hazardous waste management unit shutdown occurs sooner than six months after the first hazardous waste management unit shutdown.

B.3 Alternative Standards for Valves in Gas/Vapor or in Light Liquid Service

An owner/operator may elect to have all valves subject to the requirements within a hazardous waste management unit comply with an alternative standard. The requirements of 40 CFR 264.1061 and 1062 are summarized in the following subsections. This summary provides alternative requirements for valves in gas/vapor service or in light liquid service regulated under Subpart BB.

B.3.1 Percentage of Valves Allowed to Leak (§ 264.1061)

The owner/operator may elect to comply with the alternative standard of allowing 2 percent of valves to leak provided:

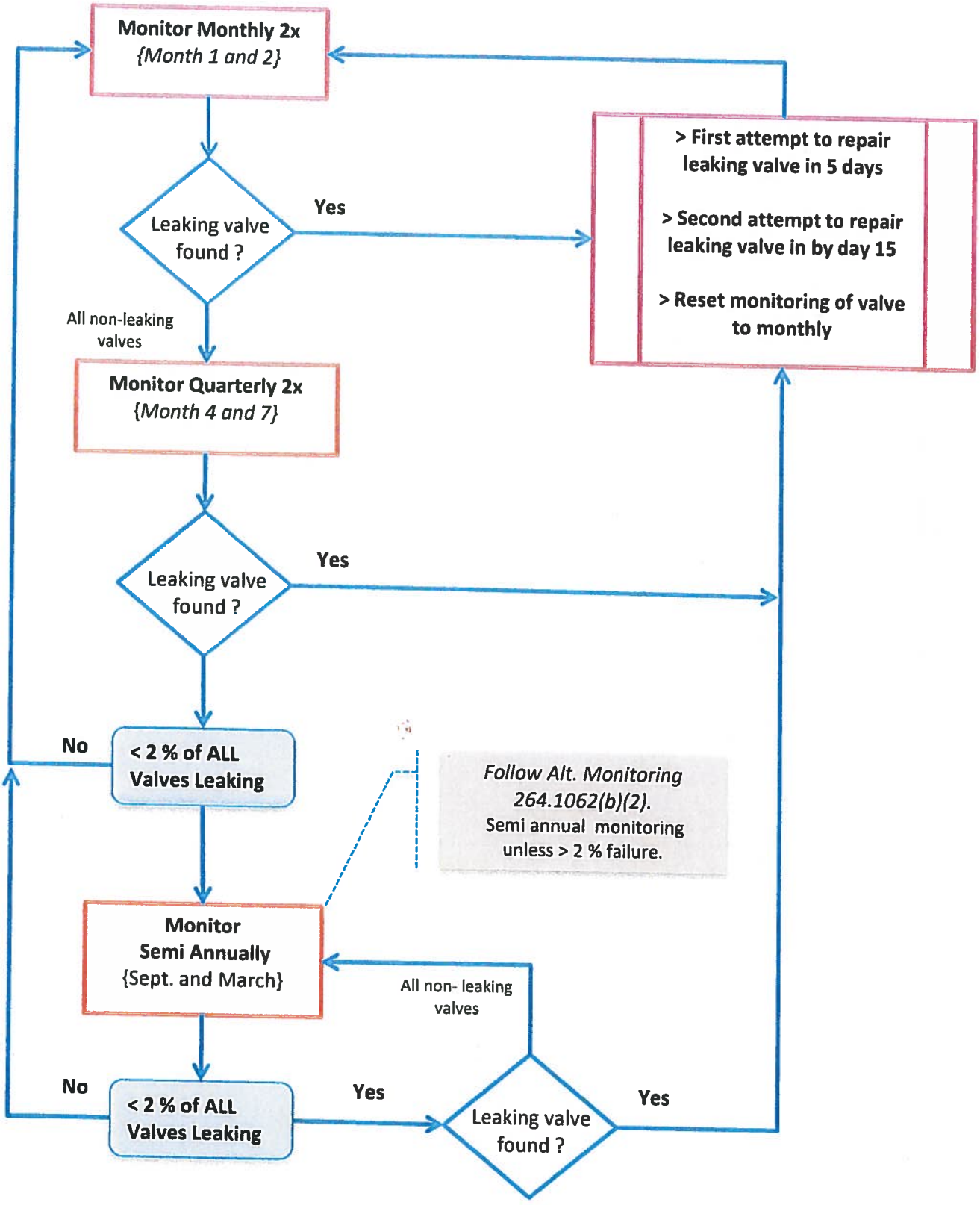
- The Regional Administrator is notified of the election of this alternative standard;
- A performance test is conducted initially upon election and annually thereafter; and
- When a leak is detected, it must be repaired as soon as practicable, but not later than 15 days after detection. A first attempt repair must be made no later than 5 days after detection.

I) Performance Test

All valves within the hazardous waste management unit and subject to the above requirements must be monitored within a one week time period. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

The leak percentage is determined by dividing the number of valves subject to the requirements for which leaks were detected by the total number subject to the requirement within a hazardous waste management unit. Annual monitoring must demonstrate that <2% of the valves were identified as leaking.

Subpart BB Valve Monitoring



B.3.2 Skip Period Leak Detection and Repair (§ 264.1062)

The owner/operator may elect to comply with one of the following alternative work practices:

- After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner/operator may begin to skip one of the quarterly leak detection periods for the valves subject to the requirements (e.g. monitor semi-annually); or

- After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner/operator may begin to skip three of the quarterly leak detection periods for the valves subject to the requirements (e.g. monitor annually).

The Regulatory Agency must be notified of the election before implementing one of the alternative work practices. CWM notified NYS DECthat they would be using this alternative

If the percentage of valves leaking is greater than 2 percent, the owner/operator must monitor monthly in compliance with the standard requirements, but may again elect to use one of the alternative work practices.

B.4 Test Methods (§ 264.1063)

The owner/operator subject to the requirements of Subpart BB must comply with the test methods and procedures provided in this section.

B.4.1 Monitoring

Leak detection monitoring, as required, must comply with the following:

- Monitoring shall comply with Reference Method 21 (40 CFR Part 60, Appendix A);
- Detection instrument must meet the performance criteria of Method 21;
- The instrument probe must transverse around all potential leak interfaces as close as possible;
- The instrument must be calibrated before use on each day of its use using procedures specified in Method 21; and
- The calibration gases must be:
  - Zero air (less than 10 ppm of hydrocarbon)
  - Mixture of methane or n-hexane and air at a concentration equal to the leak definition concentration.

In addition to the above requirements, when equipment is tested for no detectable emissions the following also apply:

- The background level shall be determined in accordance with EPA Method 21;
- The arithmetic difference between the maximum concentration detected and the background level must be less than 500 ppm to indicate compliance.

B.4.2 Identification of Equipment

Determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using one or more of the following:

- Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85; or
- Method 9060 (TOC) or 8260 of SW-846; or
- Application of knowledge.

B.4.3 Type of Service

The determination if pumps or valves are in light liquid service depends on the vapor pressure of the constituents. The vapor pressures may be obtained from standard reference texts or by ASTM D-2879-86.

B.5 Recordkeeping (§ 264/265.1064)

For each piece of equipment to which Subpart BB applies the owner/operator must record the following information:

- Equipment identification number;
- Hazardous waste management unit;
- Location within the facility;
- Type of equipment;
- Percentage-by-weight of total organics in the hazardous waste stream at the equipment;
- Hazardous waste state at the equipment; and
- Method of compliance with the standard.

This document contains the required information.

B.5.1 Leaks

When a leak is detected, a weatherproof and readily visible identification must be attached to the leaking equipment. The identification must be marked with the equipment identification number, date evidence of a potential leak was found and the date the leak was

detected. The identification on equipment, except on a valve, may be removed after it has been repaired. The identification on a valve may be removed after it has been monitored for 2 successive months with no leaks. When each leak is detected the following information must be recorded in an inspection log and kept in the facility operating record:

- The instrument and operator identification numbers;
- Equipment identification number;
- Date evidence of potential leak was found;
- Date leak was detected;
- Date and method of repair attempts;
  - "Above 10,000", if instrument reading after each repair attempt is greater than or equal to 10,000 ppm;
- "Repair delayed" and reason if leak is not repaired within 15 days of detection;
  - Documentation supporting delay of repair of a valve;
  - Signature of designate whose decision it was that repair could not be effected without hazardous waste unit shutdown;
  - Expected date of successful repair; and
- Date of successful repair.

These records need to be kept in the Operating Record until the closure of the facility (6 NYCRR 373-2.5)

B.5.2 Exemptions and Alternative Standards

The following information for all equipment subject to exemptions or alternative standards must be recorded in a log that is kept in the facility operating record:

A) Pressure Relief Devices

- Identification numbers for pressure relief devices

B) Equipment In Vacuum Service

- Identification numbers of equipment in vacuum service

C) No Detectable Emissions

- Identification numbers of equipment designated as no detectable emissions;
- Signature of owner/operator on the designation of the equipment;
- Date of each compliance test;
- Background level measured during compliance test; and
- Maximum instrument reading during compliance test.

D) "Unsafe to Monitor" and "Difficult to Monitor"

- Identification numbers of valves designated as "unsafe or difficult to monitor";
- Explanation of reason valve is unsafe or difficult to monitor; and
- Plan for monitoring each valve.

E) Skip Period Leak Detection

- Schedule of monitoring; and
- Percent of valves found leaking during each monitoring period.

F) Dual Mechanical Seal with Fluid Barrier System

- Criteria developed that indicates failure of the seal system, barrier fluid system or both;
- Explanation of design criteria; and
- Changes to criteria.

This document contains the required information.

B.5.3 Applicability

The following information for use in determining exemptions and applicability must be recorded in a log that is kept in the facility operating record:

- Analysis determining the design capacity of the hazardous waste management unit;
- Statement listing the hazardous waste influent and effluent from each hazardous waste treatment unit;
- Analysis determining whether hazardous wastes are heavy liquids;
- Up-to-date analysis and the supporting information and data used to determine if equipment is subject to the requirements (e.g., 10 percent organics).

B.6 Reporting Requirements (§ 264/265.1065)

A semiannual report must be submitted to the NYS DEC **only if leaks from valves, pumps and compressors are not repaired by the regulations**. The report must contain the following information:

- EPA identification number, name and address;
- Identification number of each valve, pump and compressor per month for which a leak was not repaired;
- Date of hazardous waste management unit shutdowns; and
- Dates for each month that a control device exceeded or operated outside design specifications and was not corrected within 24 hours, duration and cause of exceedance, and any corrective measures taken.

APPENDIX C

AFFECTED EQUIPMENT AND CALCULATIONS TO DETERMINE TYPE OF SERVICE

OBJECTIVE:

The objective of this section is to analyze all background data obtained for this compliance program and to identify all affected equipment.

REFERENCES:

1. Chemical analyses for SLF 1-6 leachate.

2. Chemical analysis for other landfill leachate and other site waste streams with potential for 10% or greater organics.

3. "Handbook of Environmental Data for Organic Chemicals", Second Edition by Karel Verschueren, 1983.

BACKGROUND:

Site visits were performed to collect data and to inspect the site. SLF 1-6 leachate data was utilized for the initial evaluation since it contains the largest percentage of organic content of any site landfills and represents the worst case. Chemical constituent data for light oil, heavy oil, and aqueous phases were gathered for the period starting 11/14/91, and ending on 10/29/93. Phase percentage data were gathered for dates between 10/14/91 and 12/16/93. Data for volumes removed were also recorded in that period. All data collected has been reduced to the summary tables attached to this appendix. This data is representative of the past, current and future characteristics of this leachate.

INTITIAL DETERMINATION:

The first step is to identify if the leachates from SLF 1-6 landfill contained organic concentrations of at least 10% by weight. Chemical constituent data for light oil, heavy oil, and aqueous phases are summarized in the attached data tables. Equipment in contact with the heavy oils can firmly be classified as affected. As some samples in the light oils were found to contain greater than 10% organics, all equipment in contact with the light oils have been classified as affected. Based on the analytical data, the aqueous phase does not exceed the 10% limit. CWM will therefore exercise care in achieving effective phase separation in the SLF 1-11 Oil/Water Separator (OWS) tank T-158, so that all downstream aqueous tanks, including the entire Aqueous Wastewater Treatment System, will not be classified as affected equipment.
Determination of affected equipment is based on analytical results, process knowledge and from the information supplied by the Environmental Monitoring Department. Only the leachate manholes and standpipes that contain greater than 10% oil, i.e., organics, are affected units. All tanks containing mixed (oil and aqueous) leachate prior to phase separation are affected units. The SLF 1-11 OWS tank T-158, and fuels operations are also affected. The following equipment have been identified as affected.

1. All manholes, cleanouts and certain standpipes in SLF 1-6 landfill.
2. Some standpipes in SLF 7, SLF 10 and SLF 11 landfills.
3. Certain manholes in SLF 7, SLF 10 and SLF 11.

4. Tanks T-105, T-130, T-107, T-108, T-109, T-110, T-111 and T-158.
5. Fuels drum bulking operation and tanker to tanker transfer operation.

The second step is to validate that the waste streams are considered to be in light liquid service. As an example, for the heavy oils from SLF 1-6 leachate, methylene chloride is present at concentrations greater than 20% by weight. The vapor pressure of methylene chloride at 20 ^{o}C is calculated as follows:

349 mmHg x (1 atm/760 mmHg) x (1.013 x 10^5 Pa/atm) x (1 kPa/1000 Pa) = 46.5 kPa

Since the vapor pressure of methylene chloride is greater than 0.3 kPa at 20 ^{o}C and it is present at concentrations greater than 20% by weight, the heavy oils are classified as light liquid. Similarly, the light oils from the SLF 1-6 leachate are classified as light liquid. Vapor pressure analysis of the organic components from the affected units of the other landfill leachates and for the fuels operations yield similar results and are also classified as light liquid.

REASSESSMENT IN 2014:

SLF 7 Leachate (L30, Manhole M-7 and T-107)

Leachate from SLF 7does not have an oil phase. The TOC concentration is between 0.68 and 0.71% (well under 10%) based on sampling of T-107 performed in 2012 for the OBG WWT assessment project. Historically, floating paste-like material (believed to be polyurethane with MOCA) has shown up in T-107, If this material was present, the total organic content could be >10%. At "best", thise material would qualify the equipment for heavy (non-volatile) liquid service. While the leachate samples from SLF 7 collected between 10/18/2011 and 7/23/2012 only showed a maximum TOC concentration of 7100 mg/L (0.71%), CWM has chosen to conservatively continue to include this landfill and its equipment in the BB program. It will continue to be consrvatively classified as light liquid.

SLFs 10 and 11

Sampling and analysis performed in 2012 and 2014 was used to re-evaluate the leachate from SLF 10 and 11. Leachate samples taken between 10/18/2011 and 7/23/2012 from the SLF 10 storage tanks were single phased and had TOC values from 1860 and 4800 mg/L (ppm). Standpipe L35 on SLF 10 was sampled on 2/22/14. The sample was single phased and had a TOC value of 296 mg/L (ppm). SLF 10 leachate does not contain >10% organics and has been removed from the BB Compliance Plan. Leachate samples taken between 10/18/2011 and 8/6/2012 from the SLF 11 storage tanks were single phased and had TOC values from 174 and 448 mg/L (ppm). Standpipe L39 on SLF 11 was sampled on 2/22/14. The sample was single phased and had a TOC value of 331 mg/L (ppm).). Standpipe L38 on SLF 11 was sampled on 2/28/14. The sample had a small LNAPL layer (max 6.8%) and had a TOC value of 803 mg/L (ppm). SLF 11 leachate does not contain >10% organics and has been removed from the BB Compliance Plan. Copies of the analytical reports used to delete SLFs 10 and 11 from the program are included in this section.

SLF 1-6
LEACHATE DATA

ORGANIC CONSTITUENT	AQUEOUS 3/15/94	AQUEOUS 10/5/94	AQUEOUS AVERAGE	LIGHT OIL 3/15/94	LIGHT OIL 12/28/94	LIGHT OIL AVERAGE	HEAVY OIL 3/23/94	HEAVY OIL 10/5/94	HEAVY OIL AVERAGE	OVERALL AVERAGE
Acenaphthene			ND			ND			ND	ND
Acenaphthylene			ND			ND			ND	ND
Acetone	1300000	790000	1045000		340000	340000		390000	390000	969665.28
Anthracene			ND		38000	38000		25000	25000	2878.43
Benzene			ND		86000	86000	590000	460000	525000	60250.49
~~Benzo (A) Anthracene~~			~~ND~~			~~ND~~	41000	5700	~~23350~~	2678.66
Benzo (B) Fluoranthene			ND			ND			ND	ND
~~Benzo (K) Fluoranthene~~			ND			ND			ND	ND
~~Benzo (A) Pyrene~~			ND			ND			ND	ND
~~Benzoic acid~~	260000	28000	~~144000~~			~~ND~~	4800000		~~4800000~~	678085.36
Benzyl alcohol	8000	830	4415			ND		76000	76000	12625.84
BHC, Gamma			ND			ND			ND	ND
Bis(2-Chloroethyl)ether			ND			ND			ND	ND
~~Bis(2-Ethylhexyl)phthalate~~			ND		730000	~~730000~~	2800000	3400000	~~3100000~~	355826.15
Bromodichloromethane			ND			ND			ND	ND
Bromoform			ND			ND			ND	ND
2-Butanone (MEK)	760000	720000	740000		980000	980000	1800000	1400000	1600000	838723.41
Butyl Benzyl Phthalate			ND		35000	35000	62000	56000	59000	6778.00
Carbon Disulfide			ND			ND		220000	220000	25237.87
Carbon Tetrachloride			ND		250000	250000	690000	560000	625000	71767.54
4-Chloroaniline			ND			ND			ND	ND
Chlorobenzene	6000		6000		2200000	2200000	5400000	4200000	4800000	556562.07
Chloroform	15000	12000	13500		570000	570000	2300000	1400000	1850000	224332.55
Chloromethane			ND			ND			ND	ND
2-Chlorophenol			ND			ND			ND	ND
~~4-Chloro-3-Methylphenol~~			ND			ND			ND	ND
~~Chrysene~~			ND			ND			ND	ND
DDT, 2,4-			ND			ND			ND	ND
3,3'-Dichlorobenzidine			ND			ND			ND	ND
Dibenzofuran			ND			ND			ND	ND
1,1-Dichloroethane			ND		88000	88000	360000	240000	300000	34439.58
1,2-Dichloroethane			ND		200000	200000	450000	240000	345000	39632.80
1,1-Dichloroethene			ND			ND		67000	67000	7686.08
1,2-Dichloroethene (Total)			ND			ND	130000	180000	155000	17781.23
1,2-Dichlorobenzene			ND			ND	4600000	3100000	3850000	441662.75
1,3-Dichlorobenzene			ND			ND	150000	96000	123000	14110.26
1,4-Dichlorobenzene			ND			ND	1400000	830000	1115000	127910.12
trans-1,2-Dichloroethene			ND			ND			ND	ND
trans-1,3-Dichloropropane			ND			ND			ND	ND
Diethyl Ether			ND			ND			ND	ND
Diethylphthalate	190		190		90000	90000	45000	110000	77500	9083.62
~~Dimethylphthalate~~			ND			ND	46000		~~46000~~	5277.01
2,4-Dimethylphenol			ND			ND		150000	150000	17207.64
~~Di-n-Butylphthalate~~			ND		340000	~~340000~~	300000	380000	~~340000~~	39097.88
Di-n-Octyl phthalate			ND			ND			ND	ND
Endosulfan I			ND			ND			ND	ND
Ethylbenzene			ND		1600000	1600000	3700000	3900000	3800000	436368.74
2-Ethylnaphthalene (a)			ND			ND			ND	ND
Fluoranthene			ND			ND		8300	8300	952.16
Fluorene			ND			ND			ND	ND
Hexachlorobenzene			ND			ND	750000	850000	800000	91774.08
Hexachlorobutadiene			ND			ND	680000	260000	470000	53917.27
Hexachloroethane			ND			ND	130000		130000	14913.29
2-Hexanone			ND			ND	260000		260000	29826.58
Isophorone	2400		2400			ND			ND	2124.01
Methanol			ND			ND			ND	ND
Methylene Chloride	380000	400000	390000		5400000	5400000	15000000	13000000	14000000	1952690.09
2-Methylnaphthalene			ND			ND	360000	190000	275000	31547.34
2-Methylphenol		2000	2000			ND		27000	27000	4867.39
4-Methyl-2-pentanone	120000	73000	96500		1700000	1700000	3200000	1700000	2450000	366930.70
~~4-Methylphenol~~	13000	3700	8350			ND		160000	~~160000~~	25744.62
Naphthalene			ND		1100000	1100000	320000	210000	265000	30703.95
n-Nitrosodiphenylamine			ND			ND			ND	ND
PCB 1016			ND			ND			ND	ND
PCB-1242	220	1600	910		4100000	4100000	61000000	16000000	~~38500000~~	4418565.12
PCB-1248			ND			ND			ND	ND
PCB-1254			ND		1400000	1400000			ND	386.64
PCB-1260		140	140			ND		1700000	1700000	195143.82
Pentachlorophenol			ND			ND		29000	29000	3326.81
~~Phenol~~	430000	240000	335000		490000	490000	3600000	1400000	~~2500000~~	583406.40
Phenanthrene			ND		98000	98000	46000	96000	71000	8172.01
~~Pyrene~~			ND			~~ND~~		10000	~~10000~~	1147.18
1,1,2,2-Tetrachloroethane	30000	22000	26000		6800000	6800000	11000000	11000000	11000000	1286781.67
Tetrachloroethene	3600	3400	3500		4100000	4100000	14000000	15000000	14500000	1667634.96
Toluene	20000	17000	18500		6500000	6500000	20000000	21000000	20500000	2369878.44
1,2,4-Trichlorobenzene	480		480		4800000	4800000	16000000	5900000	10950000	1257908.09
1,1,1-Trichloroethane	28000	20000	24000		6300000	6300000	19000000	25000000	22000000	2546767.13
1,1,2-Trichloroethane	3800		3800		290000	290000	1000000	510000	755000	90054.90
Trichloroethene	51000	47000	49000		12000000	12000000	37000000	41000000	39000000	4520665.59
2,4,5-Trichlorophenol			ND			ND		140000	140000	16060.46
2,4,6-Trichlorophenol			ND			ND		70000	70000	8030.23
Vinyl Chloride			ND			ND		17000	17000	1950.20
Xylenes (Total)	3300	3400	3350		8900000	8900000	20000000	17000000	18500000	2127698.20

All concentrations expressed in ug/l

FLOW BASIS

1994 Leachate Flow Data

	Gallons	% of Flow
AQUEOUS	205094	0.89
LIGHT OILS	64	0.00
HEAVY OILS	26585	0.11
TOTAL	231743	1.00

Date Printed: 04/03/13 Chemical Waste Management, Inc. Profile #

GENERATOR'S WASTE PROFILE SHEET MDC X00024

(_) Check here if this is a Recertification LOCATION OF ORIGINAL CWM MODEL CITY FACILITY

A/B WASTE GENERATOR AND CUSTOMER INFORMATION

1. Generator Name: CWM CHEMICAL SERVICES LLC Generator USEPA ID: NYD049836679

2. Generator Address: 1550 BALMER RD Billing Address:
(X) Same

PO BOX 200

MODEL CITY NY 14107-0200

3. Technical Contact/Phone:

4. Alternate Contact/Phone: Billing Contact/Phone:

C. WASTE STREAM INFORMATION

1a Process Generating Waste: OIL/WATER SEPARATION OF BIPHASED LEACHATE IN T-158
1b Waste Name: ORGANIC PHASE/OIL CONTAINING PCBS
1c Color : VARIES
1d Strong Odor:(X);describe:Mild
1e Physical State @ 70F: Solid(_) Liquid(X) Both(_) Gas(_) 1f Single Layer (X) Multilayer (_)
1g Free liq. range: 99 to 100% Gravity: _____ to _____ Viscosity: ___ BTU/lb: _____ to _____
1h pH: Range .0 or Not applicable (X)
1i Liquid Flash Point: < 73F (_) 73-99F (_) 100-139F (_) 140-199F (X) >= 200F (_) N.A. (_) Closed Cup (X) Open Cup (_)

2a Is this a USEPA hazardous waste (40 CFR Part 261)? Yes (X) No (_)
2a Identify ALL USEPA listed and characteristic waste code numbers (D,F,K,P,U): D002 D004 D005 D006 D007 D008 D010 D011 D018 D021 D027 D039 D043 F001 F002 F003 F019 F039 U037 State Waste Codes: B003
2b Do underlying hazardous constituents (UHCs) apply (40CFR268.48)?(N)
2d Is the waste predominantly debris subject to the Alternate Debris Standards(40 CFR268.45)? (N)
2e Is the waste predominantly soil subject to the Alternate Soil Treatment Standards(40 CFR268.49)? (N)
2f Does the waste contain asbestos? (N) If yes, is waste Friable(_) Non-Friable(_) or Both(_)
2g Waste contains benzene in concentrations _ _____ ppm. NESHAP?(_)
2h Is waste remediation from a major source of Haz Air Pollutants (Site Remediation NESHAP, 40CFR 63 subpart GGGGG)?(N)
If yes, does the waste contain <500 ppmw VOHAPs at the point of determination?(_)
2i Waste contains PCBs (< >) ≤ 82300 ppm, regulated by 40 CFR 761?(Y)
Are PCBs regulated under SIRS Mega Rule (40 CFR 761,61(a)?(N)

2j CHEMICAL COMPOSITION: List ALL constituents (incl. halogenated organics) present in any concentration and forward analysis

Constituents	Range		Unit Description	
INERTS		to		
ORGANIC PHASE FROM OIL/WATER SEPARATOR	100	to 100	%	
PCBS	622	to 82300	MG/KG	
MERCURY	0.198	to 2.71	MG/KG	
METHYLENE CHLORIDE	0	to 15000	PPM	
1,1,2,2-TETRACHLOROETHANE	0	to 12277	PPM	See attach2
TOTAL COMPOSITION (MUST EQUAL OR EXCEED 100%):		100.000000		

2k Is the waste: Pyrophoric (_) Water-Reactive (_) Shock Sensitive (_) Oxidizer (_) Carcinogen (_) Infectious (_)
Other
2l Is waste Group 1 wastewater or residual under Hazardous Organic NESHAP?(_)
2m Does the waste contain radioactive material? (N) Regulated by NRC?(_) Is radioactive waste NORM?(_)
2n Is the waste a CERCLA (40 CFR 300, Appendx B) or state mandated cleanup?(N)

3a This is a Nonwastewater.
3e Physical Appearance: LIQUID
3f If waste subject to the land ban & meets treatment standards, check here: (_) & supply analytical results where applicable.
3g Tracking Number: 5642484

D. DOT Information and Shipping Volume

D1 Anticipated Annual Volume: 10000 Units: GALLONS Shipping Frequency: WEEK
D2 PACKAGING: Bulk Solid (_) Bulk Liquid (X) Drum (X) Type/Size: DRUMS Other

GENERATOR'S CERTIFICATION

I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of this waste. Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I authorize WM to obtain a sample from any waste shipment for purposes of recertification.

Signature on original profile X00024 _____ _____
Signature Name and Title Date

Date Printed 04/03/13

Profile #
MDC X00024

ATTACHMENT 2

CHEMICAL COMPOSITION: Additional constituents NOT included on page 1 of the Waste Profile

Constituents	Range	Unit Description
TETRACHLOROETHENE	0 to 17772	PPM
TOLUENE	0 to 21000	PPM
1,2,4-TRICHLOROBENZENE	0 to 13300	PPM
1,1,1-TRICHLOROETHANE	0 to 25000	PPM
TRICHLOROETHENE	0 to 45833	PPM
XYLENE	0 to 28000	PPM
COMMENTS	to	
FOR RQ SPILL, CALCULATE USING MAX CONC OF PCBS AND 1# RQ, UNLESS	to	
PCB DATA AVAILABLE. NEXT USE MAX CONC TRICHLOR AND 1# CBS RQ.	to	
RANGES BASED ON 1994 AND 11/96 ANALYSES. FOR CONSTITUENTS <	to	
10,000 PPM, SEE FILE.	to	
BENZO(A)ANTHRACENE	0 to 41	MG/KG
ANTHRACENE	25 to 38	MG/KG

total max 151382
major VOCs 15.1%

LNAPL AQ
340 790-1300 mg/L
DNAPL
1400-1800 720-760
1400 - 2300
3700 - 3900
755 - 1000

9340 mg/L (ppm)

Acetone
MEK
Chloroform
Ethyl benzene
1,1,2-TCA

Date Printed 04/03/13

Profile #
MDC X00024

Identify ALL Characteristic and Listed USEPA hazardous waste numbers that apply (as defined by 40 CFR 261). For each waste number, identify the subcategory (as applicable, check none, or write in the description from 40 CFR 268.41, 268.42, and 268.43).

REF #	A. US EPA HAZARDOUS WASTE CODE(S)	B. SUBCATEGORY Enter the subcategory description. If not applicable, simply check none		C. APPLICABLE TREATMENT STANDARDS			D. HOW MUST THE WASTE BE MANAGED?
				PERFORMANCE-BASED: Check as applicable		SPECIFIED TECHNOLOGY: If applicable enter the 40 CFR 268.42 table 1 treatment code(s)	
		DESCRIPTION	NONE	268.41(a)	268.43(a)	268.42	Enter letter from below
1	D002	Non-CWA, Non-Class 1 managed corrosive char. wastes				DEACT	A
2	D004	NON-CWA, NON-CLASS 1 MANAGED					A
3	D005	NON-CWA, NON-CLASS1 MANAGED					A
4	D006	NON-CWA, NON-CLASS 1 MANAGED					A
5	D007	NON-CWA, NON-CLASS 1 MANAGED					A
6	D008	NON-CWA, NON-CLASS 1 MANAGED					A
7	D010	NON-CWA, NON-CLASS 1 MANAGED					A
8	D011	NON-CWA, NON-CLASS 1 MANAGED					A
9	D018	Non CWA, NON-CLASS 1 MANAGED					A
10	D021	Non CWA, NON-CLASS 1 MANAGED					A
11	D027	Non CWA, NON-CLASS 1 MANAGED					A
12	D039	Non CWA, NON-CLASS 1 MANAGED					A
13	D043	Non CWA, NON-CLASS 1 MANAGED					A
14	F001		X				A
15	F002		X				A
16	F003		X				A
17	F019		X				A
18	F039		X	X	X		A
19	U037		X		X		A

Management under the land disposal restrictions:

A. RESTRICTED WASTE REQUIRES TREATMENT

A.1 RESTRICTED WASTE REQUIRES TREATMENT TO ALTERNATE SOIL STANDARDS

B.1 RESTRICTED WASTE TREATED TO 268.40 STANDARDS

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UHCS

B.5 RESTRICTED WASTES TREATED TO ALTERNATE SOIL STANDARD

B.6 RESTRICTED WASTES TREATED TO ALTERNATE DEBRIS STANDARD

C. RESTRICTED WASTE SUBJECT TO A VARIANCE

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT

E. NOT CURRENTLY SUBJECT TO LAND DISPOSAL RESTRICTIONS

Date Printed 04/03/13

Profile #
MDC X00024

E. TRANSPORTATION INFORMATION

a. Is this a DOT Hazardous Material? Yes X No _

b. Proper Shipping Name. . . . . .: RQ, NA3082, HAZARDOUS WASTE, LIQUID, N.O.S.

and Additional Description if required: (MULTISOURCE LEACHATE, POLYCHLORINATED BIPHENYLS)

(MARINE POLLUTANT)

c. DOT Regulations: North America Hazard Class: 9 Misc.Hazardous Mat'l I.D. NA3082 Packing Group: III
2nd Haz Cls : ____

c. CERCLA Reportable Quantity (RQ) and units (Lb, Kg): 1 Lb

e. Non-Bulk code 203 Bulk code 241

f. Special Provisions IB3 T2 TP1 ___ ___ ___

g. Labels Required CLASS 9

F. SPECIAL HANDLING INFORMATION

_ Material Safety Data Sheets Attached

G. OTHER INFORMATION

H. CHEMICAL WASTE MANAGEMENT CERTIFICATION

Chemical Waste Management, Inc. has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Date Printed 04/03/13

Profile #
MDC X00024

MISCELLANEOUS PROFILE FIELDS

Selling Region Lab: MRL
Master Profile No.: _____
Sales Office. . . : MDC
Location Orig. . .: MDC
Profile Expires . : 12/28/13
Approved. . . . . : 12/28/11
Signed Profile Present: Y Change Pending: N Waste Status: A
Site (DCS) Status: 1 APPROVED FOR SERVICE
Prof. Tracking No: 5642484

Fuels Approval.: _
Pumpable Liquid Exact: ___ % OR Range: ___ - ___ %
Type of Pump. .: _____
Additional Anticipated Vol: _____ Per: _ Unit Code/Des: ___ _____

Handling Codes: 9 3-0-0 _____ 1 FINGERPRINT _____
__ _____ 02 Contains PCB _____
__ _____ __ _____

EPA Data: Status Code: C Tax Code. .: _
Permit No: _____ Expr. Date.: _____ Volume. . .: _____
Certificate of Destruction or Disposal Required ? Y Project # : _____
DOT Properties: Inhalation: _ Dermal: _ Oral: _ Flammable: _ Health: _

Percent Taxable: _____ No. of Labels. . .: __
Transhipment Dest .: ___ Download Generator: 1119792
Material Class.: _ DCS Generator #...: 3782104668
Treatment Codes: T50 ___ ___ ___ ___ ___
Process Codes .: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
Schedule Category : OTRD
Schedule Interval : _____
Listed Solvent Waste: _ Hal. Org. Compounds.: _ RCRA Reactive. . . .: _
Etiologic. . . . . .: _ Water Reactive . . .: _ Pesticide Mfg. Waste: _
Ignition Screen : ___ Gas Evolution : ___ Wet Zone . . . . . .: _
Self-heating cube sz ____ Vapor Concentration _____ Boiling Point F ___
Is Gas Ignitable? _ Corrosive to Steel or Aluminum _ Organic Peroxide _
Chemical Family Name _____

GENERATOR FROM PAGE 1

Business Name	USEPA ID	Rltn	Contract in Place	at	Expires on	Evergreen Contract
CWM CHEMICAL SERVICES LLC	NYD049836679	G	_	___	_____	_

ADDITIONAL BUSINESSES

Business Name	USEPA ID	Rltn	Contract in Place	at	Expires on	Evergreen Contract
CWM CHEMICAL SERVICES LLC	NYD049836679	I	Y	MDC	_____	Y

ADDITIONAL PROFILE COMMENTS

Cat	Comment	Cat	Comment
DHW	PCB CONT OIL FRM OIL SEPARATRS	GEN	ORIGIN TYPE 5.
PSC	REVIEWED FOR PHASE II LDR.	PSC	CARCINOGEN: CONTAINS LEAD, AS,CD,BENZENE, VINYL
PSC	CHLORIDE, CHROMIUM	PSC	UHCs WILL BE MONITORED BY PTA.

SUPPLEMENTAL FIELDS

Field	Value
UHC	MONITORED BY PTA
SUBCC	Y-CWM DETERMINED
SUBC1	>500 PPM
SUBC2	INCIN
FRMCD	W219
DSPCD	(B) PCB FUELS
WAPT1	FPRINT
SRCCD	G26
TPCD1	H141
TPCD2	H129

Date Printed 4/03/13

Profile Change History

Profile # MDC X00024

This section lists comments describing changes made to the profile.

Profile Change Comments	Date	User
MRL/X00024 Core Profile Info copied to MDC/X00024	1/09/96	WM0766ADA
REVIEWED FOR APPROVAL	1/09/96	WM0766ADA
MRL/X00024 Change Log copied to MDC/X00024	1/09/96	WM0766ADA
MRL/X00024 Core Profile Info copied to MDC/X00024	11/12/97	WM0766ACO
FIXED PCB CONTENT	11/12/97	WM0766ACO
MRL/X00024 Change Log copied to MDC/X00024	11/12/97	WM0766ACO
MRL/X00024 Core Profile Info copied to MDC/X00024	12/09/97	WM0766DEE
MDC RECERT	12/09/97	WM0766DEE
MRL/X00024 Change Log copied to MDC/X00024	12/09/97	WM0766DEE
MRL/X00024 Core Profile Info copied to MDC/X00024	3/17/99	WM0766JAK
TRI	3/17/99	WM0766JAK
MRL/X00024 Change Log copied to MDC/X00024	3/17/99	WM0766JAK
MRL/X00024 Core Profile Info copied to MDC/X00024	7/26/99	WM0766PAG
MRL/X00024 Change Log copied to MDC/X00024	7/26/99	WM0766PAG
MRL/X00024 Core Profile Info copied to MDC/X00024	2/22/00	WM0766JAK
added chem comp conc ranges	2/22/00	WM0766JAK
MRL/X00024 Change Log copied to MDC/X00024	2/22/00	WM0766JAK
MRL/X00024 Core Profile Info copied to MDC/X00024	9/07/00	WM0766JAK
clarified process	9/07/00	WM0766JAK
MRL/X00024 Change Log copied to MDC/X00024	9/07/00	WM0766JAK
MRL/X00024 Core Profile Info copied to MDC/X00024	9/07/00	WM0766JAK
deleted all codes except F039	9/07/00	WM0766JAK
MRL/X00024 Change Log copied to MDC/X00024	9/07/00	WM0766JAK
MRL/X00024 Core Profile Info copied to MDC/X00024	5/12/03	WM0766JAK
added 2 PACs based on 94 analysis	5/12/03	WM0766JAK
MRL/X00024 Change Log copied to MDC/X00024	5/12/03	WM0766JAK
MRL/X00024 Core Profile Info copied to MDC/X00024	10/11/07	DHARTMAN
Correction after update	10/11/07	DHARTMAN
MRL/X00024 Change Log copied to MDC/X00024	10/11/07	DHARTMAN
MRL/X00024 Core Profile Info copied to MDC/X00024	10/11/07	WM0766ADA
MDC APPRVOAL	10/11/07	WM0766ADA
MRL/X00024 Change Log copied to MDC/X00024	10/11/07	WM0766ADA
MRL/X00024 Core Profile Info copied to M/DCX000	10/07/09	WM0766ADA
MDC APPROVAL	10/07/09	WM0766ADA
MRL/X00024 Change Log copied to M/DCX000	10/07/09	WM0766ADA
MRL/X00024 Core Profile Info copied to M/DCX000	2/08/12	WM0766JAK
added waste codes from WT	2/08/12	WM0766JAK
MRL/X00024 Change Log copied to M/DCX000	2/08/12	WM0766JAK
MRL/X00024 Core Profile Info copied to M/DCX000	2/27/12	WM0766JAK
added D002 from list of wastes to O/W sep in 2011	2/27/12	WM0766JAK
MRL/X00024 Change Log copied to M/DCX000	2/27/12	WM0766JAK
MRL/X00024 Core Profile Info copied to M/DCX000	2/27/12	WM0766JAK
deleted D009 per PTA specs	2/27/12	WM0766JAK
MRL/X00024 Change Log copied to M/DCX000	2/27/12	WM0766JAK

Date Printed 4/03/13

Schedule Categories

Profile #
MDC X00024

Category	Description	Container
PTLB	PCB LIQ BULK/INCIN	Tank Trucks

Scheduling Comments

MUST SCHEDULE THROUGH MODEL CITY FUELS MANAGER!

Pricing Comments

Disposal Price
Taxes
Sales tax = %, County
applies to disposal and transportation
Transportation Price
- $225.00 minimum transportation fee
Demurrage
- $85.00 demurrage per hour after the first free hour of loading time
Pricing Conditions
- A $225.00 washout fee will be charge for bulk liquid tanker loads, plus a minimum $850.00 clean out charge if greater than 3% solid or sludge residue remains in tanker after off loading.
- $200.00 minimum disposal fee per, profile per shipment (drummed wastes).
- Surcharge for drums without profile marked on the drum $20/each.
- Discrepant drum charge $3/drum per day after 14 days from notification.
- Drum resample fee - $25/drum.

15.2.2 Complying with Subpart BB

The preceding discussion serves to identify equipment that is subject to Subpart BB. Once such equipment is identified, the next step is to determine how to comply with Subpart BB fugitive emission standards. If a piece of equipment is subject to Subpart BB, fugitive emissions are controlled in several ways:

1. Design standards are imposed in limited circumstances. For example, pumps equipped with a dual mechanical seal system that includes a barrier-fluid system are subject to reduced monitoring requirements. [§§264/265.1052(d)]
2. Inspection requirements are frequently imposed. For example, many pumps must be inspected weekly for indications that liquids are dripping from the seal. [§§264/265.1052(a)(2)]
3. Monitoring requirements are often obligatory. For example, many valves must be monitored monthly to detect leaks. [§§264/265.1057(a)]
4. Unexpected leak detection requires action. In some cases, equipment doesn't have to be inspected or monitored on a routine basis; however, if someone notices that the equipment is leaking, it must be monitored and fixed. [§§264/265.1058(a)]

15.2.2.1 Light liquid service

Because "light" liquids are more likely to produce fugitive organic emissions, equipment handling these types of wastes is subject to more stringent design/inspection/monitoring standards. "*In light liquid service* means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the organic components in the stream is greater than 0.3 kilopascals (kPa) at 20°C, the total concentration of the pure organic components having a vapor pressure greater than 0.3 kilopascals (kPa) at 20°C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions." [§§264/265.1031] EPA noted in guidance that the definition applies only to the organic components of the waste stream—not to nonorganic constituents that meet the vapor pressure criteria (e.g., water). [December 8, 1997; 62 *FR* 64639]

If the equipment contains or contacts a hazardous waste stream that meets the definition above, it is "in light liquid service." If the waste stream doesn't meet all three criteria in the definition, the equipment is "in heavy liquid service."

To help make the light vs. heavy liquid service determination, EPA included guidance in EPA/450/3-89/021, as referenced in Section 15.2.1. According to this document, each organic compound in the waste, its concentration, and its vapor pressure must be known. A complete analysis (e.g., gas chromatography/mass spectroscopy) or engineering estimate should be used to determine the waste stream composition. Vapor pressures for many constituents at 20°C are available in the chemical literature. If the vapor pressure for a particular component is not available, the pure component can be tested using ASTM Method D2879 to determine the vapor pressure. Table 15-2 gives vapor pressures of common solvents for comparison purposes.

15.2.2.2 The LDAR program

In general, Subpart BB is a leak detection and repair (LDAR) program. Inspection and monitoring

Table 15-2: Vapor Pressures of Common Solvents

Solvent	Vapor pressure at 20°C, kPa
Acetone	24.6
Ethanol	5.9
Isopropyl alcohol	4.1
Methanol	12.7
Methyl ethyl ketone	9.4
Methyl isobutyl ketone	2.1
Methylene chloride	45.2
Mineral spirits	0.27
Tetrachloroethylene	1.7
Toluene	5.1
1,1,1-Trichloroethane	2.3
Trichloroethylene	7.8
Xylene(s)	1.3

Source: EPA/450/3-89/021.

Leachate Analytical Data - ~~T-130~~ T-107 SLF 7
AWTS & FacPond Evaluation

CWM Chemical Services, LLC
Model City, NY

January 2012 - rev. 0

SLF 1-11

1110092,95,97.PDF, SLFs tank samples 013112-02C Old Landfill Lea

Parameter	Units	SLF-7 T-107 10/18/2011	SLF-7 T-107 2/1/2012	SLF-7 T-107 7/23/2012
Samples Collected		2		
Samples Required		3		
Conventional/General Water Quality				
Volume	gal	NA	200	
Temperature	°F			
pH	S.U.			
Specific Gravity or Density				
Turbidity				
Sodium, Total	mg/L			
Chloride, Total	mg/L	15100		18900
Calcium, Total	mg/L			
Magnesium, Total	mg/L			
Sulfate, Total (SO4)	mg/L	3680		2980
BOD 5	mg/L			14800
Chemical Oxygen Demand (COD)	mg/L	11500	6780	20400
Nitrogen, Ammonia (As N)	mg/L			
Nitrogen, Kjeldahl, Total	mg/L			
Nitrogen, Organic	mg/L			
Phosphorus, Total	mg/L			
Total Organic Carbon	mg/L	7100		6240
Total Suspended Solids	mg/L	800		1520

max

0.7%

Percent Solids	%				max
Total Dissolved Solids	mg/L	37800		30500	3.78%
Total Petroleum Hydrocarbons (O&G)	mg/L				
Solids Volume or Weight Generated	lbs/d				
Liquid Volume Processed	gpd				
Sulfide	mg/L		<0.200	<0.200	
Volatile Organic Compounds - Purgeables (10)					
Chloromethane	µg/L	<10000	<5000	<50000	
Vinyl Chloride	µg/L	<10000	<5000	<50000	
Bromomethane	µg/L	<10000	<5000	<50000	
Chloroethane	µg/L	<10000	<5000	<50000	
Trichlorofluoromethane	µg/L	<10000	<5000	<50000	
Diethyl ether	µg/L	<10000	<5000	<50000	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	<10000	<5000	<50000	
Acetone	µg/L	180000	56600	177000	180 ppm
1,1-Dichloroethene	µg/L	<10000	<5000	<50000	
Methylene chloride	µg/L	48000	64000	167000	167
Carbon disulfide	µg/L	<10000	<5000	<50000	
trans-1,2-Dichlorethene	µg/L	<10000	<5000	<50000	
1,1-Dichloroethane	µg/L	<10000	<5000	<50000	
Vinyl acetate	µg/L	<10000	<5000	<50000	
2-Butanone	µg/L	99000	49500	179000	179
Ethyl acetate	µg/L	<10000	<5000	<50000	
Chloroform	µg/L	<10000	<5000	<50000	
1,1,1-Trichloroethane	µg/L	<10000	<5000	<50000	
Carbon tetrachloride	µg/L	<10000	<5000	<50000	
1,2-Dichloroethane	µg/L	<10000	<5000	<50000	
Benzene	µg/L	<10000	<5000	<50000	
Trichloroethene	µg/L	<10000	<5000	<50000	
1,2-Dichlropropane	µg/L	<10000	<5000	<50000	
Bromodichloromethane	µg/L	<10000	<5000	<50000	
2-Chloroethylvinyl ether	µg/L	<10000	<5000	<50000	
4-Methyl-2-pentanone	µg/L	<10000	<5000	<50000	
cis-1,3-Dichloropropene	µg/L	<10000	<5000	<50000	

Toluene	µg/L	<10000	5990	<50000	0.599
trans-1,3-Dichloropropene	µg/L	<10000	<5000	<50000	
1,1,2-Trichloroethane	µg/L	<10000	<5000	<50000	
2-Hexanone	µg/L	<10000	<5000	<50000	
Tetrachloroethene	µg/L	<10000	<5000	<50000	
Dibromochloromethane	µg/L	<10000	<5000	<50000	
Chlorobenzene	µg/L	<10000	<5000	<50000	
Ethylbenezene	µg/L	<10000	<5000	<50000	
Xylenes, total	µg/L	<30000	17600	<150000	17.6
Styrene	µg/L	<10000	<5000	<50000	
Bromoform	µg/L	<10000	<5000	<50000	
1,1,2,2-Tetrachloroethane	µg/L	<10000	<5000	<50000	
1,3-Dichlorobenzene	µg/L	<10000	<5000	<50000	
1,4-Dichlorobenzene	µg/L	<10000	<5000	<50000	
1,2-Dichlorobenzene	µg/L	<10000	<5000	<50000	
Semi-Volatile Organic Compounds - Base Acid/Neutrals					
1,2,4-Trichlorobenzene	µg/L	<5000		<5000	
1,2-Dichlorobenzene	µg/L	<5000		<5000	
1,3-Dichlorobenzene	µg/L	<5000		<5000	
1,4-Dichlorobenzene	µg/L	<5000		<5000	
2,4,5-Trichlorophenol	µg/L	<5000		<5000	
2,4,6-Trichlorophenol	µg/L	<5000		<5000	
2,4-Dichlorophenol	µg/L	<5000		<5000	
2,4-Dimethylphenol	µg/L	<5000		<5000	
2,4-Dinitrophenol	µg/L	<25000		<25000	
2,4-Dinitrotoluene	µg/L	<5000		<5000	
2,6-Dinitrotoluene	µg/L	<5000		<5000	
2-Chloronaphthalene	µg/L	<5000		<5000	
2-Chlorophenol	µg/L	<5000		<5000	
2-Methylnaphthalene	µg/L				
2-Methylphenol	µg/L				
2-Nitrophenol	µg/L	<5000		<5000	
3,3´-Dichlorobenzidine	µg/L	<10000		<10000	
4,6-Dinitro-2-methylphenol	µg/L	<25000		<25000	

4-Bromophenyl phenyl ether	µg/L	<5000		<5000
4-Chloro-3-methylphenol	µg/L	<5000		<5000
4-Chlorophenyl phenyl ether	µg/L	<5000		<5000
4-Methylphenol	µg/L			
4-Nitrophenol	µg/L	<25000		<25000
Acenaphthene	µg/L	<5000		<5000
Acenaphthylene	µg/L	<5000		<5000
Anthracene	µg/L	<5000		<5000
Azobenzene	µg/L	<5000		<5000
Benz(a)anthracene	µg/L	<5000		<5000
Benzidine	µg/L	<25000		<25000
Benzo(a)pyrene	µg/L	<5000		<5000
Benzo(b)fluoranthene	µg/L	<5000		<5000
Benzo(g,h,i)perylene	µg/L	<5000		<5000
Benzo(k)fluoranthene	µg/L	<5000		<5000
Benzothiazole	µg/L			
Bis(2-chloroethoxy)methane	µg/L	<5000		<5000
Bis(2-chloroethyl)ether	µg/L	<5000		<5000
Bis(2-chloroisopropyl)ether	µg/L	<5000		<5000
Bis(2-ethylhexyl)phthalate	µg/L	<5000		<5000
Butyl benzyl phthalate	µg/L	<5000		<5000
Carbazole	µg/L	<5000		<5000
Chrysene	µg/L	<5000		<5000
Dibenz(a,h)anthracene	µg/L	<5000		<5000
Dibenzofuran	µg/L	<5000		<5000
Diethyl phthalate	µg/L	<5000		<5000
Dimethyl phthalate	µg/L	<5000		<5000
Di-n-butyl phthalate	µg/L	<5000		<5000
Di-n-octyl phthalate	µg/L	<5000		<5000
Fluoranthene	µg/L	<5000		<5000
Fluorene	µg/L	<5000		<5000
Hexachlorobenzene	µg/L	<5000		<5000
Hexachlorobutadiene	µg/L	<5000		<5000
Hexachlorocyclopentadiene	µg/L	<5000		<5000

Hexachloroethane	µg/L	<5000		<5000
Hexamethylbenzene	µg/L			
Indeno(1,2,3-cd)pyrene	µg/L	<5000		<5000
Isophorone	µg/L	<5000		<5000
Naphthalene	µg/L	<5000		<5000
n-decane	µg/L			
Nitrobenzene	µg/L	<5000		<5000
N-Nitrosodimethylamine	µg/L	<5000		<5000
N-Nitrosodi-n-propylamine	µg/L	<5000		<5000
N-Nitrosodiphenylamine	µg/L	<5000		<5000
n-Octadecane	µg/L			
Pentachlorophenol	µg/L	<25000		<25000
Phenanthrene	µg/L	<5000		<5000
Phenol	µg/L	73000		52000
Pyrene	µg/L	<5000		<5000
Pyridine	µg/L			
PCB Aroclor				
Aroclor 1016	µg/L	<26.0		<26
Aroclor 1221	µg/L	<26.0		<26
Aroclor 1232	µg/L	<26.0		<26
Aroclor 1242	µg/L	152		480
Aroclor 1248	µg/L	<26.0		<26
Aroclor 1254	µg/L	<26.0		<26
Aroclor 1260	µg/L	<26.0		<26

73 ppb

0.152

max organics detected

933.35 ppm

(5) **"Connector"** means flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, "connector" means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

(6) **"Continuous recorder"** means a data-recording device recording an instantaneous data value at least once every 15 minutes.

(7) **"Control device"** means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

(8) **"Control device shutdown"** means the cessation of operation of a control device for any purpose.

(9) **"Distillate receiver"** means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

(10) **"Distillation operation"** means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

(11) **"Double block and bleed system"** means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

(12) **"Equipment"** means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems required by this section.

(13) **"Flame zone"** means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(14) **"Flow indicator"** means a device that indicates whether gas flow is present in a vent stream.

(15) **"First attempt at repair"** means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

(16) **"Fractionation operation"** means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

(17) **"Hazardous waste management unit shutdown"** means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

(18) **"Hot well"** means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

(19) **"In gas/vapor service"** means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

(20) **"In heavy liquid service"** means that the piece of equipment is not in gas/vapor service or in light liquid service.

(21) **"In light liquid service"** means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the organic components in the stream is greater than 0.3 kilopascals (kPa) at 20 degrees C, the total concentration of the pure organic components having a vapor pressure greater than 0.3 kilopascals (kPa) at 20 degrees C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

SLF 7 / T-107

Aqueous leachate (T-107)
0.71 - 0.624% TOC
56.6 - 180 ppm acetone
48 - 167 ppm CH_2Cl_2
49.5 - 179 ppm MEK
ND - 17.6 ppm xylene
<10 ppm other VOCs
max total 543.6 ppm VOCs

semi-vols phenol 52-73 ppm (not volatile)
all others ND <5 ppm

T-107 may contain >10% polyurethane semi solid with 4,4-methylene-bis-(2-chloroaniline) MOCA (not CC, Vp = 9.229×10^{-6} kPa)

PU semi solid w/ MOCA - not light liquid, not even a ~~flow~~ ~~liquid~~ unless it is flowable material summertime.

Methylene-bis (2-chloroaniline) 4,4'-

CAS No. 101144

Physical Properties	Value	R
Molecular Weight (g/mol)	267.15768	TF
Solubility @ 20-25 degC (mg/L)	72.38367	TF
Vapor pressure @ 20-25 degC (mmHG) $\times 0.133 =$ 9.229×10^{-6} kpa	6.93944e-005	TF
Henry's Law constant @ 20 degC	1.400909e-005	TF
Sorption coefficient (log L/kg) Koc	3.8973376581	TF
Octanol-water partition coefficient (log L/kg)	3.4705	TF
Diffusion coefficient in air (cm^2/s)	0.0199	TF
Diffusion coefficient in water (cm^2/s)	5.8e-006	TF

Miscellaneous Parameters	Value	R
Relative bioavailability factor (-)	1	T
Analytical Detection Limits:		
Water (mg/L)	-	-
Soil (mg/kg)	-	-
First-order decay half lives (days):		
Saturated zone	-	
Unsaturated zone	-	-
Soil-to-plant biotransfer factor (0):		
Above ground veg.	-	
Below ground veg.	-	-

Toxicity Data	Value	R
EPA weight of evidence	B2	
Carcinogen	TRUE	
Oral slope factor (1/[mg/kg/day])	0.13	TF
Inhalation unit risk factor (1/[ug/m^3])	3.7e-005	TF
Oral reference dose (mg/kg/day)	0.0007	TF
Inhalation reference conc. (mg/m^3)	-	-

Dermal Exposure	Value	R
Dermal adsorption fraction (-)	0.1	TF
Gastrointestinal adsorption fraction (-)	0.5	TF
Dermal permeability coefficient (cm/hr)	-	-

Lag time for dermal exposure (hr)	-	-
Critical dermal exposure time (hr)	-	
Relative contribution of perm. coeff. (-)	-	

Regulatory Standards	**Value**	**R**
Primary MCL	-	-
Secondary MCL	-	-
Drinking Water MCLs (mg/L):		
Occupational Air PEL/TWA (mg/m^3)	-	-
Surface water quality criteria (mg/L)		
Aquatic life protection: Fresh water biota	-	-
Aquatic life protection: Marine biota	-	-
Human health: Drinking / freshwater fish	-	-
Human health: Fresh water fishing only	-	-
Human health: Salt water fishing only	-	-

LAST UPDATE:

GSI ENVIRONMENTAL

Methylene-bis (2-chloroaniline) 4,4'-

CAS No. 101144

Physical Properties

	Val
Molecular Weight (g/mol)	267
Solubility @ 20-25 degC (mg/L)	72.3
Vapor pressure @ 20-25 degC (mmHG)	6.9
Henry's Law constant @ 20 degC	1.4
Sorption coefficient (log L/kg) Koc	3.8
Octanol-water partition coefficient (log L/kg)	3.4
Diffusion coefficient in air (cm^2/s)	0.0
Diffusion coefficient in water (cm^2/s)	5.8

Miscellaneous Parameters

	Val
Relative bioavailability factor (-)	1
Analytical Detection Limits:	
Water (mg/L)	-
Soil (mg/kg)	-
First-order decay half lives (days):	
Saturated zone	-
Unsaturated zone	-
Soil-to-plant biotransfer factor (0):	
Above ground veg.	-
Below ground veg.	-

Toxicity Data

	Val
EPA weight of evidence	B2
Carcinogen	TRU
Oral slope factor (1/[mg/kg/day])	0.13
Inhalation unit risk factor (1/[ug/m^3])	3.7

Table 15-3: Inspection/Monitoring Requirements for Subpart BB-Regulated Equipment

Equipment type	Inspection/monitoring frequency	Delay of repair allowed?	Exceptions	Regulatory citation
Valves				
In gas/vapor or light liquid service	Monthly: Method 21 portable analyzer[1] Quarterly monitoring[3] Semiannual monitoring[5] Annual monitoring[7,8]	Technical infeasibility[2] Equipment isolation[4] Excessive emissions[6] Depleted valve supplies[9]	Sealless valves [§§264/265.1057(f)] Unsafe to monitor [§§264/265.1057(g)] Difficult to monitor [§§264/265.1057(h)]	§§264/265.1057
In heavy liquid service	5 days after potential leak detection[10]	Same as above		§§264/265.1058
Pumps				
In light liquid service	Monthly: Method 21 portable analyzer[1] Weekly: visual inspection for liquid drippage	Technical infeasibility[2] Equipment isolation[4] Dual mechanical seals[11]	Dual mechanical seals [§§264/265.1052(d)] Sealless pumps [§§264/265.1052(e)] Closed-vent systems [§§264/265.1052(f)]	§§264/265.1052
In heavy liquid service	5 days after potential leak detection[10]	Same as above		§§264/265.1058
Compressors[13]	Check barrier-fluid seal sensor daily	Technical infeasibility[2] Equipment isolation[4]	Closed-vent systems [§§264/265.1053(h)] No detectable emissions [§§264/265.1053(i)]	§§264/265.1053
Pressure-relief devices				
In gas/vapor service	5 days after pressure release[12]	Technical infeasibility[2] Equipment isolation[4]	Closed-vent systems [§§264/265.1054(c)]	§§264/265.1054
In light or heavy liquid service	5 days after potential leak detection[10]	Same as above		§§264/265.1058
Sampling systems	None[13]	NA[13]	In situ systems [§§264/265.1055(c)] Systems without purges [§§264/265.1055(c)]	§§264/265.1055
Open-ended valves or lines	None[13]	NA[13]	None	§§264/265.1056
Flanges and other connectors	5 days after potential leak detection[10]	Technical infeasibility[2] Equipment isolation[4]	Inaccessible or ceramic lined [§§264/265.1058(e)]	§§264/265.1058

[1]An instrument reading of 10,000 ppmv or more indicates a leak.
[2]Repairing equipment is technically infeasible without a hazardous waste unit shutdown. [§§264/265.1059(a)]
[3]Valves that don't leak in two consecutive months may be monitored quarterly. [§§264/265.1057(c)]
[4]Equipment is isolated from the hazardous waste management unit and doesn't contact hazardous waste with ≥10% by weight organics. [§§264/265.1059(b)]
[5]If no more than 2% of valves are leaking during two consecutive quarters, monitoring may be done every six months. [§§264/265.1062(b)(2)]
[6]Emissions due to repair will exceed emissions resulting from delay of repair. [§§264/265.1059(c)]
[7]If no more than 2% of valves are found to be leaking after five consecutive quarters, monitoring may be done annually. [§§264/265.1062(b)(3)]
[8]If no more than 2% of valves are found to be leaking, valves can be tested annually. [§§264/265.1061]
[9]Inadequate repair assemblies are available and next unit shutdown will be within 6 months. [§§264/265.1059(e)]
[10]Potential leak detection occurs if a leak is seen, heard, smelled, or otherwise detected. [§§264/265.1058(a)]
[11]Pumps equipped with dual mechanical seals and barrier fluid must be repaired within 6 months. [§§264/265.1059(d)]
[12]No later than five days after a pressure release, the device must be monitored to confirm no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background using Method 21. [§§264/265.1054(b)(2)]
[13]Compliance achieved via equipment design standards. See referenced regulatory citation for details.
Source: McCoy and Associates, Inc.; adapted from Subpart BB of 40 *CFR* Parts 264 and 265.

4,4'-Methylenebis(2-chloroaniline)

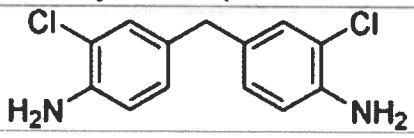
From Wikipedia, the free encyclopedia

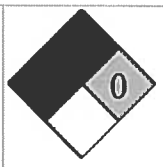
4,4'-Methylenebis(2-chloroaniline) (MOCA, MBOCA, bisamine) is a substance used as a curing agent in polyurethane production.[3] It is a suspected human carcinogen, with a current threshold limit value of 0.01 ppm in the industrial atmosphere. Animal studies have resulted in tumor growth in the liver, lung, and bladder.[1] Employee exposure is often monitored by measurement of urinary MOCA in free and/or conjugated form.[4]

It is a weak base with a slight odor and is reactive to active metals such as sodium, potassium, magnesium and zinc.[1]

References

1. ^ a b c d CDC - NIOSH Pocket Guide to Chemical Hazards (http://www.cdc.gov/niosh/npg/npgd0411.html)

4,4'-Methylenebis(2-chloroaniline)	
	
IUPAC name	
4-[(4-Amino-3-chlorophenyl)methyl]-2-chloroaniline	
Other names	
•4,4'-Methylene-bis(2-chloroaniline) •Cyanaset •Quodorole •Dacpm •Curalin M •Diamet Kh •Millionate M •Bis amine •MOCA •Bisamine S	
Identifiers	
CAS number	101-14-4 ✓
PubChem	7543
ChemSpider	7262
KEGG	C10999
ChEMBL	CHEMBL82846
Jmol-3D images	Image 1 (http://chemapps.stolaf.edu/jmol/jmol.php?model=Clc1cc%28ccc1N%29Cc2ccc%28N%29c%28Cl%29c2)
SMILES	
InChI	
Properties	
Molecular formula	$C_{13}H_{12}Cl_2N_2$
Molar mass	267.15 g mol^{-1}
Appearance	Tan-colored pellets or flakes[1]
Density	1.44 g/cm^3[1]

Melting point	104–109 °C; 219–228 °F; 377–382 K ([2])
Solubility in water	insoluble
Hazards	
NFPA 704	
Flash point	203 °C; 397 °F; 476 K
✓ (verify) (what is: ✓/✗?) Except where noted otherwise, data are given for materials in their standard state (at 25 °C (77 °F), 100 kPa)	
Infobox references	

2. ^ "4,4'-Methylenebis(2-chloroaniline)" (http://www.tcichemicals.com/eshop/en/gb/commodity/M0609). TCI Chemicals. Retrieved March 17, 2014.
3. ^ RTK HSFS 1250 (http://nj.gov/health/eoh/rtkweb/documents/fs/1250.pdf)
4. ^ 4,4'-Methylene bis (2-chloroaniline) Health Guideline (http://www.osha.gov/SLTC/healthguidelines/4-4-methylenebis-2-chloroaniline/index.html), Occupational Safety and Health Administration

MOCA SAFE USE GUIDANCE

FOR THE CASTABLE POLYURETHANE INDUSTRY

Prepared by the

Polyurethane Manufacturing Association

Donald P. Gallo, Esq., Legal Counsel

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September 2010 Revision

APPENDIX I

ENVIRONMENTAL COMPLIANCE ISSUES FOR PROCESSORS USING MOCA

1. Summary

This section provides a brief synopsis of the key federal environmental requirements that apply to a facility using MOCA, including hazardous waste management requirements that govern the generation and management of unreacted, waste MOCA, the Superfund Amendments Reauthorization Act requiring chemical inventory and release reporting, and requirements under the Clean Air Act Amendments of 1990 regarding air emissions. These regulations are intended to control workplace exposures, protect against releases to the environment and provide for community response to any release of MOCA.

EPA and the environmental regulatory agency of the particular state may need to be notified of the use of MOCA, depending upon the processor's annual usage and the maximum amount stored at any point in time during the calendar year. An EPA identification number must be assigned to a facility generating MOCA hazardous waste before offering to ship MOCA hazardous waste for treatment or disposal.

Unreacted MOCA is regulated as a listed, RCRA hazardous waste. Such wastes may not be accumulated on-site for more than 180 days if the facility is regulated as a Small Quantity Generator of hazardous waste, or 90 days if the processor is a Large Quantity Generator. Before transportation, waste MOCA must be packaged, labeled, and placarded according to DOT regulations applicable to listed hazardous wastes.

If the facility is regulated as Large Quantity Generator of hazardous waste, the facility must prepare an Emergency Preparedness and Prevention Plan ("Contingency Plan"), which must filed with the appropriate state regulatory agency. Development of an Emergency Contingency Plan is recommended although not required for Small Quantity Generators of hazardous waste.

In the event of a spill of 10 pounds or more of MOCA to the environment, (i.e., a release to soil, water, groundwater, or an emission to the air), the facility must notify the appropriate state and federal agencies. Some states have more stringent spill reporting requirements, and therefore a spill of less than 10 pounds may still need to be reported to the appropriate state agency.

Facilities that have on hand at any point in time during the calendar year 10,000 pounds or more of MOCA must submit the current Material Safety Data Sheet for MOCA to the State Emergency Response Board, Local Emergency Planning and local fire department. In addition they must submit annual Emergency Planning Fee Statements and either annual Tier I or Tier II Inventory Reports or both, depending upon state regulations, with the Local and State emergency planning agencies.

Special rules apply to laundering items that contain MOCA residues, such as aprons and gloves (see: Laundering regulatory compliance memorandum).

MOCA is listed as a hazardous air pollutant under the federal Clean Air Act. Any air emissions of MOCA must meet the emission standards achieved through the application of the Maximum Achievable Control Technology, yet to be developed by EPA. If the potential exists, for the generation of more than 10 tons of MOCA emissions annually or more than 25 tons of total hazardous air emissions annually, then the facility will be deemed a major source and an operating permit will be required under the federal/state permit program effective between years 1994 through 1998. Most states require minor source permits for emissions of less than 10 tons of hazardous air pollutants but greater than the state-specific threshold level. (See emissions factors from PMA round robin stack testing program report(s)).

The discussion below presents guidance for proper hazardous waste management of unreacted MOCA, laundering items that contain MOCA, complying with inventory and release reporting requirements, and understanding the Clean Air Act regulations applicable to MOCA use.

2. Environmental Regulation of MOCA

MOCA, like hundreds of other industrial chemicals, has been designated by the EPA as a "hazardous substance" in regulations promulgated under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA", also known as "Superfund", *see* the table of CERCLA hazardous substances at 40 CFR 302.4).

MOCA that is disposed of, either as an off-specification, expired or spilled material, or when present in wastes, is regulated as a "listed" hazardous waste in rules promulgated under the Resource Conservation and Recovery Act ("RCRA," *see* 40 CFR 261).

Depending on the quantities of MOCA present at a processor's facility, the polyurethane processor may be subject to hazardous chemical reporting (Tier I or Tier II reporting) and Toxic Chemical Release reporting (Form R) as set forth in regulations promulgated under Title III of the Superfund Amendments Reauthorization Act ("SARA Title III, also known as the Emergency Planning and Community Right-to-Know Act or "EPCRA"). MOCA is also regulated under the Clean Air Act Amendment of 1990.

As a result, MOCA is subject to regulation under various EPA regulatory programs. A castable polyurethane processor is likely to use a number of chemicals classified as "hazardous" by EPA. This document focuses solely upon MOCA; however, a processor should have prepared an integrated environmental compliance program for all hazardous substances used and all hazardous wastes generated.

The Reportable Quantity (RQ) for spill reporting of MOCA as provided at 40 CFR 302.4 is 10 pounds. For purposes of SARA Title III reporting, the Threshold Planning Quantity for MOCA is 10,000 pounds, and the Form R or EPCRA §313 *de minimis* value as specified in 40 CFR 372.38 for MOCA is 1%. In other words, MOCA present in materials containing MOCA at less than 1% is not considered for Form R reporting or when calculating the amount of MOCA spilled for comparison to the RQ. Some states may have more stringent spill reporting requirements.

A more comprehensive discussion of the broad impact of environmental regulations on the use of MOCA in the castable polyurethane industry is dealt with in detail in the PMA's Environmental Regulatory Compliance Manual. Specific regulatory requirements are referenced in the PMA's Environmental Regulatory Compliance Manual and in the PMA's ISO 14000/14001 Environmental Management System template. Also, every MOCA user should review state environmental regulations to determine to what extent, if any, applicable state regulations differ from EPA requirements.

3. RCRA Regulation of Waste MOCA

Normal processing results in little waste MOCA. Once the MOCA is mixed with the prepolymer, an immediate chemical reaction produces polyurethane which is neither a hazardous substance nor a hazardous waste.

a. Hazardous Waste Classification of MOCA

Under the RCRA federal regulatory scheme, MOCA is listed under 40 CFR 261.33(f) as "U158", indicating that MOCA is a hazardous waste whenever it is to be managed as an off-specification commercial chemical product or manufacturing chemical intermediate. Under RCRA regulations, it is the responsibility of the polyurethane processor as the waste generator to determine when a material becomes a waste. Once a material is identified as "off-spec" and no longer suitable for the purpose for which it was intended, it becomes a waste, even where the generator stores the material with the intention of eventually identifying a useful purpose for the off-spec material, a practice referred to by USEPA as "speculative accumulation."

After declaring the material to be a waste, the generator must then determine if that waste is regulated as a "hazardous waste" (40 CFR 262.11). To make this determination, the generator should determine the following:

(a) Does the waste exhibit a hazardous characteristic as defined under the regulations (i.e., ignitability, corrosivity, reactivity, or toxicity (TCLP));

(b) Is the waste described as a waste from a non-specific or specific source (i.e., the F and K lists at 40 CFR 261.31 and 261.32);

(c) (3) Is the waste included on the lists of discarded commercial chemical products (i.e., the U and P lists at 40 CFR 261.33(e) and (f)).

This waste determination must be made individually for each waste stream on the basis of information about the chemical nature, origin and characteristics of that waste stream.

With regard to waste or off-spec MOCA, the waste does not exhibit the characteristics of ignitability, corrosivity, toxicity, or reactivity (as "reactivity" is defined at 40 CFR 261.23). Further, the manufacturing process in which this waste is used, and from which it is generated, is not described on the F and K lists. However, MOCA is listed as U158 on the "U list" which identifies "toxic hazardous wastes" under the RCRA program (whereas, the P list designates "acutely hazardous substances").

b. Waste Streams that Must Be Managed as a Hazardous Waste

Therefore, waste streams which must be managed as RCRA hazardous include the following:

(a) Any remaining MOCA (virgin or off-spec) commercial chemical product or residue to be discarded;

(b) Any mixture or rinseate waste where unreacted waste MOCA has been commingled;

(c) Any discarded items (e.g., gloves, rags and aprons) or other waste materials (e.g., floor-dry) which have adsorbed or which contain unreacted MOCA;

(d) Any manufacturing intermediate which may contain unreacted MOCA as the sole active ingredient;

(e) Any residue remaining in a container or an inner liner of a container (except an "empty" container as defined in the regulations); and

(f) Any waste residues or contaminated soil, water or other debris, such as resulting from the cleanup of a spill of MOCA.

c. Managing "Empty" Containers

Under 40 CFR 261.7, a container of hazardous waste is defined to be "empty" when "all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and no more than 2.5 centimeters (one inch) of residues remain on the bottom of the container" (or the residue constitutes less than 3% by weight of the total capacity of the container when the container is ≤119 gallons).

Residues remaining in containers that meet the definition of "empty containers", as outlined in the paragraph above, are NOT subject to hazardous waste disposal regulations. That is, there are NO applicable hazardous waste generator standards, accumulation requirements. [40 CFR 261.7(a)(1)]. These containers including residues still need to be disposed properly and the transportation of empty containers is regulated by DOT as noted in the DOT section below. In addition, all containers with residues of hazardous materials need to retain OSHA Hazard Communication Labels.

There is also no regulatory requirement for treating (e.g., reacting), washing, rinsing, or otherwise managing these wastes as hazardous wastes. Indeed, such practices likely have the result of generating additional NON-hazardous waste streams of reactant waters, rinse waters, or wash waters. With regard to reactants or wash waters, it is important to note that the residues of the "empty" container are not regulated; and therefore, the solution (which is otherwise not regulated) does NOT become regulated as a hazardous waste when it collects or contains the residues of "empty" containers. Other residuals and materials contaminated with MOCA retain the U158 hazardous waste status.

For example, wash waters from cleaning up a spill of unreacted MOCA are hazardous wastes, whereas wash waters from reacting the residue in an "empty" drum are NOT subject to the regulations, even where these two types of wash waters would be chemically identical.

Similarly, where a drum reconditioner receives "empty" drums containing a residue of MOCA, as soon as the drum meets the definition of "empty" the residue loses the U158 hazardous waste designation, and this listing does not carry to the wash waters and rinse waters generated by the drum reconditioner's process (although, the drum reconditioner's waste waters might be hazardous for an independent reason, such as a RCRA characteristic, e.g. pH).

d. On Site Treatment of MOCA Wastes

There is no federal hazardous waste regulation addressing the treatment of hazardous wastes on-site prior to waste disposal; however, USEPA has interpreted the Hazardous Waste Generator Standards at 40 CFR 262 to mean that generators (not treatment, storage or disposal facilities) may treat hazardous wastes in the tank or drum in which the wastes are normally accumulated without the generator having to apply for a permit as a treatment facility. To qualify for this, the generator must comply with the requirements at 40 CFR 262.34 (generator standards) and 40 CFR 265 Subpart J (tank system management) and 40 CFR 265 Subpart I (container management). This treatment exemption is not extended to evaporation, incineration or thermal treatment methods.

Under this USEPA policy, the generator may treat unreacted MOCA wastes (U158) on-site while the wastes are being accumulated and prior to subsequent management or disposal, so long as the treatment takes place in the tank or container normally used for MOCA waste accumulation. This means that the tank, drum or other container in which the treatment occurs must be properly marked with the date the accumulation began, and must be emptied within the time limit imposed by 40 CFR 262.34 (90, 180, or 270 days).

For example, where TDI or other reactant may be added to a container of MOCA residue to expedite the reaction of those residues and generate an inert material which is clearly no longer MOCA, this treatment process conducted in the drum where the waste was "accumulated" is allowed without the generator possessing a RCRA treatment permit. Where the resulting wastes do not exhibit any RCRA hazardous characteristic (ignitability, corrosivity, toxicity or reactivity) and no longer contain detectable MOCA, these wastes are no longer RCRA hazardous and may be managed under various disposal options.

USEPA cautions generators from altering their waste accumulation practices to accumulate wastes in larger tanks or containers to conduct treatment under this policy, and warns that the policy may be found not to apply in such instances. Treatment in tanks or containers which have historically been used for waste accumulation is clearly allowed.

e. Feed Stocks Containing a Mixture of MOCA and At Least One Additional Active Ingredient

MOCA is a commercial chemical product or manufacturing chemical intermediate having the generic name listed in the "U" list of 40 CFR 261.33(f). Where unreacted MOCA feed stock consists of MOCA as the sole active ingredient (i.e., the MOCA feed stock can be described as a chemical substance manufactured or formulated for manufacturing or commercial use that consists of the commercially pure grade of the chemical, technical grades or formulations in which the chemical is the sole active ingredient), then any wastes consisting of unreacted feed stock should be regarded as a RCRA hazardous waste.

Note, however, that if the feed stock containing MOCA has at least one other active ingredient (i.e., the feed stock merely includes a chemical on the "U" list), the wastes of such a mixture of compounds do not meet the definition of U158 and are not to be regarded as RCRA hazardous solely due to the U158 listing (*see* "Comment" at 40 CFR 261.33 (d)).

Of course, if the waste unreacted mixed feed stock of MOCA and other active ingredients exhibits a RCRA hazardous characteristic (i.e., ignitability, corrosivity, toxicity, or reactivity, as defined at 40 CFR 261), then the waste should be managed as a RCRA hazardous waste.

Therefore, when the unreacted feed stock is a mixture of two or more active ingredients, and these ingredients are not listed on the "U" or "P" lists of 40 CFR 261.33, and where the process generating the unreacted feed stock is not listed on the "F" and "K" lists of 40 CFR 261, the feed stock is not a listed RCRA waste. Only where the unreacted feed stock consists of a single or sole active ingredient must the generator consult the Chemical Abstracts Service number ("CAS No 101-14-4.") identifying the chemical and compare this with the CAS No. of the "P" or "U" lists to be certain whether the substance is in fact the substance intended by the RCRA listing.

f. Disposal of MOCA Wastes, Waste Minimization, and Decontamination Procedures

With respect to MOCA, the principal concern under RCRA relates to disposing of waste materials contaminated with MOCA, such as protective clothing, shipping drums, and containers. Also, unreacted MOCA as a by-product of mixing machine calibration and occasionally spilled MOCA pellets or melted MOCA can give rise to the generation of hazardous waste. However, a processor normally can minimize the generation of such hazardous waste materials.

MOCA decontamination procedures vary depending on the nature of the process operation. Some of the more common methods for decontaminating drums or other waste material consist of spraying with prepolymer or applying chemical solutions that react the MOCA. Larger quantities of MOCA that become unfit for use in normal processing have been reacted with a prepolymer to make a useful polyurethane product,

such as loading dock bumper guards. This approach may minimize the generation of MOCA as a hazardous waste.

4. Hazardous Waste Generator Standards

If unreacted, waste MOCA is considered to be a RCRA hazardous waste, and as such all the state and federal generator standards are applicable. The complexity of the applicable standards depends on the volume of hazardous wastes generated and the status of the polyurethane processor as Conditionally Exempt, Small Quantity, or Large Quantity Generator. For a more comprehensive and detailed explanation of these requirements, see the "Hazardous Waste Management Plan" section of the PMA Environmental Regulatory Compliance Manual.

Depending on the generator status of the facility, the generation of waste MOCA may result in the application of the following RCRA regulations:

(a) Hazardous waste generator status determination

(b) Notification of EPA and state authority and application for an EPA facility identification number;

(c) Compliance with recordkeeping, packaging, labeling and manifesting of waste;

(d) Conduct weekly inspections of waste storage areas

(e) Emergency preparedness and prevention requirements (i.e., contingency planning);

(f) Annual or bi-annual (depending upon state regulation) hazardous waste activity report filed with state authority by March 1);

(g) Compliance with on-site storage and satellite accumulation rules. Wastes must be shipped off-site for treatment within 180 days for small quantity generators and 90 days for large quantity generators; and

(h) In preparation for shipment, compliance with DOT shipping requirements (49 CFR Part 172 and Part 172, Subpart F) and packaging in containers (49 CFR Parts 173, 178, and 179).

Since the EPA regards any waste that is mixed with or that contains a listed waste such as MOCA to be a regulated hazardous waste, precautions should be taken to minimize contamination of other materials with MOCA.

5. Special Requirements for Large Quantity Generators

A processor who has generated a total of 2,200 pounds or more of hazardous waste in any calendar month (including MOCA and all other hazardous waste) qualifies as a Large Quantity Generator. A Large Quantity Generator must comply with 40 CFR 265.30-265.37, setting forth emergency preparedness and prevention requirements. These criteria dictate

emergency communication facilities, fire control equipment, assignment of an emergency coordinator, establishment of emergency procedures and other requirements. See the "Contingency Plan" section of the PMA Environmental Compliance Manual. It is recommended that Small Quantity Generators voluntarily comply with these requirements, as feasible.

Several requirements that have been promulgated for hazardous waste treatment, storage and disposal facilities are also applicable to Large Quantity Generators. For example, polyurethane processors that are Large Quantity Generators must document personnel training for each employee whose duties may involve hazardous wastes.

6. Laundering Items that Contain MOCA

When an item to be laundered contains waste that is mixed with a commercially pure grade of MOCA, any technical grades of MOCA and all formulations in which MOCA was the *sole active ingredient*, the item to be laundered should be viewed as being contaminated with a *listed* RCRA hazardous waste.

Note that a different conclusion would be reached when making the RCRA hazardous waste determination for a waste material that had contained a mixture of MOCA and other active ingredients. In such a case, if the waste does not exhibit a RCRA hazardous waste characteristic and if the generating process is not listed on the F and K lists, it is not a RCRA hazardous waste. Similarly, where the manufacturing process generates a process residue or waste that contains several other substances, one of which is MOCA, if the waste does not exhibit a RCRA hazardous waste characteristic, the waste does not meet the definition of a RCRA hazardous waste.

Where aprons, caps, gloves, rags or other items to be laundered have adsorbed or contain commercially pure grade of MOCA, any waste manufacturing intermediate which consists of MOCA as the sole active ingredient, any residue remaining in a container or an inner liner of a container (except an "empty" container, as discussed above), any residue or contaminated soil, water or other debris resulting from the cleanup of a spill of MOCA and any other wastes derived from this listed waste, then the item contains a RCRA hazardous waste, and special laundering requirements may apply.

Where items to be laundered for reuse contain residues of one or more RCRA listed hazardous wastes (such as MOCA or TDI residues) and where such items are amenable to being cleaned at an industrial laundry (e.g., uniforms, aprons, gloves, and towels), the USEPA has refused to establish a policy at the federal level concerning how such items would be regulated, or how the wash or rinse waters from the industrial laundry would be regulated. Instead, USEPA has left the matter to be decided on a case-by-case basis by each state.

In the absence of a determination to the contrary by the state's implementing agency, the USEPA takes the position that the "contained-in" rule is to be applied, which provides that until such time as the soiled item no longer "contains" the RCRA hazardous waste residue, the item must be managed as a RCRA hazardous waste, and where laundering removes these

residues, the laundered item is no longer subject to hazardous waste regulation. Therefore, in the absence of a state policy to the contrary, there is no federal provision excluding industrial laundries or shipments of soiled linens from the full breadth of hazardous waste regulation (e.g., industrial laundries would be required to obtain hazardous waste facility permits before accepting items containing hazardous waste, laundry trucks would have to be licensed as waste transporters, and manifests would be required).

Many states and territories have taken the position that whether or not a towel or other launderable item is regulated as a hazardous waste depends upon how the residues came to be in the item. In most states, if unused product is placed on an item (such as being poured from a product container onto a towel to be used to wipe a surface), then the towel is only hazardous if it exhibits a hazardous characteristic. The basis for this view is that the product (even if listed on the U or P list) is not a waste, and therefore the definitions of the U and P lists at 40 CFR 261.33 (e) and (f) do not apply. If, on the other hand, the towel is used to clean up spilled or excess residue, then where the residue is characteristically hazardous, the towel is hazardous only if it exhibits the characteristic, and if the residue is "listed", then the towel is considered hazardous until it no longer "contains" the residue.

It has also been left to each authorized state to determine how clean the item must be before it is regarded as no longer containing the listed waste. In many states, industrial laundries are not required to obtain a special hazardous waste facility permit nor a solid waste facility permit, as the linen items are being returned to and are not regarded as a waste, however, many launderers may need to obtain or revise other permits, such as wastewater discharge permits or air pollution control permits. In addition, most states do not require a special transporter or hauling permit to transport launderable items between the generator and the laundering facility.

In virtually all states, industrial laundries may not accept linens that are saturated with a hazardous waste, or containers in which the hazardous waste is present as a free liquid. In most states, the implementing agency reserves the right to approve or disapprove the use of an industrial laundry on a case-by-case basis. In general, states have provided upon request, a letter of approval for a facility to manage industrial towels and soiled clothing containing residues of either characteristic or listed hazardous wastes have to be managed as hazardous wastes until such time as they are sent to an industrial launderer or dry cleaner to be cleaned and then returned to the owner, but exclude these wastes from hazardous waste regulation once shipped to the launderer (i.e., a laundry is not required to have a hazardous waste facility permit, they do not have to be licensed as waste transporters if they operate laundry trucks , and they are not required to use hazardous waste manifests for the shipment of soild fabrics). Note that Department of Transportation regulations continue to apply.

7. MOCA Regulation Under SARA Title III

The "Emergency Planning and Community Right-to-Know Act," commonly referred to as SARA Title III or EPCRA, mandates a nation-wide program for emergency response planning at the local community and state levels. Its intent is to provide state and local governments with the necessary information to identify chemical hazards and plan for hazardous substance emergencies. The legislation is an extension of the Hazard

Communication Standard that provides workers with the "right-to-know" potential hazards associated with chemicals.

EPCRA regulations (40 CFR Parts 350 – 372) establish four types of reporting for facilities that store, process or use specific chemicals.

a. Emergency Planning and Notification

EPCRA Section 302 requires that facilities notify the State Emergency Response Commission, fire department, and Local Emergency Planning of the presence of any "extremely hazardous substance" or EHS (see 40 CFR Part 355 Appendix A and B) if the facility stores in excess of the Threshold Planning Quantity (TPQ). MOCA is not included on the list of EHS and thus notification is not required. A comprehensive summary of the applicability of EPCRA to specific chemicals is provided in the EPA Consolidated List of Chemicals.

Facilities processing MOCA are subject to the Emergency Release Reporting Requirements of section 304 of SARA if there is a release of a reportable quantity (RQ) (10 pounds or more) of MOCA "into the environment." Some states lower the release reporting level to any amount of MOCA released into the environment. The release must be reported to the National Response Center (800/424-8802), the State Emergency Response Commission ("SERC") and the Local Emergency Planning Committees ("LEPC").

A facility may make the initial emergency notification to the LEPC, SERC and the National Response Center by telephone, radio, or in person, but this emergency notification must be followed up by written notification within 15 days, and generally as soon as possible. See "Spill Reporting," PMA Environmental Compliance Manual.

b. Hazardous Chemical Notification and Inventory Reporting Requirements of Sections 311-312

EPCRA Sections 311 and 312 apply to facilities that store OSHA hazardous chemicals in excess of the TPQ from Section 302 or any other OSHA Hazardous Chemical in excess of 10,000 pounds. Reports include:

1. An initial notification that includes an MSDS for the chemicals present
2. Subsequent annual inventory reports

Reports are made to the SERC, LEPC and the local fire department.

A polyurethane processing facility that has on hand at the facility at any point in time in the course of a calendar year 10,000 pounds or more of MOCA must comply with the reporting requirements of sections 311 and 312 of SARA.

A facility that is required to submit an MSDS sheet for MOCA must also annually file a Tier I or a Tier II form under section 312. State law governs which Tier Report is required. A Tier II form includes detailed information about MOCA, and information

about the amount and general location of where the chemical is stored and used at the facility. The completed Tier I/Tier II forms must be submitted to the SERC, LEPC, and the local fire department by March 1 of each calendar year.

c. Toxic Chemical Release Reporting Requirements Section 313

EPCRA Section 313 requires facilities that manufacture, process, or use listed chemicals (40 CFR Part 372. 65) in greater than threshold amounts submit annual toxic chemical Form R release reports. The Form R reports include releases and transfers of toxic chemical to designated facilities and to the environment.

Toxic Chemical Release Information Form ("EPA Form R") informs the government and public about off-site transfers and releases of toxic chemicals to the environment. A polyurethane processing facility is subject to a Form R reporting requirement for MOCA if it has 10 or more full-time employees; and processes 25,000 lbs or more of MOCA in any calendar year. The Form R is a chemical-specific report, and the report must be completed specifically for MOCA, as provided at 40 CFR 372.65. The Toxic Chemical Release Form is due annually on July 1. See the section pertaining to "SARA Title III," PMA Environmental Compliance Manual.

A number of MOCA processors have been required to file Form R reports annually for the chemical. None has experienced air emissions of MOCA in excess of one pound per year.

8. Clean Air Act Regulations

Title V of the Clean Air Act requires permitting of sources and emission controls for criteria pollutants and hazardous air pollutants. Criteria pollutants include VOC, particulate, NO_x, SO_x, CO, and lead. In particular emissions of particulate will need to meet Ambient Air Quality Standards (40 CFR Part 50.6). Title V of the Clean Air Act authorizes state and federal operating permit programs (40 CFR Part 70 and 71). Facilities need to estimate emissions of MOCA as well as other hazardous air pollutants and criteria pollutants to determine whether an air permit is required and what type is needed.

MOCA is classified by EPA as a Hazardous Air Pollutant (HAP) and is listed for regulation in Section 112 of the Clean Air Act. Facilities that have HAP emissions may be regulated either as major sources or area sources. Any stationary source that has the "potential to emit" 10 tons per year (TPY) of any other single HAP into the environment or 25 TPY of any combination of hazardous air pollutants listed in Section 112 will be considered a Major Source. An area source is any source of hazardous air pollutants that is not a major source. These facility emissions determinations may be calculated based upon use of emission factors from EPA or actual stack tests. The PMA conducted stack tests in 1996 for MOCA, TDI, and MDI.

Major sources of HAPs are required to obtain Title V Air Permits and apply Maximum Achievable Control Technology (MACT) to reduce emissions of hazardous air pollutants.

Since EPA has not yet published a MACT for MOCA a facility that is a major source may be required to determine an applicable control technology or Case-by-Case MACT. However, as noted in 7. a. of this appendix, no MOCA processor has experienced actual emissions of one pound of MOCA in a year. Minor or Area sources of HAP's do not need to apply a MACT unless it is published by EPA. (40 CFR Part 63 NESHAP for Hazardous Air Pollutants). As noted above, emissions of MOCA from polyurethane facilities are generally very low and most would be classified as Area Sources.

A processor should consult its PMA Environmental Compliance Manual, for current regulatory information relating to the Clean Air Act.

no NAPL - no pre-treat at o/w s. needed, goes right into AWT for processing. Usually recirc in bio unit knock out organics, no fentons needed

CWM Chemical Services, LLC
Model City, NY

T-110/T-109 SLF 10

January 2012 - rev. 0

SLF 1-11

120203022CWM.x| 111020033CWI 1110092,95,97.ll Leachates_July 2

Parameter	Units	T109 2/2/2012	SLF-10 T-110 10/18/2011	SLF-10 T-110 10/19/2011	SLF-10 T-110 07/23/2012
Samples Collected		-	2		
Samples Required		-	3		
Conventional/General Water Quality					
Volume	gal	NA			
Temperature	°F				
pH	S.U.				
Specific Gravity or Density					
Turbidity					
Sodium, Total	mg/L				
Chloride, Total	mg/L	2370	6290		7910
Calcium, Total	mg/L				
Magnesium, Total	mg/L				
Sulfate, Total (SO4)	mg/L	566	920		<200
BOD 5	mg/L	3470			9750
Chemical Oxygen Demand (COD)	mg/L	7260		3610	15600
Nitrogen, Ammonia (As N)	mg/L				
Nitrogen, Kjeldahl, Total	mg/L				
Nitrogen, Organic	mg/L				
Phosphorus, Total	mg/L				
Total Organic Carbon	mg/L	1860	3960		4800
Total Suspended Solids	mg/L	455	235		66
Percent Solids	%				
Total Dissolved Solids	mg/L	7530	17200		21800
Total Petroleum Hydrocarbons (O&G)	mg/L				
Solids Volume or Weight Generated	lbs/d				
Liquid Volume Processed	gpd				

max

0.48%

Sulfide	mg/L	1			<0.200
Volatile Organic Compounds - Purgeables (10)					
Chloromethane	µg/L	<5000		<10000	<20000
Vinyl Chloride	µg/L	<5000		<10000	<20000
Bromomethane	µg/L	<5000		<10000	<20000
Chloroethane	µg/L	<5000		<10000	<20000
Trichlorofluoromethane	µg/L	<5000		<10000	<20000
Diethyl ether	µg/L	<5000		<10000	<20000
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	<5000		<10000	<20000
Acetone	µg/L	34700		102000	236000
1,1-Dichloroethene	µg/L	<5000		<10000	<20000
Methylene chloride	µg/L	24900		21700	<20000
Carbon disulfide	µg/L	<5000		<10000	<20000
trans-1,2-Dichlorethene	µg/L	<5000		<10000	<20000
1,1-Dichloroethane	µg/L	<5000		<10000	<20000
Vinyl acetate	µg/L	<5000		<10000	<20000
2-Butanone	µg/L	21400		50300	120000
Ethyl acetate	µg/L	<5000		<10000	<20000
Chloroform	µg/L	<5000		<10000	<20000
1,1,1-Trichloroethane	µg/L	<5000		<10000	<20000
Carbon tetrachloride	µg/L	<5000		<10000	<20000
1,2-Dichloroethane	µg/L	<5000		<10000	<20000
Benzene	µg/L	<5000		<10000	<20000
Trichloroethene	µg/L	<5000		<10000	<20000
1,2-Dichlropropane	µg/L	<5000		<10000	<20000
Bromodichloromethane	µg/L	<5000		<10000	<20000
2-Chloroethylvinyl ether	µg/L	<5000		<10000	<20000
4-Methyl-2-pentanone	µg/L	7170		11900	<20000
cis-1,3-Dichloropropene	µg/L	<5000		<10000	<20000
Toluene	µg/L	<5000		<10000	<20000
trans-1,3-Dichloropropene	µg/L	<5000		<10000	<20000
1,1,2-Trichloroethane	µg/L	<5000		<10000	<20000
2-Hexanone	µg/L	<5000		<10000	<20000
Tetrachloroethene	µg/L	<5000		<10000	<20000

max

236 ppm

24.9

50.3

11.9

Dibromochloromethane	µg/L	<5000		<10000	<20000
Chlorobenzene	µg/L	<5000		<10000	<20000
Ethylbenezene	µg/L	<5000		<10000	<20000
Xylenes, total	µg/L	<15000		<30000	<60000
Styrene	µg/L	<5000		<10000	<20000
Bromoform	µg/L	<5000		<10000	<20000
1,1,2,2-Tetrachloroethane	µg/L	<5000		<10000	<20000
1,3-Dichlorobenzene	µg/L	<5000		<10000	<20000
1,4-Dichlorobenzene	µg/L	<5000		<10000	<20000
1,2-Dichlorobenzene	µg/L	<5000		<10000	<20000
Semi-Volatile Organic Compounds - Base Acid/Neutrals					
1,2,4-Trichlorobenzene	µg/L	<2500	<1000		<2500
1,2-Dichlorobenzene	µg/L	<2500	<1000		<2500
1,3-Dichlorobenzene	µg/L	<2500	<1000		<2500
1,4-Dichlorobenzene	µg/L	<2500	<1000		<2500
2,4,5-Trichlorophenol	µg/L	<2500	<1000		<2500
2,4,6-Trichlorophenol	µg/L	<2500	<1000		<2500
2,4-Dichlorophenol	µg/L	<2500	<1000		<2500
2,4-Dimethylphenol	µg/L	<2500	1200		<2500
2,4-Dinitrophenol	µg/L	<12000	<5000		<12000
2,4-Dinitrotoluene	µg/L	<2500	<1000		<2500
2,6-Dinitrotoluene	µg/L	<2500	<1000		<2500
2-Chloronaphthalene	µg/L	<2500	<1000		<2500
2-Chlorophenol	µg/L	<2500	<1000		<2500
2-Methylnaphthalene	µg/L				
2-Methylphenol	µg/L				
2-Nitrophenol	µg/L	<2500	<1000		<2500
3,3´-Dichlorobenzidine	µg/L	<5000	<2000		<5000
4,6-Dinitro-2-methylphenol	µg/L	<12000	<5000		<12000
4-Bromophenyl phenyl ether	µg/L	<2500	<1000		<2500
4-Chloro-3-methylphenol	µg/L	<2500	<1000		<2500
4-Chlorophenyl phenyl ether	µg/L	<2500	<1000		<2500
4-Methylphenol	µg/L				
4-Nitrophenol	µg/L	<12000	<5000		<12000

1.2 ppm

Acenaphthene	µg/L	<2500	<1000		<2500
Acenaphthylene	µg/L	<2500	<1000		<2500
Anthracene	µg/L	<2500	<1000		<2500
Azobenzene	µg/L	<2500	<1000		<2500
Benz(a)anthracene	µg/L	<2500	<1000		<2500
Benzidine	µg/L	<12000	<5000		<12000
Benzo(a)pyrene	µg/L	<2500	<1000		<2500
Benzo(b)fluoranthene	µg/L	<2500	<1000		<2500
Benzo(g,h,i)perylene	µg/L	<2500	<1000		<2500
Benzo(k)fluoranthene	µg/L	<2500	<1000		<2500
Benzothiazole	µg/L				
Bis(2-chloroethoxy)methane	µg/L	<2500	<1000		<2500
Bis(2-chloroethyl)ether	µg/L	<2500	<1000		<2500
Bis(2-chloroisopropyl)ether	µg/L	<2500	<1000		<2500
Bis(2-ethylhexyl)phthalate	µg/L	<2500	<1000		<2500
Butyl benzyl phthalate	µg/L	<2500	<1000		<2500
Carbazole	µg/L	<2500	<1000		<2500
Chrysene	µg/L	<2500	<1000		<2500
Dibenz(a,h)anthracene	µg/L	<2500	<1000		<2500
Dibenzofuran	µg/L	<2500	<1000		<2500
Diethyl phthalate	µg/L	<2500	<1000		<2500
Dimethyl phthalate	µg/L	<2500	<1000		<2500
Di-n-butyl phthalate	µg/L	<2500	<1000		<2500
Di-n-octyl phthalate	µg/L	<2500	<1000		<2500
Fluoranthene	µg/L	<2500	<1000		<2500
Fluorene	µg/L	<2500	<1000		<2500
Hexachlorobenzene	µg/L	<2500	<1000		<2500
Hexachlorobutadiene	µg/L	<2500	<1000		<2500
Hexachlorocyclopentadiene	µg/L	<2500	<1000		<2500
Hexachloroethane	µg/L	<2500	<1000		<2500
Hexamethylbenzene	µg/L				
Indeno(1,2,3-cd)pyrene	µg/L	<2500	<1000		<2500
Isophorone	µg/L	<2500	<1000		<2500
Naphthalene	µg/L	<2500	<1000		<2500

n-decane	µg/L				
Nitrobenzene	µg/L	<2500	<1000		<2500
N-Nitrosodimethylamine	µg/L	<2500	<1000		<2500
N-Nitrosodi-n-propylamine	µg/L	<2500	<1000		<2500
N-Nitrosodiphenylamine	µg/L	<2500	<1000		<2500
n-Octadecane	µg/L				
Pentachlorophenol	µg/L	<12000	<5000		<12000
Phenanthrene	µg/L	<2500	<1000		<2500
Phenol	µg/L	22000	14000		28000
Pyrene	µg/L	<2500	<1000		<2500
Pyridine	µg/L				
PCB Aroclor					
Aroclor 1016	µg/L	<1.3	<1.30		<1.3
Aroclor 1221	µg/L	<1.3	<1.30		<1.3
Aroclor 1232	µg/L	<1.3	<1.30		<1.3
Aroclor 1242	µg/L	12.6	15.3		3.04
Aroclor 1248	µg/L	<1.3	<1.30		<1.3
Aroclor 1254	µg/L	<1.3	<1.30		2.95
Aroclor 1260	µg/L	5.25	<1.30		<1.3

28.0

0.0153

0.00525

352. ppm

total org. compounds detected

Every 4 years - F039 evaluation
DO, TOC, O+G, VOCs semi-vols, PCBs (+ Metals) on T-107, T-108/T-111 and T-109/110 for current data for non-BB

no NAPL - no pre-treat at ~~AWT~~ O/W sep needed, goes right into AWT for processing. Usually recirc in bio when Knock out organics.

/M Chemical Services, LLC
Model City, NY

T-108 SCF 11

January 2012 - rev. 0

1110092,95,97.PDF T108 AES 020712. Old Landfill Leach: Bio towers_Old S

Parameter	Units	T-108 10/18/2011	T-108 2/7/2012	T-108 07/23/2012	T-108 08/06/2012	
Samples Collected			***2***			MAX
Samples Required			***3***			
Conventional/General Water Quality						
Volume	gal	NA	1600			
Temperature	°F					
pH	S.U.					
Specific Gravity or Density						
Turbidity						
Sodium, Total	mg/L					
Chloride, Total	mg/L	7580	2530	7070	7490	
Calcium, Total	mg/L					
Magnesium, Total	mg/L					
Sulfate, Total (SO4)	mg/L	989	748	698	639	
BOD 5	mg/L		<200	495	716	
Chemical Oxygen Demand (COD)	mg/L	2260		1720	2040	
Nitrogen, Ammonia (As N)	mg/L		28			
Nitrogen, Kjeldahl, Total	mg/L		44.8			
Nitrogen, Organic	mg/L		16.8			
Phosphorus, Total	mg/L		1.9			
Total Organic Carbon	mg/L	448	174	350	313	0.0448
Total Suspended Solids	mg/L	170	120	44	152	
Percent Solids	%					
Total Dissolved Solids	mg/L	15400	5420	13300	13900	
Total Petroleum Hydrocarbons (O&G)	mg/L		228			0.0228
Solids Volume or Weight Generated	lbs/d					
Liquid Volume Processed	gpd					

Sulfide	mg/L			<0.200	125	
Volatile Organic Compounds - Purgeables (10)						max
Chloromethane	µg/L	<2000		<1000	<1000	
Vinyl Chloride	µg/L	<2000		<1000	<1000	
Bromomethane	µg/L	<2000		<1000	<1000	
Chloroethane	µg/L	<2000		<1000	<1000	
Trichlorofluoromethane	µg/L	<2000		<1000	<1000	
Diethyl ether	µg/L	<2000		<1000	<1000	
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	<2000		<1000	<1000	
Acetone	µg/L	32000		8880	5810	32.0 ppm
1,1-Dichloroethene	µg/L	<2000		<1000	<1000	
Methylene chloride	µg/L	<2000		<1000	<1000	
Carbon disulfide	µg/L	<2000		<1000	<1000	
trans-1,2-Dichlorethene	µg/L	<2000		<1000	<1000	
1,1-Dichloroethane	µg/L	<2000		<1000	<1000	
Vinyl acetate	µg/L	<2000		<1000	<1000	
2-Butanone	µg/L	14100		3650	3210	141
Ethyl acetate	µg/L	<2000		<1000	<1000	
Chloroform	µg/L	<2000		<1000	<1000	
1,1,1-Trichloroethane	µg/L	<2000		<1000	<1000	
Carbon tetrachloride	µg/L	<2000		<1000	<1000	
1,2-Dichloroethane	µg/L	<2000		<1000	<1000	
Benzene	µg/L	<2000		<1000	<1000	
Trichloroethene	µg/L	<2000		<1000	<1000	
1,2-Dichlropropane	µg/L	<2000		<1000	<1000	
Bromodichloromethane	µg/L	<2000		<1000	<1000	
2-Chloroethylvinyl ether	µg/L	<2000		<1000	<1000	
4-Methyl-2-pentanone	µg/L	2580		1230	<1000	2.58
cis-1,3-Dichloropropene	µg/L	<2000		<1000	<1000	
Toluene	µg/L	<2000		<1000	<1000	
trans-1,3-Dichloropropene	µg/L	<2000		<1000	<1000	
1,1,2-Trichloroethane	µg/L	<2000		<1000	<1000	
2-Hexanone	µg/L	<2000		<1000	<1000	
Tetrachloroethene	µg/L	<2000		<1000	<1000	

Dibromochloromethane	µg/L	<2000		<1000	<1000
Chlorobenzene	µg/L	<2000		<1000	<1000
Ethylbenezene	µg/L	<2000		<1000	<1000
Xylenes, total	µg/L	<6000		<3000	<3000
Styrene	µg/L	<2000		<1000	<1000
Bromoform	µg/L	<2000		<1000	<1000
1,1,2,2-Tetrachloroethane	µg/L	<2000		<1000	<1000
1,3-Dichlorobenzene	µg/L	<2000		<1000	<1000
1,4-Dichlorobenzene	µg/L	<2000		<1000	<1000
1,2-Dichlorobenzene	µg/L	<2000		<1000	<1000
Semi-Volatile Organic Compounds - Base Acid/Neutrals					
1,2,4-Trichlorobenzene	µg/L	<250	<25000	<150	<1000
1,2-Dichlorobenzene	µg/L	<250	<25000	<150	<1000
1,3-Dichlorobenzene	µg/L	<250	<25000	<150	<1000
1,4-Dichlorobenzene	µg/L	<250	<25000	<150	<1000
2,4,5-Trichlorophenol	µg/L	<250	<25000	<150	<1000
2,4,6-Trichlorophenol	µg/L	<250	<25000	<150	<1000
2,4-Dichlorophenol	µg/L	<250	<25000	<150	<1000
2,4-Dimethylphenol	µg/L	280	<25000	390	<1000
2,4-Dinitrophenol	µg/L	<1200	<120000	<750	<5000
2,4-Dinitrotoluene	µg/L	<250	<25000	<150	<1000
2,6-Dinitrotoluene	µg/L	<250	<25000	<150	<1000
2-Chloronaphthalene	µg/L	<250	<25000	<150	<1000
2-Chlorophenol	µg/L	<250	<25000	<150	<1000
2-Methylnaphthalene	µg/L				
2-Methylphenol	µg/L				
2-Nitrophenol	µg/L	<250	<25000	<150	<1000
3,3´-Dichlorobenzidine	µg/L	<500	<50000	<300	<2000
4,6-Dinitro-2-methylphenol	µg/L	<1200	<120000	<750	<5000
4-Bromophenyl phenyl ether	µg/L	<250	<25000	<150	<1000
4-Chloro-3-methylphenol	µg/L	<250	<25000	<150	<1000
4-Chlorophenyl phenyl ether	µg/L	<250	<25000	<150	<1000
4-Methylphenol	µg/L				
4-Nitrophenol	µg/L	<1200	<120000	<750	<5000

0.39

Acenaphthene	µg/L	<250	<25000	<150	<1000	
Acenaphthylene	µg/L	<250	<25000	<150	<1000	
Anthracene	µg/L	<250	<25000	<150	<1000	
Azobenzene	µg/L	<250	<25000	<150	<1000	
Benz(a)anthracene	µg/L	<250	<25000	<150	<1000	
Benzidine	µg/L	<1200	<120000	<750	<5000	
Benzo(a)pyrene	µg/L	<250	<25000	<150	<1000	
Benzo(b)fluoranthene	µg/L	<250	<25000	<150	<1000	
Benzo(g,h,i)perylene	µg/L	<250	<25000	<150	<1000	
Benzo(k)fluoranthene	µg/L	<250	<25000	<150	<1000	
Benzothiazole	µg/L					
Bis(2-chloroethoxy)methane	µg/L	<250	<25000	<150	<1000	
Bis(2-chloroethyl)ether	µg/L	<250	<25000	<150	<1000	
Bis(2-chloroisopropyl)ether	µg/L	<250	<25000	<150	<1000	
Bis(2-ethylhexyl)phthalate	µg/L	1000	200000	940	27000	200 ppm (not CC cmpd)
Butyl benzyl phthalate	µg/L	<250	<25000	<150	<1000	
Carbazole	µg/L	<250	<25000	<150	<1000	
Chrysene	µg/L	<250	<25000	<150	<1000	
Dibenz(a,h)anthracene	µg/L	<250	<25000	<150	<1000	
Dibenzofuran	µg/L	<250	<25000	<150	<1000	
Diethyl phthalate	µg/L	<250	<25000	<150	<1000	
Dimethyl phthalate	µg/L	<250	<25000	<150	<1000	
Di-n-butyl phthalate	µg/L	270	<25000	<150	1500	1.5
Di-n-octyl phthalate	µg/L	<250	<25000	<150	<1000	
Fluoranthene	µg/L	<250	<25000	<150	<1000	
Fluorene	µg/L	<250	<25000	<150	<1000	
Hexachlorobenzene	µg/L	<250	<25000	<150	<1000	
Hexachlorobutadiene	µg/L	<250	<25000	<150	<1000	
Hexachlorocyclopentadiene	µg/L	<250	<25000	<150	<1000	
Hexachloroethane	µg/L	<250	<25000	<150	<1000	
Hexamethylbenzene	µg/L					
Indeno(1,2,3-cd)pyrene	µg/L	<250	<25000	<150	<1000	
Isophorone	µg/L	<250	<25000	<150	<1000	
Naphthalene	µg/L	<250	<25000	<150	<1000	

n-decane	µg/L					
Nitrobenzene	µg/L	<250	<25000	<150	<1000	
N-Nitrosodimethylamine	µg/L	<250	<25000	<150	<1000	
N-Nitrosodi-n-propylamine	µg/L	<250	<25000	<150	<1000	
N-Nitrosodiphenylamine	µg/L	<250	<25000	<150	<1000	
n-Octadecane	µg/L					
Pentachlorophenol	µg/L	<1200	<120000	<750	<5000	
Phenanthrene	µg/L	<250	<25000	<150	<1000	
Phenol	µg/L	1700	<25000	990	<1000	1.7
Pyrene	µg/L	<250	<25000	<150	<1000	
Pyridine	µg/L					
PCB Aroclor						
Aroclor 1016	µg/L	<26.0	<1300	<13	<52	
Aroclor 1221	µg/L	<26.0	<1300	<13	<52	
Aroclor 1232	µg/L	<26.0	<1300	<13	<52	
Aroclor 1242	µg/L	<26.0	<1300	51	457	
Aroclor 1248	µg/L	<26.0	<1300	<13	<52	
Aroclor 1254	µg/L	188	21500	171	1590	21.5
Aroclor 1260	µg/L	133	10800	78.1	892	10.8

total Organic Compounds detected 411.47 ppm

APPENDIX D

METHOD 21
40 CFR PART 60

Method 21-Determination of Volatile Organic Compound Leaks

1.0 Scope and Application

1.1 Analytes.

Analyte	CAS No.
Volatile Organic Compounds (VOC)	No CAS number assigned.

1.2 Scope. This method is applicable for the determination of VOC leaks from process equipment. These sources include, but are not limited to, valves, flanges and other connections, pumps and compressors, pressure relief devices, process drains, open-ended valves, pump and compressor seal system degassing vents, accumulator vessel vents, agitator seals, and access door seals.

1.3 Data Quality Objectives. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

2.0 Summary of Method

2.1 A portable instrument is used to detect VOC leaks from individual sources. The instrument detector type is not specified, but it must meet the specifications and performance criteria contained in Section 6.0. A leak definition concentration based on a reference compound is specified in each applicable regulation. This method is intended to locate and classify leaks only, and is not to be used as a direct measure of mass emission rate from individual sources.

3.0 Definitions

3.1 *Calibration gas* means the VOC compound used to adjust the instrument meter reading to a known value. The calibration gas is usually the reference compound at a known concentration approximately equal to the leak definition concentration.

3.2 *Calibration precision* means the degree of agreement between measurements of the same known value, expressed as the relative percentage of the average difference between the meter readings and the known concentration to the known concentration.

3.3 *Leak definition concentration* means the local VOC concentration at the surface of a leak source that indicates that a VOC emission (leak) is present. The leak definition is an instrument meter reading based on a reference compound.

3.4 *No detectable emission* means a local VOC concentration at the surface of a leak source, adjusted for local VOC ambient concentration, that is less than 2.5 percent of the specified leak definition concentration. that indicates that a VOC emission (leak) is not present.

3.5 *Reference compound* means the VOC species selected as the instrument calibration basis for specification of the leak definition concentration. (For example, if a leak definition concentration is 10,000 ppm as methane, then any source emission that results in a local concentration that yields a meter reading of 10,000 on an instrument meter calibrated with methane would be classified as a leak. In this example, the leak definition concentration is 10,000 ppm and the reference compound is

methane.)

3.6 *Response factor* means the ratio of the known concentration of a VOC compound to the observed meter reading when measured using an instrument calibrated with the reference compound specified in the applicable regulation.

3.7 *Response time* means the time interval from a step change in VOC concentration at the input of the sampling system to the time at which 90 percent of the corresponding final value is reached as displayed on the instrument readout meter.

4.0 Interferences [Reserved]

5.0 Safety

5.1 Disclaimer. This method may involve hazardous materials, operations, and equipment. This test method may not address all of the safety problems associated with its use. It is the responsibility of the user of this test method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to performing this test method.

5.2 Hazardous Pollutants. Several of the compounds, leaks of which may be determined by this method, may be irritating or corrosive to tissues (*e.g.,* heptane) or may be toxic (*e.g.,* benzene, methyl alcohol). Nearly all are fire hazards. Compounds in emissions should be determined through familiarity with the source. Appropriate precautions can be found in reference documents, such as reference No. 4 in Section 16.0.

6.0 Equipment and Supplies

A VOC monitoring instrument meeting the following specifications is required:

6.1 The VOC instrument detector shall respond to the compounds being processed. Detector types that may meet this requirement include, but are not limited to, catalytic oxidation, flame ionization, infrared absorption, and photoionization.

6.2 The instrument shall be capable of measuring the leak definition concentration specified in the regulation.

6.3 The scale of the instrument meter shall be readable to ±2.5 percent of the specified leak definition concentration.

6.4 The instrument shall be equipped with an electrically driven pump to ensure that a sample is provided to the detector at a constant flow rate. The nominal sample flow rate, as measured at the sample probe tip, shall be 0.10 to 3.0 l/min (0.004 to 0.1 ft^3/min) when the probe is fitted with a glass wool plug or filter that may be used to prevent plugging of the instrument.

6.5 The instrument shall be equipped with a probe or probe extension or sampling not to exceed 6.4 mm ($^1/_4$ in) in outside diameter, with a single end opening for admission of sample.

6.6 The instrument shall be intrinsically safe for operation in explosive atmospheres as defined by the

National Electrical Code by the National Fire Prevention Association or other applicable regulatory code for operation in any explosive atmospheres that may be encountered in its use. The instrument shall, at a minimum, be intrinsically safe for Class 1, Division 1 conditions, and/or Class 2, Division 1 conditions, as appropriate, as defined by the example code. The instrument shall not be operated with any safety device, such as an exhaust flame arrestor, removed.

7.0 Reagents and Standards

7.1 Two gas mixtures are required for instrument calibration and performance evaluation:

7.1.1 Zero Gas. Air, less than 10 parts per million by volume (ppmv) VOC.

7.1.2 Calibration Gas. For each organic species that is to be measured during individual source surveys, obtain or prepare a known standard in air at a concentration approximately equal to the applicable leak definition specified in the regulation.

7.2 Cylinder Gases. If cylinder calibration gas mixtures are used, they must be analyzed and certified by the manufacturer to be within 2 percent accuracy, and a shelf life must be specified. Cylinder standards must be either reanalyzed or replaced at the end of the specified shelf life.

7.3 Prepared Gases. Calibration gases may be prepared by the user according to any accepted gaseous preparation procedure that will yield a mixture accurate to within 2 percent. Prepared standards must be replaced each day of use unless it is demonstrated that degradation does not occur during storage.

7.4 Mixtures with non-Reference Compound Gases. Calibrations may be performed using a compound other than the reference compound. In this case, a conversion factor must be determined for the alternative compound such that the resulting meter readings during source surveys can be converted to reference compound results.

8.0 Sample Collection, Preservation, Storage, and Transport

8.1 Instrument Performance Evaluation. Assemble and start up the instrument according to the manufacturer's instructions for recommended warmup period and preliminary adjustments.

8.1.1 Response Factor. A response factor must be determined for each compound that is to be measured, either by testing or from reference sources. The response factor tests are required before placing the analyzer into service, but do not have to be repeated at subsequent intervals.

8.1.1.1 Calibrate the instrument with the reference compound as specified in the applicable regulation. Introduce the calibration gas mixture to the analyzer and record the observed meter reading. Introduce zero gas until a stable reading is obtained. Make a total of three measurements by alternating between the calibration gas and zero gas. Calculate the response factor for each repetition and the average response factor.

8.1.1.2 The instrument response factors for each of the individual VOC to be measured shall be less than 10 unless otherwise specified in the applicable regulation. When no instrument is available that meets this specification when calibrated with the reference VOC specified in the applicable regulation, the available instrument may be calibrated with one of the VOC to be measured, or any other VOC, so

long as the instrument then has a response factor of less than 10 for each of the individual VOC to be measured.

8.1.1.3 Alternatively, if response factors have been published for the compounds of interest for the instrument or detector type, the response factor determination is not required, and existing results may be referenced. Examples of published response factors for flame ionization and catalytic oxidation detectors are included in References 1-3 of Section 17.0.

8.1.2 Calibration Precision. The calibration precision test must be completed prior to placing the analyzer into service and at subsequent 3-month intervals or at the next use, whichever is later.

8.1.2.1 Make a total of three measurements by alternately using zero gas and the specified calibration gas. Record the meter readings. Calculate the average algebraic difference between the meter readings and the known value. Divide this average difference by the known calibration value and multiply by 100 to express the resulting calibration precision as a percentage.

8.1.2.2 The calibration precision shall be equal to or less than 10 percent of the calibration gas value.

8.1.3 Response Time. The response time test is required before placing the instrument into service. If a modification to the sample pumping system or flow configuration is made that would change the response time, a new test is required before further use.

8.1.3.1 Introduce zero gas into the instrument sample probe. When the meter reading has stabilized, switch quickly to the specified calibration gas. After switching, measure the time required to attain 90 percent of the final stable reading. Perform this test sequence three times and record the results. Calculate the average response time.

8.1.3.2 The instrument response time shall be equal to or less than 30 seconds. The instrument pump, dilution probe (if any), sample probe, and probe filter that will be used during testing shall all be in place during the response time determination.

8.2 Instrument Calibration. Calibrate the VOC monitoring instrument according to Section 10.0.

8.3 Individual Source Surveys.

8.3.1 Type I-Leak Definition Based on Concentration. Place the probe inlet at the surface of the component interface where leakage could occur. Move the probe along the interface periphery while observing the instrument readout. If an increased meter reading is observed, slowly sample the interface where leakage is indicated until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately two times the instrument response time. If the maximum observed meter reading is greater than the leak definition in the applicable regulation, record and report the results as specified in the regulation reporting requirements. Examples of the application of this general technique to specific equipment types are:

8.3.1.1 Valves. The most common source of leaks from valves is the seal between the stem and housing. Place the probe at the interface where the stem exits the packing gland and sample the stem circumference. Also, place the probe at the interface of the packing gland take-up flange seat and sample the periphery. In addition, survey valve housings of multipart assembly at the surface of all interfaces where a leak could occur.

8.3.1.2 Flanges and Other Connections. For welded flanges, place the probe at the outer edge of the flange-gasket interface and sample the circumference of the flange. Sample other types of nonpermanent joints (such as threaded connections) with a similar traverse.

8.3.1.3 Pumps and Compressors. Conduct a circumferential traverse at the outer surface of the pump or compressor shaft and seal interface. If the source is a rotating shaft, position the probe inlet within 1 cm of the shaft-seal interface for the survey. If the housing configuration prevents a complete traverse of the shaft periphery, sample all accessible portions. Sample all other joints on the pump or compressor housing where leakage could occur.

8.3.1.4 Pressure Relief Devices. The configuration of most pressure relief devices prevents sampling at the sealing seat interface. For those devices equipped with an enclosed extension, or horn, place the probe inlet at approximately the center of the exhaust area to the atmosphere.

8.3.1.5 Process Drains. For open drains, place the probe inlet at approximately the center of the area open to the atmosphere. For covered drains, place the probe at the surface of the cover interface and conduct a peripheral traverse.

8.3.1.6 Open-ended Lines or Valves. Place the probe inlet at approximately the center of the opening to the atmosphere.

8.3.1.7 Seal System Degassing Vents and Accumulator Vents. Place the probe inlet at approximately the center of the opening to the atmosphere.

8.3.1.8 Access door seals. Place the probe inlet at the surface of the door seal interface and conduct a peripheral traverse.

8.3.2 Type II-"No Detectable Emission". Determine the local ambient VOC concentration around the source by moving the probe randomly upwind and downwind at a distance of one to two meters from the source. If an interference exists with this determination due to a nearby emission or leak, the local ambient concentration may be determined at distances closer to the source, but in no case shall the distance be less than 25 centimeters. Then move the probe inlet to the surface of the source and determine the concentration as outlined in Section 8.3.1. The difference between these concentrations determines whether there are no detectable emissions. Record and report the results as specified by the regulation. For those cases where the regulation requires a specific device installation, or that specified vents be ducted or piped to a control device, the existence of these conditions shall be visually confirmed. When the regulation also requires that no detectable emissions exist, visual observations and sampling surveys are required. Examples of this technique are:

8.3.2.1 Pump or Compressor Seals. If applicable, determine the type of shaft seal. Perform a survey of the local area ambient VOC concentration and determine if detectable emissions exist as described in Section 8.3.2.

8.3.2.2 Seal System Degassing Vents, Accumulator Vessel Vents, Pressure Relief Devices. If applicable, observe whether or not the applicable ducting or piping exists. Also, determine if any sources exist in the ducting or piping where emissions could occur upstream of the control device. If the required ducting or piping exists and there are no sources where the emissions could be vented to the atmosphere upstream of the control device, then it is presumed that no detectable emissions are present. If there are sources in the ducting or piping where emissions could be vented or sources where leaks could occur, the sampling surveys described in Section 8.3.2 shall be used to determine if

detectable emissions exist.

8.3.3 Alternative Screening Procedure.

8.3.3.1 A screening procedure based on the formation of bubbles in a soap solution that is sprayed on a potential leak source may be used for those sources that do not have continuously moving parts, that do not have surface temperatures greater than the boiling point or less than the freezing point of the soap solution, that do not have open areas to the atmosphere that the soap solution cannot bridge, or that do not exhibit evidence of liquid leakage. Sources that have these conditions present must be surveyed using the instrument technique of Section 8.3.1 or 8.3.2.

8.3.3.2 Spray a soap solution over all potential leak sources. The soap solution may be a commercially available leak detection solution or may be prepared using concentrated detergent and water. A pressure sprayer or squeeze bottle may be used to dispense the solution. Observe the potential leak sites to determine if any bubbles are formed. If no bubbles are observed, the source is presumed to have no detectable emissions or leaks as applicable. If any bubbles are observed, the instrument techniques of Section 8.3.1 or 8.3.2 shall be used to determine if a leak exists, or if the source has detectable emissions, as applicable.

9.0 Quality Control

Section	Quality control measure	Effect
8.1.2	Instrument calibration precision check	Ensure precision and accuracy, respectively, of instrument response to standard.
10.0	Instrument calibration	

10.0 Calibration and Standardization

10.1 Calibrate the VOC monitoring instrument as follows. After the appropriate warmup period and zero internal calibration procedure, introduce the calibration gas into the instrument sample probe. Adjust the instrument meter readout to correspond to the calibration gas value.

NOTE: If the meter readout cannot be adjusted to the proper value, a malfunction of the analyzer is indicated and corrective actions are necessary before use.

11.0 Analytical Procedures [Reserved]
12.0 Data Analyses and Calculations [Reserved]
13.0 Method Performance [Reserved]
14.0 Pollution Prevention [Reserved]
15.0 Waste Management [Reserved]
16.0 References

1. Dubose, D.A., and G.E. Harris. Response Factors of VOC Analyzers at a Meter Reading of 10,000 ppmv for Selected Organic Compounds. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81051. September 1981.

2. Brown, G.E., *et al.* Response Factors of VOC Analyzers Calibrated with Methane for Selected Organic Compounds. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81-022. May 1981.

3. DuBose, D.A. *et al.* Response of Portable VOC Analyzers to Chemical Mixtures. U.S. Environmental Protection Agency, Research Triangle Park, NC. Publication No. EPA 600/2-81-110. September 1981.

4. Handbook of Hazardous Materials: Fire, Safety, Health. Alliance of American Insurers. Schaumberg, IL. 1983.

The test methods in this appendix are referred to in §60.8 (Performance Tests) and §60.11 (Compliance With Standards and Maintenance Requirements) of 40 CFR part 60, subpart A (General Provisions). Specific uses of these test methods are described in the standards of performance contained in the subparts, beginning with Subpart D.

Within each standard of performance, a section title "Test Methods and Procedures" is provided to: (1) Identify the test methods to be used as reference methods to the facility subject to the respective standard and (2) identify any special instructions or conditions to be followed when applying a method to the respective facility. Such instructions (for example, establish sampling rates, volumes, or temperatures) are to be used either in addition to, or as a substitute for procedures in a test method. Similarly, for sources subject to emission monitoring requirements, specific instructions pertaining to any use of a test method as a reference method are provided in the subpart or in Appendix B.

Inclusion of methods in this appendix is not intended as an endorsement or denial of their applicability to sources that are not subject to standards of performance. The methods are potentially applicable to other sources; however, applicability should be confirmed by careful and appropriate evaluation of the conditions prevalent at such sources.

The approach followed in the formulation of the test methods involves specifications for equipment, procedures, and performance. In concept, a performance specification approach would be preferable in all methods because this allows the greatest flexibility to the user. In practice, however, this approach is impractical in most cases because performance specifications cannot be established. Most of the methods described herein, therefore, involve specific equipment specifications and procedures, and only a few methods in this appendix rely on performance criteria.

Minor changes in the test methods should not necessarily affect the validity of the results and it is recognized that alternative and equivalent methods exist. Section 60.8 provides authority for the Administrator to specify or approve (1) equivalent methods, (2) alternative methods, and (3) minor changes in the methodology of the test methods. It should be clearly understood that unless otherwise identified all such methods and changes must have prior approval of the Administrator. An owner employing such methods or deviations from the test methods without obtaining prior approval does so at the risk of subsequent disapproval and retesting with approved methods.

Within the test methods, certain specific equipment or procedures are recognized as being acceptable or potentially acceptable and are specifically identified in the methods. The items identified as acceptable options may be used without approval but must be identified in the test report. The potentially approvable options are cited as "subject to the approval of the Administrator" or as "or equivalent." Such potentially approvable techniques or alternatives may be used at the discretion of the owner without prior approval. However, detailed descriptions for applying these potentially approvable techniques or alternatives are not provided in the test methods. Also, the potentially approvable options are not necessarily acceptable in all applications. Therefore, an owner electing to use such potentially approvable techniques or alternatives is responsible for: (1) assuring that the techniques or alternatives are in fact applicable and are properly executed; (2) including a written description of the alternative method in the test report (the written method must be clear and must be capable of being performed without additional instruction, and the degree of detail should be similar to the detail contained in the test methods); and (3) providing any rationale or supporting data necessary to show the validity of the alternative in the particular application. Failure to meet these requirements can result in the Administrator's disapproval of the alternative.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 30 2010

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Mr. Joseph L. Wilwerding
Mr. Graham E. Harris
Sage Environmental Consulting
1905 Sherman Street, Suite 1010
Denver, Colorado 80203

Dear Mssrs. Wilwerding and Harris:

This letter is in response to your October 19, 2010, letter to Mamie Miller requesting clarification on the use of Method 21 monitoring practices for components that have been coated with commercially available products to protect from external conditions such as corrosion. You specifically request EPA's confirmation that: for coated components, leak, detection and repair (LDAR) monitoring must be performed above the coating along the component interface where leakage may occur and at the equipment locations described by Method 21, using applicable leak thresholds to define when component repair is required.

EPA agrees that LDAR monitoring must be performed above the coating along the component interface where leakage may occur, at the equipment locations described by Method 21, using applicable leak thresholds to define when component repair is required. Additionally, EPA believes monitoring of coated components needs to be performed above the coating at other locations where visible signs, such as staining/discoloration, blistering, or breach in the coating, would indicate a leak may have occurred, using applicable leak thresholds to define when component repair is required. Furthermore, monitoring of coated components needs to be performed at other locations where any leaks from the component are expected to be emitted to the atmosphere, such as the points of termination of the coating, using applicable leak thresholds to define when component repair is required.

This response has been coordinated with the EPA Office of Air Quality Planning and Standards. If you have any questions, please contact Scott Throwe of my staff at (202) 564-7013.

Sincerely,

Richard F. Duffy, Acting Director
Compliance Assessment and Media Programs Division
Office of Compliance

APPENDIX E

"UNSAFE TO MONITOR"
"DIFFICULT TO MONITOR"

"UNSAFE TO MONITOR" EQUIPMENT

The following equipment has been identified as "Unsafe to Monitor" and will be monitored annually using the "Unsafe to Monitor" technique (see Appendix A for Equipment ID#):

Process Area	Equipment ID #	Reason
SLF 1-6 Manholes/Cleanouts	All equipment	Confined space
SLF 1-6 Leachate Sump L1	All equipment	Confined space
SLF 1-6 Leachate Sump L2	All equipment	Confined space
SLF 1-6 Leachate Sump L5	All equipment	Confined space
SLF 1-6 Leachate Sump L6	All equipment	Confined space
SLF 1-6 Leachate Sump L8	All equipment	Confined space
SLF 1-6 Leachate Sump L10	All equipment	Confined space
SLF 1-6 Leachate Sump L12	All equipment	Confined space
SLF 1-6 Leachate Sump L15	All equipment	Confined space
SLF 1-6 Leachate Sump L16	All equipment	Confined space
SLF 1-6 Leachate Sump L19	All equipment	Confined space
SLF 7 Manhole M7	All equipment	Confined space
SLF 7 Leachate Sump L30	All equipment	Confined space

"DIFFICULT TO MONITOR" EQUIPMENT

The following equipment have been identified as "Difficult to Monitor" and will be monitored annually by the Leak/No Leak Technique:

Process Area	Equipment ID #	Reason
SLF 1-6 Leachate Facility (T-130)	V50, V51, V52, and V53	Elevated

APPENDIX F

RECORDS AND FORMS

CWM Chemical Services, LLC
Model City Facility
Subpart BB Compliance Program
Leak Detection Report

Section 1 - Potential Leak Identification

Complete this section if leak is suspected at flange or other connection via visual, audible or olfactory inspection.

Date: _____ Recorded By: _____ Location: _____ Item#: _____
Item (flange, other): _____ Evidence for leak (visual, audible, olfactory): _____

Section 2 - Leak Identification

Complete this section upon identification of leak via visual inspection or monitoring. Monitoring must be completed within 5 days of Section 1 date for flanges and other connections or taken out of service.

Date: _____ Recorded By: _____ Instrument Used: _____ Item#: _____
Item (pump, valve, flange, other): _____ Location: _____
Evidence for leak: _____
(If concentration measured and greater than 10,000 ppm enter "ABOVE 10,000")
Item tagged with "LEAK DETECTED" tag: YES: ☐ ; NO: ☐
Environmental Work Order # (if applicable): _____

HAS THE EQUIPMENT BEEN TAKEN OUT OF SERVICE? YES: ☐ ; NO: ☐
Note: Do not check the box for "Repair Delayed" if the equipment is out of service.

Section 3 - Attempted Leak Repair

Complete this section after attempting to repair a leak. First attempt must be within 5 days of Section 2 date.

Date: _____ Recorded by: _____
Repair Methods Applied: _____
_____

Section 4 - Second Repair Attempt (if applicable)

Date: _____ Recorded by: _____
Repair Methods Applied: _____
_____

Section 5 - Repair of Leak Completed

Date: _____ Leak Repaired? YES: ☐ ; NO: ☐ Recorded by: _____
Leak must be repaired within 15 calendar days from Section 2 date. If not, enter "REPAIR DELAYED" and reasons for delay below. The signature of the owner, operator, or designee whose decision it was that the repair could not be effected without a hazardous waste management unit shutdown must appear below. Documentation supporting the delay of repair of a valve must also be attached.

☐			
"REPAIR DELAYED"	Reason for Delay	Expected Repair Date	Signature


SHARPIE
OUT OF SERVICE
V169 -- subpart
BB Leak
COVER
DATE: 12-15-04
V-169
F-395

CWM Chemical Services, LLC
Model City Facility
Subpart BB Compliance Program

MONTHLY PUMP P1 - P4 MONITORING FORM

DATE: _____ RECORDED BY: _____ INSTRUMENT USED: _____

PUMP ID NO.	LOCATION	INSTRUMENT READING	LEAK DETECTED
P1	FUELS DRUM BULKING	NOT REQUIRED	☐ YES ☐ NO
P2	TANKER TO TANKER	NOT REQUIRED	☐ YES ☐ NO
P3	SLF 11 OWS		☐ YES ☐ NO
P4	SLF 11 OWS		☐ YES ☐ NO

NOTES:

1. **Pumps P1** and **P2** have been designated as No Detectable Emissions (NDE) pumps. Consequently, these pumps need to be monitored initially and **ANNUALLY** thereafter and visibly inspected weekly on weeks they operate. NDE pumps must be operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background. If the instrument reading is greater than or equal to 500 ppm above background for P1 or P2. then a leak is detected.

2. **Pumps P3** and **P4** need to be monitored **MONTHLY** and visually inspected weekly. If the instrument reading is greater that or equal to 10,000ppm, then a leak is detected.

3. If a leak is detected, then a leak detection report must be completed.
For repair schedule, see Cycle task MO600.2

Information will be recorded in a similar format and will be maintained by the Environmental Monitoring Group at CWM Chemical Services, LLC.

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Task ID	MO600.2	**Start Date**	06/01/2014
Owner	Inspector	**Due Date**	06/30/2014
Initials		**Completion Date**	

Task Name: Leak from Subpart BB pump
Source ID: Regulation
Source Name: Regulations
Task Frequency: 1 Monthly

Task Description:

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

PUMP INSPECTION:

All BB pumps must be inspected weekly for leakage from pump seal (see task MO604.2 with pumps P3 and P4 for Drum Super, MO604.3 with pumps P1 and P2 for AT Super).

If a pump is determined to be leaking during routine visual inspection or monthly monitoring (>10,000 ppm detected by leak/no leak technique) notify Jill or Jonathan of a BB leak and:

1. Attach a tag to the leaking equipment,
2. Follow the repair schedule below and
3. Document activities on the "Leak Detection Report".

The tag may be removed after repair.

PUMP MONITORING (FID):

Pumps P3 and P4 (T-158 O/W Sep Operation) must be monitored monthly with FID. Use Monthly Pump Monitoring Form.

Pumps P1 and P2 have no externally actuated shaft penetrating the pump house and may be designated "No Detectable Emissions" and are eligible for reduced monitoring. Initial FID reading must be <500ppm above background for the pump to be designated as no detectable emissions (NDE). Monitored must then be performed annually by no detectable emissions technique (confirm <500 ppm). If meter reading >500ppm above background is obtained, then the monitoring must be changed to monthly by leak/no leak technique. P1 & P2 (fuels transfer area) are "NDE" pumps.

REPAIR SCHEDULE:

* make a first attempt at repair (e.g. tightening the packing gland) within 5 calendar days of detecting the leak

* complete repair within 15 calendar days

* certify that the repair is complete by monitoring with a FID for < 10,000 ppm (or <500 ppm for a pump using NDE designation).

Notes:

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Monthly task distributed to At Ops, Env Mon Mgr, Maint Supers, Drum Super, Inspector

EFFECTIVE DATE OF THIS REGULATION IS DECEMBER 6, 1996.

Source:
40 CFR 264/265.1052 (Subpart BB regulations)
6 NYCRR 373-2.28
CWM BB Plan

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Task ID	MO604.2	Start Date	09/01/2013
Owner	Drum Handling Super.	Due Date	09/30/2013
Initials		Completion Date	

Task Name: Subpart BB Pump Inspection
Source ID: Regulation
Source Name: Regulations
Task Frequency: 1 Monthly

Task Description:

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Visually inspect pumps ONCE EVERY WEEK. As a best management practice, inspect pumps when they are in operation. Indications of liquids dripping from the seal constitutes a leak. If a leak is detected, contact J. Banaszak or Jonathan Rizzo (he will complete a leak detection report).

PUMP P1 (WILDEN PUMP for fuels in Drum Building)

Date of Inspection	Signature of Inspector	Leak Detected?	If yes, reported to J. Banaszak or Jonathan Rizzo on:
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___

PUMP P2 (Tanker to Tanker)

Date of Inspection	Signature of Inspector	Leak Detected?	If yes, reported to J. Banaszak or Jonathan Rizzo on:
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Notes:

This task is assigned to Dr Super LYNN P ------>JONATHAN
Source:
Subpart BB Compliance Program Manual

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Task ID	MO604.3	Start Date	09/01/2013
Owner	At Ops	Due Date	09/30/2013
Initials		Completion Date	

Task Name: Subpart BB Pump Inspections
Source ID: Regulation
Source Name: Regulations
Task Frequency: 1 Monthly

Task Description:

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Visually inspect pumps ONCE EVERY WEEK. As a best management practice, inspect pumps when they are in operation. Indications of liquids dripping from the seal constitutes a leak. If a leak is detected, contact J. Banaszak/J. Rizzo (they will complete a leak detection report).

PUMP P3 @ SLF 1-11 OWS (Tank 158 inlet)

Date of Inspection	Signature of Inspector	Leak Detected?	If yes, reported to Jill/Jonathan on:
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___

PUMP P4 @ SLF 1-11 OWS (Tank 158 outlet)

Date of Inspection	Signature of Inspector	Leak Detected?	If yes, reported to Jill/Jonathan on:
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___
___/___/___	_____	Yes / No	___/___/___

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Notes:

This task is assigned to AT Supervisor LYNN P ------>JONATHAN R.
Source:
Subpart BB Compliance Manual

modified March 2014

Task Assignment Form

Incomplete Tasks That Start Next Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Task ID	MO604.5	**Start Date**	04/01/2014
Owner	At Ops	**Due Date**	04/30/2014
Initials		**Completion Date**	

Task Name: Inspect PRVs
Source ID: Regulation
Source Name: Regulations
Task Frequency: 1 Monthly

Task Description:

Task Assignment Form

Incomplete Tasks That Start Next Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Visually inspect pressure relief valves PRV1-PRV4 once every week. If there is an evidence of a pressure release (AT must contact J. Banaszak/J.Rizzo), then the device must be returned to its normal operating condition of "No Detectable Emissions" as soon as possible. Monitoring must be performed to verify that the device has been restored to its original condition of "No Detectable Emissions" (less than 500 ppm above background) within 5 days of pressure release.

PRV ID#	Location	Leak Detected	Instrument Reading (after return to operation)
PRV1	T-105	YES / NO	____________
PRV4	T-158	YES / NO	____________

Inspection for leaks performed on ____/____/____ by ____________________

PRV ID#	Location	Leak Detected	Instrument Reading (after return to operation)
PRV1	T-105	YES / NO	____________
PRV4	T-158	YES / NO	____________

Inspection for leaks performed on ____/____/____ by ____________________

PRV ID#	Location	Leak Detected	Instrument Reading (after return to operation)
PRV1	T-105	YES / NO	____________
PRV4	T-158	YES / NO	____________

Inspection for leaks performed on ____/____/____ by ____________________

PRV ID#	Location	Leak Detected	Instrument Reading (after return to operation)
PRV1	T-105	YES / NO	____________
PRV4	T-158	YES / NO	____________

Inspection for leaks performed on ____/____/____ by ____________________

PRV ID#	Location	Leak Detected	Instrument Reading (after return to operation)
PRV1	T-105	YES / NO	____________
PRV4	T-158	YES / NO	____________

Inspection for leaks performed on ____/____/____ by ____________________

Notes:

CWM Chemical Services, LLC
Subpart BB Compliance Program
Weekly Monitoring

CONTROL DEVICES (CARBON CANISTERS)

DATE: _____ INSTRUMENT USED: _____

PERFORMED BY: _____

CARBON CANISTER	DESCRIPTION	INSTRUMENT READING	TRANSFER IN PROGRESS?	BREAK THROUGH?
T-105	SLF 1-6 LEACHATE LIFT STATION			☐ YES ☐ NO
T-130*	SLF 1-6 LEACHATE			☐ YES ☐ NO
T-158**	OIL/WATER SEPARATOR			☐ YES ☐ NO
T-107	SLF 7 LEACHATE			☐ YES ☐ NO

* Ideal monitoring conditions would be when T-105 is being transferred to T-130

** Ideal monitoring conditions would be when material is being transferred into T-158

NOTES:

1. In addition to monitoring performed by AWT using Drager Tubes for methylene chloride and a break through definition of 100 ppm, these carbon canisters will be monitored weekly by Method 21 and maintained as No Detectable Emissions (NDE) . Consequently, the canister must be replaced with fresh carbon if a VOC instrument reading of >500 ppm above background is obtained.

FID monitoring to be performed on the following cabon canisters as a BMP:

T-108/T-111	SLF 11 LEACHATE			☐ YES ☐ NO
T-109/T-110	SLF 10 LEACHATE			☐ YES ☐ NO
T-8008***	GWES DNAPL			☐ YES ☐ NO

*** Seasonal operation April 15 - November 1

CWM Chemical Services, LLC
Weekly FID Monitoring

CONTROL DEVICES (CARBON CANISTERS)

DATE: _____ INSTRUMENT USED: MicroFID

PERFORMED BY: _____ WEATHER/TEMP. _____

CARBON CANISTER	DESCRIPTION	INSTRUMENT READING (ppm)	TRANSFER IN PROGRESS?	BREAK THROUGH?
T-100	Partially treated waste water			☐ YES ☐ NO
T-101	SLF 1-6 LEACHATE			☐ YES ☐ NO
T-102	RMU-1/SLF 12 LEACHATE			☐ YES ☐ NO
T-103	RMU-1/SLF 12 LEACHATE			☐ YES ☐ NO
FRAC TANK 3	LEACHATE			☐ YES ☐ NO
T-210	AQUEOUS WASTE			☐ YES ☐ NO
T-220	AQUEOUS WASTE			☐ YES ☐ NO
T-230	AQUEOUS WASTE			☐ YES ☐ NO
T-710 T-810 T-820	AQUEOUS WASTE			☐ YES ☐ NO
T-1010	LIME SLURRY			☐ YES ☐ NO
T-1020	LIME SLURRY			☐ YES ☐ NO
T-1111/T-1112	FILTRATE			☐ YES ☐ NO
T-3001/T-3002	AQUEOUS WASTE			☐ YES ☐ NO
T-3003	AQUEOUS WASTE			☐ YES ☐ NO
T-3009	AQUEOUS WASTE			☐ YES ☐ NO
T-8001/ T-8002***	GWES			☐ YES ☐ NO
T-8004***	GWES			☐ YES ☐ NO
T-8009	GWES			☐ YES ☐ NO
T-8010***	GWES			☐ YES ☐ NO

*** Seasonal operation April 15 - November 1

NOTES:

1. these carbon canisters will be monitored weekly by Method 21 and maintained as No Detectable Emissions (NDE) . Consequently, the canister must be replaced with fresh carbon if a VOC instrument reading of >500 ppm above background is obtained.

Task Assignment Form

All Tasks That Are In Progress This Year

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Task ID	MO158.2	**Start Date**	07/01/2014
Owner	Inspector	**Due Date**	07/31/2014
Initials		**Completion Date**	

Task Name: Tank Carbon Canister Monitoring
Source ID: Permit
Source Name: Permit Requirements
Task Frequency: 3 Quarterly

Task Description:

- Perform carbon canister monitoring with FID weekly for breakthrough on ALL tanks with carbon canisters as long as they contain BB and/or CC waste (even if they are Out of Service as they may contain sludge or other non pumpable material):

Level 1 CC tanks may be monitored using USEPA Method 21 (FID) as listed in the RCRA Subpart CC regulations prior to or after the effective date of the CC regulations, at a frequency equal to 20% of the projected or actual life of the carbon. Due to the difficult in predicting the life of a carbon canister, monitoring will be performed weekly. For Level 2 tanks (biotowers), method 21 monitoring of carbon canisters is required; see Cycle task CC050.2 for daily monitoring requirements .

> 500 ppm has been set as the action level for changing carbon canisters. IF PRACTICAL, A TRANSFER INTO THE TANK MUST BE INITIATED BEFORE AIR MONITORING IS PERFORMED. The monitoring result will be recorded on the Carbon Canister Monitoring form.

The Environmental Compliance Inspector (or designee) will perform the weekly monitoring of the carbon canisters .

Notes:

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Quarterly task: AT Ops, Inspector, Env Mon Mgr
Source:
Subpart CC Compliance Plan, Subpart BB Compliance Plan, both referenced by State Facility Air Permit to be issued in May 2014.

Carbon Canister Monitoring per Air Emission Point Source Permits (Drager Tube monitoring for methylene chloride) - replaced by FID monitoring in April 2014.
July 19, 1996 NYSDEC Letter from P. Eismann to R. Zayatz
January 14, 2002 Letter from R. Zayatz to L. Stiller

BB Plan - List of Tables

Table	Equipment included	Valves?	Flanges?	Associated Monitoring Form
1	SLF 1-6 Leachate Collection Lines (incl. manholes, cle	Y	Y	SLF 1-6 Leachate Collection Lines
2	SLF 1-6 Leachate Sump L1	N	Y	SLF 1-6 Standpipes
3	SLF 1-6 Leachate Sump L2	Y	Y	
4	SLF 1-6 Leachate Sump L5	N	Y	
5	SLF 1-6 Leachate Sump L6	N	Y	
6	SLF 1-6 Leachate Sump L8	N	Y	
7	SLF 1-6 Leachate Sump L10	N	Y	
8	SLF 1-6 Leachate Sump L12	N	Y	
9	SLF 1-6 Leachate Sump L15	Y	Y	
10	SLF 1-6 Leachate Sump L16	Y	Y	
11	SLF 1-6 Leachate Sump L19	N	Y	
12	SLF 1-6 Leachate Facility, T-105 and T-130	Y	Y	SLF 1-6 Pretreat (T150, T130)
13	SLF 7 Leachate Sump L30 and Manhole M7	Y	Y	SLF 7 Standpipes
14 (deleted)	SLF 10 Leachate Sump L35 and Manhole M10	Y	Y	SLF 10 Standpipes
15 (deleted)	SLF 11 Leachate Collection Lines, Manhole M11	Y	Y	SLF 11 Leachate Collection Lines (M11)
16 (deleted)	SLF 11 Leachate Sump L38	Y	Y	SLF 11 Standpipes
17 (deleted)	SLF 11 Leachate Sump L39	Y	Y	
18	Frac Tank 3	Y	Y	Frac Tank 3
19	Fuels Drum Bulking Operation	Y	Y	Fuels Bulking Operation
20	Fuels Tanker to Tanker Transfer Operation	Y	Y	Fuels Tanker to Tanker
21	T-107	Y	Y	SLF 7 Leachate Lift Station (T-107)
22 (deleted)	T-109 and T-110	Y	Y	SLF 10 Leachate Collection System (T110, T109)
23 (deleted	T-111 and T-108	Y	Y	SLF 7 & 11 Leachate Collection System (T111, T108)
23	T-108 Building (T-107 transfer line)		Y	SLF 7 Leachate Lift Station (T-107)
24	T-158	Y	Y	SLF 1-11 Leachate Collection System T158)

updated 3/24/14

CWM Chemical Services, Inc.

Subpart BB Compliance Program

Routine Monitoring Form: SLF 1-6 Leachate Collection Lines

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F001	Yes ☐ No ☐			M1	
F002	Yes ☐ No ☐			M1	
F003	Yes ☐ No ☐			M1	
F004	Yes ☐ No ☐			M1	
F005	Yes ☐ No ☐			M2	
F006	Yes ☐ No ☐			M2	
F007	Yes ☐ No ☐			M2	
F008	Yes ☐ No ☐			M2	
F009	Yes ☐ No ☐			M3	
F010	Yes ☐ No ☐			M3	
F011	Yes ☐ No ☐			M3	
F012	Yes ☐ No ☐			M3	
F013	Yes ☐ No ☐			M3	
F014	Yes ☐ No ☐			M4	
F015	Yes ☐ No ☐			M4	
F016	Yes ☐ No ☐			M4	
F017	Yes ☐ No ☐			M4	
F018	Yes ☐ No ☐			C1	
F019	Yes ☐ No ☐			C1	
F020	Yes ☐ No ☐			C2	
F021	Yes ☐ No ☐			C2	
F022	Yes ☐ No ☐			C3	
F023	Yes ☐ No ☐			C3	
F024	Yes ☐ No ☐			C4	
F025	Yes ☐ No ☐			C4	
V001	Yes ☐ No ☐			M1	
V002	Yes ☐ No ☐			M2	
V003	Yes ☐ No ☐			M3	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
V004	Yes ☐ No ☐			M3	
V005	Yes ☐ No ☐			M4	

*Flanges and other connections need to be visually inspected during routine monitoring for valves. Signs of a leak [Visual / Olfactory / Audible or any other detection method] must be indicated in this form and corrective action initiated.

NOTE : If a leak has been detected, then a leak report must be filled out.

General Comments: _____

Date: _____ Recorded by: _____ Instrument: Foxboro TVA10

CWM Chemical Services, Inc.

Subpart BB Compliance Program

Routine Monitoring Form: SLF 1-6 Standpipes

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F031	Yes ☐ No ☐			L01	
F032	Yes ☐ No ☐			L01	
F033	Yes ☐ No ☐			L01	
F034	Yes ☐ No ☐			L01	
F035	Yes ☐ No ☐			L02	
F036	Yes ☐ No ☐			L02	
F037	Yes ☐ No ☐			L02	
F039	Yes ☐ No ☐			L02	
F041	Yes ☐ No ☐			L05	
F042	Yes ☐ No ☐			L05	
F043	Yes ☐ No ☐			L05	
F047	Yes ☐ No ☐			L06	
F048	Yes ☐ No ☐			L06	
F052	Yes ☐ No ☐			L08	
F053	Yes ☐ No ☐			L08	
F057	Yes ☐ No ☐			L10	
F058	Yes ☐ No ☐			L10	
F059	Yes ☐ No ☐			L10	
F063	Yes ☐ No ☐			L12	
F064	Yes ☐ No ☐			L12	
F069	Yes ☐ No ☐			L15	
F070	Yes ☐ No ☐			L15	
F071	Yes ☐ No ☐			L15	
F072	Yes ☐ No ☐			L15	
F073	Yes ☐ No ☐			L15	
F074	Yes ☐ No ☐			L15	
F078	Yes ☐ No ☐			L16	
F079	Yes ☐ No ☐			L16	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F080	Yes ☐ No ☐			L16	
F081	Yes ☐ No ☐			L16	
F085	Yes ☐ No ☐			L19	
F086	Yes ☐ No ☐			L19	
V015	Yes ☐ No ☐			L02	
V028	Yes ☐ No ☐			L15	
V029	Yes ☐ No ☐			L15	
V032	Yes ☐ No ☐			L16	
V033	Yes ☐ No ☐			L16	

*Flanges and other connections need to be visually inspected during routine monitoring for valves. Signs of a leak [Visual / Olfactory / Audible or any other detection method] must be indicated in this form and corrective action initiated.

NOTE : If a leak has been detected, then a leak report must be filled out.

General Comments: _____

_____

Date: _____ Recorded by: _____ Instrument: Foxboro TVA10

CWM Chemical Services, LLC
Model City Facility
Subpart BB Compliance Program

ANNUAL MONITORING FORM: SLF1-6 LEACHATE FACILITY (T-105,T-130)
"UNSAFE/DIFFICULT TO MONITOR" EQUIPMENT

Date: _____ Recorded By: _____ Instrument Used:

VALVES		
VALVE ID #	**INSTRUMENT READING**	**LEAK DETECTED**
V50		YES ☐ NO ☐
V51		YES ☐ NO ☐
V52		YES ☐ NO ☐
V53		YES ☐ NO ☐
FLANGES AND OTHER CONNECTORS		
There are no provisions for "Difficult to Monitor" flanges under Subpart BB. "Difficult to Monitor" equipment applies only to valves. However "Unsafe to Monitor" Equipment applies to Valves, Pumps, Pressure Relief Devices, Flanges and Other Connections.		

NOTE: If a leak has been suspected by either visual, audible or olfactory methods (flanges and other connections) or detected by an instrument reading greater than or equal to 10,000 ppm (valves), then a leak detection report must be completed.

Information will be recorded in a similar format for all affected equipment, and will be maintained by the Environmental Monitoring Group at CWM Chemical Services, LLC.

Subpart BB Compliance Monitoring

Table 12 SLF 1-6 T-105 and T-130

ID #	Description	Location	Leak Detected?	Valve FID reading (ppm)	Comments	Date
PRV1	Pressure Relief Valve	Top of T-105	Yes [ ] No [ ]			
V36	Valve	Tank T-105 Bottom	Yes [ ] No [ ]			
V37	Valve	Tank T-105 Bottom	Yes [ ] No [ ]			
V38	Valve	N. Wall T-105	Yes [ ] No [ ]			
V40	Motorized Valve	W. T-105	Yes [ ] No [ ]			
V41	Motorized Valve	N. T-105	Yes [ ] No [ ]			
V42	Check Valve	N. T-105	Yes [ ] No [ ]			
V43	Valve	Drain line on N. Wall	Yes [ ] No [ ]			
V48	Valve	Pretreat Dike T-105/ T-130	Yes [ ] No [ ]			
V49	Valve	Pretreat Dike T-105 /T-130	Yes [ ] No [ ]			
V50	Valve	Top Valve on T-130	Yes [ ] No [ ]		Difficult to monitor	
V51	Valve	Second Valve on T-130	Yes [ ] No [ ]		Difficult to monitor	
V52	Valve	Third Valve on T-130	Yes [ ] No [ ]		↓	
V53	Valve	Fourth Valve (bottom) on T-130	Yes [ ] No [ ]			
V54	Valve	South Dike	Yes [ ] No [ ]			
V55	Valve	South Dike	Yes [ ] No [ ]			
V56	Valve	South Dike	Yes [ ] No [ ]			
V61	Valve	Bottom of T-130	Yes [ ] No [ ]			
V63	Valve	Inside Storage Building	Yes [ ] No [ ]			
V64	Valve	Bottom of T-130	Yes [ ] No [ ]			
V65	Valve	Bottom of T-130	Yes [ ] No [ ]			
V66	Valve	Overflow pipe T-130	Yes [ ] No [ ]			
V67	Valve	Overflow pipe T-130	Yes [ ] No [ ]			
F88	Flange	T-105 Effluent	Yes [ ] No [ ]			
F88B	Flange	Level indicator, top of T-105	Yes [ ] No [ ]			
F89	Flange	T-105 Effluent	Yes [ ] No [ ]			
F90	Flange	T-105 Effluent	Yes [ ] No [ ]			
F91	Flange	T-105 Effluent	Yes [ ] No [ ]			

F92	Flange	T-105 Effluent	Yes [ ] No [ ]			
F93	Flange	T-105 top hatch	Yes [ ] No [ ]			
F93A	Flange	T-105 side manway	Yes [ ] No [ ]			
F94	Flange	T-105 Effluent	Yes [ ] No [ ]			
F95	Flange	T-105 Effluent	Yes [ ] No [ ]			
F96	Flange	T-105 Effluent Drain Line	Yes [ ] No [ ]			
F97	Flange	T-105 Effluent Drain Line	Yes [ ] No [ ]			
F97A	Hose Connection with cap	T-105 Effluent Drain Line	Yes [ ] No [ ]			
F98	Flange	T-105 Influent Line – NW wall	Yes [ ] No [ ]			
F99	Flange	T-105 Influent Line – S. T-105	Yes [ ] No [ ]			
F100	Flange	Bottom of T-105	Yes [ ] No [ ]			
F101	Flange	Bottom of T-105	Yes [ ] No [ ]			
F102	Flange	Bottom of T-105	Yes [ ] No [ ]			
F102A	Hose Connection with cap	Bottom of T-105	Yes [ ] No [ ]			
F103	Flange	Flame arrestor (FA), top of T-105	Yes [ ] No [ ]			
F103A	Flange	Vent line from FA to carbon canister	Yes [ ] No [ ]			
F103B	Flange	Vent line from FA to carbon canister	Yes [ ] No [ ]			
F103C	Flange	Vent line from FA to carbon canister	Yes [ ] No [ ]			
F103D	Flange	Vent line from FA to carbon canister	Yes [ ] No [ ]			
F103E	Flange	Vent line from FA to carbon canister	Yes [ ] No [ ]			
F103F	Flange	Vent line connection to carbon canister	Yes [ ] No [ ]			
F103G	Flange	Carbon canister	Yes [ ] No [ ]			
F104	Flange	PRV-1, top of T-105	Yes [ ] No [ ]			
F104A	Flange	PRV-1 vent line to outside	Yes [ ] No [ ]			
F104B	Flange	PRV-1 vent line to outside	Yes [ ] No [ ]			
F104C	Flange	PRV-1 vent line to outside	Yes [ ] No [ ]			
F105	Hose Connection	T-105 Influent	Yes [ ] No [ ]			
F106	Hose Connection	T-105 Influent	Yes [ ] No [ ]			
F107	Flange	W. T-105	Yes [ ] No [ ]			
F108	Flange	W. T-105	Yes [ ] No [ ]			

F109	Flange	Bottom of T-130	Yes [ ] No [ ]			
F109A	Flange	Bottom of T-130	Yes [ ] No [ ]			
F110	Flange	T-105 effluent	Yes [ ] No [ ]			
F111	Flange	T-105 effluent	Yes [ ] No [ ]			
F112	Flange	T-105 effluent	Yes [ ] No [ ]			
F113	Hose Connection	T-130 Outlet	Yes [ ] No [ ]			
F114	Flange	T-130 Inlet from T-105	Yes [ ] No [ ]			
F114A	Tee	T-130 Inlet	Yes [ ] No [ ]			
F114B	Flange	T-130 Inlet	Yes [ ] No [ ]			
F115	Flange	T-130 Inlet	Yes [ ] No [ ]			
F115A	Flange	T-130 Inlet	Yes [ ] No [ ]			
F116	Hose Connection	T-130 Inlet	Yes [ ] No [ ]			
F116A	Flange	To Hose connection	Yes [ ] No [ ]			
F117	Flange	Level Indicator	Yes [ ] No [ ]			
F117A	Flange	Flame Arrestor	Yes [ ] No [ ]			
F117B	Flange	Top Hatch	Yes [ ] No [ ]			
F117C	Flange	Air vent line	Yes [ ] No [ ]			
F117D	Flange	Top of tank	Yes [ ] No [ ]			
F117E	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117F	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
117G	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117H	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117I	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117J	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117K	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117L	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117M	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117N	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117P	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F117Q	Flange	Decant piping, before/after valve	Yes [ ] No [ ]			
F118	Flange	Manway, side of tank	Yes [ ] No [ ]			
F118A	Flange	Overflow line	Yes [ ] No [ ]			
F118B	Flange	Overflow line	Yes [ ] No [ ]			

F118C	Flange	Overflow line	Yes [ ] No [ ]			
F118D	Flange	Overflow line	Yes [ ] No [ ]			
F118E	Flange	End of Overflow line	Yes [ ] No [ ]			
F118F	Flange	Bottom Drain line	Yes [ ] No [ ]			
F118G	Flange	End of Overflow line	Yes [ ] No [ ]			
F119	Coupler	Vent line to carbon canister	Yes [ ] No [ ]			
F119A	Connection	Vent line to carbon canister	Yes [ ] No [ ]			
F119B	Threaded bung	Carbon canister	Yes [ ] No [ ]			
F121	Flange	South Dike	Yes [ ] No [ ]			
F122	Flange	Inside Storage Building	Yes [ ] No [ ]			
F123	Flange	Inside Storage Building	Yes [ ] No [ ]			
F124	Flange	Bottom of T-130	Yes [ ] No [ ]			
F125	Flange	Bottom of T-130	Yes [ ] No [ ]			
F126	Flange	Bottom of T-130	Yes [ ] No [ ]			
F127	Hose Connection	Bottom of T-130	Yes [ ] No [ ]			
F128	Hose Connection	Bottom of T-130	Yes [ ] No [ ]			
F129	Flange	Bottom of T-130	Yes [ ] No [ ]			

CWM Chemical Services, Inc.

Subpart BB Compliance Program

Routine Monitoring Form: SLF 7 Standpipes

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F130	Yes ☐ No ☐			L30	
F131	Yes ☐ No ☐			L30	
F132	Yes ☐ No ☐			L30	
F134	Yes ☐ No ☐			M7	
F135	Yes ☐ No ☐			M7	
F136	Yes ☐ No ☐			M7	
F137	Yes ☐ No ☐			M7	
V073	Yes ☐ No ☐			M7	

*Flanges and other connections need to be visually inspected during routine monitoring for valves. Signs of a leak [Visual / Olfactory / Audible or any other detection method] must be indicated in this form and corrective action initiated.

NOTE : If a leak has been detected, then a leak report must be filled out.

General Comments: _____

_____

Date: _____ Recorded by: _____ Instrument: Foxboro TVA10

Subpart BB Compliance Monitoring

Table 18 Frac Tank 3

ID #	Description	Leak Detected?	Valve FID reading (ppm)	Comments	Date
P5	Pump	Yes [ ] No [ ]			
V89	Valve	Yes [ ] No [ ]			
V90	Valve	Yes [ ] No [ ]			
V91	Valve	Yes [ ] No [ ]			
V92	Valve	Yes [ ] No [ ]			
V93	Valve	Yes [ ] No [ ]			
V94-V100	NOT ASSIGNED	Yes [ ] No [ ]			
V101-116	See Tables 15, 16, 17	Yes [ ] No [ ]			
V117-V120	NOT ASSIGNED	Yes [ ] No [ ]			
V121	Valve	Yes [ ] No [ ]			
V122	Valve	Yes [ ] No [ ]			
V123	Valve	Yes [ ] No [ ]			
F158-F164	NOT ASSIGNED	Yes [ ] No [ ]			
F165	Hose Connection	Yes [ ] No [ ]			
F166	Hose Connection	Yes [ ] No [ ]			
F167	Flange	Yes [ ] No [ ]			
F168	Flange	Yes [ ] No [ ]			
F169	Flange	Yes [ ] No [ ]			
F170	Flange	Yes [ ] No [ ]			
		Yes [ ] No [ ]			
F171	Flange	Yes [ ] No [ ]			

F172	Flange	Yes [ ] No [ ]			
F173	Flange	Yes [ ] No [ ]			
F174	Flange	Yes [ ] No [ ]			
F175	Flange	Yes [ ] No [ ]			
F176	Flange	Yes [ ] No [ ]			
F177	Tee	Yes [ ] No [ ]			
F178	Flange	Yes [ ] No [ ]			
F179	Flange	Yes [ ] No [ ]			
F180	Flange	Yes [ ] No [ ]			
F181	Threaded Connection	Yes [ ] No [ ]			
F182	Tee	Yes [ ] No [ ]			
F183	Flange	Yes [ ] No [ ]			
F184	Threaded Connection	Yes [ ] No [ ]			
F185	Flange	Yes [ ] No [ ]			
F186	Flange	Yes [ ] No [ ]			
F187	Flange	Yes [ ] No [ ]			
F188	Flange	Yes [ ] No [ ]			
F189	Connector	Yes [ ] No [ ]			
F190	Flange	Yes [ ] No [ ]			
F191	Hose Connection	Yes [ ] No [ ]			
F192	Hose Connection	Yes [ ] No [ ]			
F193-F200	NOT ASSIGNED	Yes [ ] No [ ]			
F201-F249	See Tables 15, 16, 17	Yes [ ] No [ ]			
F250-F253	NOT ASSIGNED	Yes [ ] No [ ]			
F254	Flange	Yes [ ] No [ ]			

F255	Flange	Yes [ ] No [ ]			
F256	Threaded Connection	Yes [ ] No [ ]			
F257	Threaded Connection	Yes [ ] No [ ]			
F258	NOT ASSIGNED	Yes [ ] No [ ]			
F259	Threaded Connection	Yes [ ] No [ ]			
F260-F261	NOT ASSIGNED	Yes [ ] No [ ]			

Subpart BB Compliance Program
Routine Monitoring Form: **Fuels Transfer Area**

ID#	Description	Inside Whse?	Leak Detected?	Valve FID reading (ppm)	Comments	Date
F274N	Hose connection with cap	Inside	Yes [ ] No [ ]			
F274M	Hose connection	Inside	Yes [ ] No [ ]			
F274H	Tee	Inside	Yes [ ] No [ ]			
F274G	Threaded connection	Inside	Yes [ ] No [ ]			
V127A	**Valve**	Inside	Yes [ ] No [ ]			
F274F	Elbow	Inside	Yes [ ] No [ ]			
F274E	Flange	Inside	Yes [ ] No [ ]			
Filter 2	**Flange with wing nuts**	Inside	Yes [ ] No [ ]			
F274D	Flange	Inside	Yes [ ] No [ ]			
F274C	Elbow	Inside	Yes [ ] No [ ]			
V127B	**Valve**	Inside	Yes [ ] No [ ]			
F274B	Threaded connection	Inside	Yes [ ] No [ ]			
F274A	Tee	Inside	Yes [ ] No [ ]			
V127C	**Valve**	Inside	Yes [ ] No [ ]			
F274I	Elbow	Inside	Yes [ ] No [ ]			
F274J	Flange	Inside	Yes [ ] No [ ]			
Filter 3	**Flange with wing nuts**	Inside	Yes [ ] No [ ]			
F274K	Flange	Inside	Yes [ ] No [ ]			
F274L	Elbow	Inside	Yes [ ] No [ ]			
V127D	**Valve**	Inside	Yes [ ] No [ ]			
F274	Tee	Inside	Yes [ ] No [ ]			

F274N	Hose connection with cap	Inside	Yes [ ] No [ ]			
F274M	Hose connection	Inside	Yes [ ] No [ ]			
F274P	Elbow	Inside	Yes [ ] No [ ]			
V127E	**Valve**	Inside	Yes [ ] No [ ]			
F274Q	Threaded connection	Inside	Yes [ ] No [ ]			
F274R	Elbow	Inside	Yes [ ] No [ ]			
F271	Threaded connection	Inside	Yes [ ] No [ ]			
F264	Elbow	Inside	Yes [ ] No [ ]			
P1	**Pump**	Inside	Yes [ ] No [ ]			
F272	Connection	Inside	Yes [ ] No [ ]			
F263	Elbow	Inside	Yes [ ] No [ ]			
F274T	Connection to pump	Inside	Yes [ ] No [ ]			
F274S	Connection to pressure gauge	Inside	Yes [ ] No [ ]			
F265	Elbow	Inside	Yes [ ] No [ ]			
F275	Flange	Inside	Yes [ ] No [ ]			
F266	Flange	Inside	Yes [ ] No [ ]			
F267	Elbow	Outside	Yes [ ] No [ ]			
F268	Elbow	Outside	Yes [ ] No [ ]			
F269	Tee	Outside	Yes [ ] No [ ]			
V124	**Valve**	Outside	Yes [ ] No [ ]			
F270	Tee	Outside	Yes [ ] No [ ]			
V125	**Valve**	Outside	Yes [ ] No [ ]			
F262	Chicago blow-off fitting	Outside	Yes [ ] No [ ]			
F273	Threaded Connection	Outside	Yes [ ] No [ ]			
F281	Elbow	Outside	Yes [ ] No [ ]			

F292	Elbow	Outside	Yes [ ] No [ ]			
V128	**Valve**	Outside	Yes [ ] No [ ]			
V133	**Valve**	Outside	Yes [ ] No [ ]			
F285	Tee	Outside	Yes [ ] No [ ]			
F290	Hose Connection	Outside	Yes [ ] No [ ]			
F290A	Hose connection with cap	Outside	Yes [ ] No [ ]			
F276F	Hose connection with cap	Inside	Yes [ ] No [ ]			
V126	**Valve**	Inside	Yes [ ] No [ ]			
F276E	Hose connection	Inside	Yes [ ] No [ ]			
F276D	Elbow	Inside	Yes [ ] No [ ]			
F276C	Flange	Inside	Yes [ ] No [ ]			
Filter 1	**Flange with wing nuts**	Inside	Yes [ ] No [ ]			
F276B	Flange	Inside	Yes [ ] No [ ]			
F276A	Flange	Inside	Yes [ ] No [ ]			
F276	Flange	Inside	Yes [ ] No [ ]			
V132	**Valve**	Outside	Yes [ ] No [ ]			
F291B	Flange	Outside	Yes [ ] No [ ]			
F291A	Connection	Outside	Yes [ ] No [ ]			
F291	Hose connection	Outside	Yes [ ] No [ ]			
V132A	**Valve**	Outside	Yes [ ] No [ ]			
F291C	Threaded cap on air break	Outside	Yes [ ] No [ ]			
F291F	Hose connection with cap	Outside	Yes [ ] No [ ]			

Subpart BB Compliance Program
Routine Monitoring Form: **Tanker to Tanker Transfer Area**

ID#	Description	Inside Whse?	Leak Detected?	Valve FID reading (ppm)	Comments	Date
F279F	Hose connection with cap	Outside	Yes [ ] No [ ]			
F279E	Hose connection	Outside	Yes [ ] No [ ]			
V134E	**Valve**	Outside	Yes [ ] No [ ]			
F279D	Connection with Cap	Outside	Yes [ ] No [ ]			
F279C	Tee	Outside	Yes [ ] No [ ]			
F279B	Tee	Outside	Yes [ ] No [ ]			
V134	**Valve**	Outside	Yes [ ] No [ ]			
F279A	Tee	Outside	Yes [ ] No [ ]			
F279	Connection with Cap	Outside	Yes [ ] No [ ]			
V134B	**Valve**	Outside	Yes [ ] No [ ]			
F278G	Connection	Outside	Yes [ ] No [ ]			
V134D	**Valve**	Outside	Yes [ ] No [ ]			
F278H	Connection	Outside	Yes [ ] No [ ]			
F278D	Flange	Outside	Yes [ ] No [ ]			
Filter 5	**Flanged top with wing nuts**	Outside	Yes [ ] No [ ]			
F278C	Flange	Outside	Yes [ ] No [ ]			
V133B	**Valve**	Outside	Yes [ ] No [ ]			
F277B	Flange	Outside	Yes [ ] No [ ]			
V134A	**Valve**	Outside	Yes [ ] No [ ]			
F278E	Connection	Outside	Yes [ ] No [ ]			
V134C	**Valve**	Outside	Yes [ ] No [ ]			

F278F	Connection	Outside	Yes [ ] No [ ]			
F278B	Flange	Outside	Yes [ ] No [ ]			
Filter 4	**Flanged top with wing nuts**	Outside	Yes [ ] No [ ]			
F278A	Flange	Outside	Yes [ ] No [ ]			
V133A	**Valve**	Outside	Yes [ ] No [ ]			
F277A	Flange	Outside	Yes [ ] No [ ]			
F277	Flange	Outside	Yes [ ] No [ ]			
P2	**Pump**	Outside	Yes [ ] No [ ]			
F282	Flange	Outside	Yes [ ] No [ ]			
F293	Connection	Outside	Yes [ ] No [ ]			
V130	**Valve**	Outside	Yes [ ] No [ ]			
F285	Tee	Outside	Yes [ ] No [ ]			
F290	Hose Connection	Outside	Yes [ ] No [ ]			
V129	**Valve**	Outside	Yes [ ] No [ ]			
F283	Elbow	Outside	Yes [ ] No [ ]			
F283A	Hose Connection	Outside	Yes [ ] No [ ]			
F288	Elbow	Outside	Yes [ ] No [ ]			
V131	**Valve**	Outside	Yes [ ] No [ ]			
F289	Connection	Outside	Yes [ ] No [ ]			

Subpart BB Compliance Monitoring
Table 21 SLF 7/T-107

ID #	Description	Building	Leak Detected?	Valve FID reading (ppm)	Comments	Date
V135	Ball Valve	T-107	Yes [ ] No [ ]			
V136	Ball Valve	T-107	Yes [ ] No [ ]			
V137	Ball Valve	T-107	Yes [ ] No [ ]			
V138	NOT ASSIGNED	T-107	Yes [ ] No [ ]			
V139	NOT ASSIGNED	T-107	Yes [ ] No [ ]			
F297	Flange	T-107	Yes [ ] No [ ]			
F298	Flange	T-107	Yes [ ] No [ ]			
F299	Flange	T-107	Yes [ ] No [ ]			
F299A	Flange	T-107	Yes [ ] No [ ]			
F299B	Flange	T-107	Yes [ ] No [ ]			
F299C	Flange	T-107	Yes [ ] No [ ]			
F299D	Flange	T-107	Yes [ ] No [ ]			
F299E	Flange	T-107	Yes [ ] No [ ]			
F303A	Flange	T-107	Yes [ ] No [ ]			
F300	Flange	T-107	Yes [ ] No [ ]			
F301	Flange	T-107	Yes [ ] No [ ]			
F302	Flange	T-107	Yes [ ] No [ ]			
F302A	Connection	T-107	Yes [ ] No [ ]			
F303	Flange	T-107	Yes [ ] No [ ]			
F304	Flange	T-107	Yes [ ] No [ ]			
F305	Flange	T-107	Yes [ ] No [ ]			
F306	Flange	T-107	Yes [ ] No [ ]			

F307	Flange	T-107	Yes [ ] No [ ]			
F308	Flange	T-108	Yes [ ] No [ ]			
F310	Flange	T-108	Yes [ ] No [ ]			
V156	Valve	T-108	Yes [ ] No [ ]			
F347	Flange	T-108	Yes [ ] No [ ]			
F334	Flange	T-108	Yes [ ] No [ ]			
V157	Valve	T-108	Yes [ ] No [ ]			
F335	Flange	T-108	Yes [ ] No [ ]			
F361	Connection	T-108	Yes [ ] No [ ]			
V148	Valve	T-108	Yes [ ] No [ ]			
F336	Flange	T-108	Yes [ ] No [ ]			
F362	Connection	T-108	Yes [ ] No [ ]			

CWM Chemical Services, Inc.

Subpart BB Compliance Program

Routine Monitoring Form: SLF 1 - 11 Leachate Collection System

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F363	Yes ☐ No ☐			T158	
F364	Yes ☐ No ☐			T158	
F365	Yes ☐ No ☐			T158	
F366	Yes ☐ No ☐			T158	
F367	Yes ☐ No ☐			T158	
F368	Yes ☐ No ☐			T158	
F369	Yes ☐ No ☐			T158	
F370	Yes ☐ No ☐			T158	
F371	Yes ☐ No ☐			T158	
F372	Yes ☐ No ☐			T158	
F373	Yes ☐ No ☐			T158	
F374	Yes ☐ No ☐			T158	
F375	Yes ☐ No ☐			T158	
F376	Yes ☐ No ☐			T158	
F377	Yes ☐ No ☐			T158	
F378	Yes ☐ No ☐			T158	
F379	Yes ☐ No ☐			T158	
F380	Yes ☐ No ☐			T158	
F381	Yes ☐ No ☐			T158	
F382	Yes ☐ No ☐			T158	
F383	Yes ☐ No ☐			T158	
F384	Yes ☐ No ☐			T158	
F385	Yes ☐ No ☐			T158	
F386	Yes ☐ No ☐			T158	
F387	Yes ☐ No ☐			T158	
F388	Yes ☐ No ☐			T158	
F389	Yes ☐ No ☐			T158	
F390	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F391	Yes ☐ No ☐			T158	
F392	Yes ☐ No ☐			T158	
F393	Yes ☐ No ☐			T158	
F394	Yes ☐ No ☐			T158	
F395	Yes ☐ No ☐			T158	
F396	Yes ☐ No ☐			T158	
F397	Yes ☐ No ☐			T158	
F398	Yes ☐ No ☐			T158	
F399	Yes ☐ No ☐			T158	
F400	Yes ☐ No ☐			T158	
F401	Yes ☐ No ☐			T158	
F402	Yes ☐ No ☐			T158	
F403	Yes ☐ No ☐			T158	
F404	Yes ☐ No ☐			T158	
F405	Yes ☐ No ☐			T158	
F406	Yes ☐ No ☐			T158	
F407	Yes ☐ No ☐			T158	
F408	Yes ☐ No ☐			T158	
F409	Yes ☐ No ☐			T158	
F410	Yes ☐ No ☐			T158	
F411	Yes ☐ No ☐			T158	
F412	Yes ☐ No ☐			T158	
F413	Yes ☐ No ☐			T158	
F414	Yes ☐ No ☐			T158	
F415	Yes ☐ No ☐			T158	
F416	Yes ☐ No ☐			T158	
F417	Yes ☐ No ☐			T158	
F418	Yes ☐ No ☐			T158	
F419	Yes ☐ No ☐			T158	
F420	Yes ☐ No ☐			T158	
F421	Yes ☐ No ☐			T158	
F422	Yes ☐ No ☐			T158	
F423	Yes ☐ No ☐			T158	
F424	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F425	Yes ☐ No ☐			T158	
F426	Yes ☐ No ☐			T158	
F427	Yes ☐ No ☐			T158	
F428	Yes ☐ No ☐			T158	
F429	Yes ☐ No ☐			T158	
F430	Yes ☐ No ☐			T158	
F431	Yes ☐ No ☐			T158	
F432	Yes ☐ No ☐			T158	
F433	Yes ☐ No ☐			T158	
F434	Yes ☐ No ☐			T158	
F435	Yes ☐ No ☐			T158	
F436	Yes ☐ No ☐			T158	
F437	Yes ☐ No ☐			T158	
F438	Yes ☐ No ☐			T158	
F439	Yes ☐ No ☐			T158	
F440	Yes ☐ No ☐			T158	
F441	Yes ☐ No ☐			T158	
F442	Yes ☐ No ☐			T158	
F443	Yes ☐ No ☐			T158	
F444	Yes ☐ No ☐			T158	
F445	Yes ☐ No ☐			T158	
F446	Yes ☐ No ☐			T158	
F447	Yes ☐ No ☐			T158	
F448	Yes ☐ No ☐			T158	
F449	Yes ☐ No ☐			T158	
F450	Yes ☐ No ☐			T158	
F451	Yes ☐ No ☐			T158	
F452	Yes ☐ No ☐			T158	
F453	Yes ☐ No ☐			T158	
F454	Yes ☐ No ☐			T158	
F455	Yes ☐ No ☐			T158	
F456	Yes ☐ No ☐			T158	
F457	Yes ☐ No ☐			T158	
F458	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F459	Yes ☐ No ☐			T158	
F460	Yes ☐ No ☐			T158	
F461	Yes ☐ No ☐			T158	
F462	Yes ☐ No ☐			T158	
F463	Yes ☐ No ☐			T158	
F464	Yes ☐ No ☐			T158	
F465	Yes ☐ No ☐			T158	
F466	Yes ☐ No ☐			T158	
F467	Yes ☐ No ☐			T158	
F468	Yes ☐ No ☐			T158	
F469	Yes ☐ No ☐			T158	
F470	Yes ☐ No ☐			T158	
F471	Yes ☐ No ☐			T158	
F472	Yes ☐ No ☐			T158	
F473	Yes ☐ No ☐			T158	
F474	Yes ☐ No ☐			T158	
F475	Yes ☐ No ☐			T158	
F476	Yes ☐ No ☐			T158	
F477	Yes ☐ No ☐			T158	
F478	Yes ☐ No ☐			T158	
F479	Yes ☐ No ☐			T158	
F480	Yes ☐ No ☐			T158	
F481	Yes ☐ No ☐			T158	
F482	Yes ☐ No ☐			T158	
F483	Yes ☐ No ☐			T158	
F484	Yes ☐ No ☐			T158	
F485	Yes ☐ No ☐			T158	
F486	Yes ☐ No ☐			T158	
F487	Yes ☐ No ☐			T158	
F488	Yes ☐ No ☐			T158	
F489	Yes ☐ No ☐			T158	
F490	Yes ☐ No ☐			T158	
F491	Yes ☐ No ☐			T158	
F492	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F493	Yes ☐ No ☐			T158	
F494	Yes ☐ No ☐			T158	
F495	Yes ☐ No ☐			T158	
F496	Yes ☐ No ☐			T158	
F497	Yes ☐ No ☐			T158	
F498	Yes ☐ No ☐			T158	
F499	Yes ☐ No ☐			T158	
F500	Yes ☐ No ☐			T158	
F501	Yes ☐ No ☐			T158	
F502	Yes ☐ No ☐			T158	
F503	Yes ☐ No ☐			T158	
F504	Yes ☐ No ☐			T158	
F505	Yes ☐ No ☐			T158	
F506	Yes ☐ No ☐			T158	
F507	Yes ☐ No ☐			T158	
F508	Yes ☐ No ☐			T158	
F509	Yes ☐ No ☐			T158	
F510	Yes ☐ No ☐			T158	
F511	Yes ☐ No ☐			T158	
F512	Yes ☐ No ☐			T158	
F513	Yes ☐ No ☐			T158	
F514	Yes ☐ No ☐			T158	
F515	Yes ☐ No ☐			T158	
F516	Yes ☐ No ☐			T158	
F517	Yes ☐ No ☐			T158	
F518	Yes ☐ No ☐			T158	
F519	Yes ☐ No ☐			T158	
F522	Yes ☐ No ☐			T158	
F523	Yes ☐ No ☐			T158	
F526	Yes ☐ No ☐			T158	
F527	Yes ☐ No ☐			T158	
F528	Yes ☐ No ☐			T158	
F529	Yes ☐ No ☐			T158	
F530	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
F531	Yes ☐ No ☐			T158	
F532	Yes ☐ No ☐			T158	
F534	Yes ☐ No ☐			T158	
F536	Yes ☐ No ☐			T158	
F537	Yes ☐ No ☐			T158	
F538	Yes ☐ No ☐			T158	
P03	Yes ☐ No ☐			T158	
P04	Yes ☐ No ☐			T158	
PRV4	Yes ☐ No ☐			T158	
V158	Yes ☐ No ☐			T158	
V159	Yes ☐ No ☐			T158	
V160	Yes ☐ No ☐			T158	
V161	Yes ☐ No ☐			T158	
V162	Yes ☐ No ☐			T158	
V163	Yes ☐ No ☐			T158	
V164	Yes ☐ No ☐			T158	
V165	Yes ☐ No ☐			T158	
V166	Yes ☐ No ☐			T158	
V167	Yes ☐ No ☐			T158	
V168	Yes ☐ No ☐			T158	
V169	Yes ☐ No ☐			T158	
V170	Yes ☐ No ☐			T158	
V171	Yes ☐ No ☐			T158	
V172	Yes ☐ No ☐			T158	
V173	Yes ☐ No ☐			T158	
V174	Yes ☐ No ☐			T158	
V175	Yes ☐ No ☐			T158	
V176	Yes ☐ No ☐			T158	
V177	Yes ☐ No ☐			T158	
V178	Yes ☐ No ☐			T158	
V179	Yes ☐ No ☐			T158	
V180	Yes ☐ No ☐			T158	
V181	Yes ☐ No ☐			T158	
V182	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
V183	Yes ☐ No ☐			T158	
V184	Yes ☐ No ☐			T158	
V185	Yes ☐ No ☐			T158	
V186	Yes ☐ No ☐			T158	
V187	Yes ☐ No ☐			T158	
V188	Yes ☐ No ☐			T158	
V189	Yes ☐ No ☐			T158	
V190	Yes ☐ No ☐			T158	
V191	Yes ☐ No ☐			T158	
V192	Yes ☐ No ☐			T158	
V193	Yes ☐ No ☐			T158	
V194	Yes ☐ No ☐			T158	
V195	Yes ☐ No ☐			T158	
V196	Yes ☐ No ☐			T158	
V197	Yes ☐ No ☐			T158	
V198	Yes ☐ No ☐			T158	
V199	Yes ☐ No ☐			T158	
V200	Yes ☐ No ☐			T158	
V201	Yes ☐ No ☐			T158	
V202	Yes ☐ No ☐			T158	
V203	Yes ☐ No ☐			T158	
V204	Yes ☐ No ☐			T158	
V205	Yes ☐ No ☐			T158	
V206	Yes ☐ No ☐			T158	
V207	Yes ☐ No ☐			T158	
V208	Yes ☐ No ☐			T158	
V209	Yes ☐ No ☐			T158	
V210	Yes ☐ No ☐			T158	
V211	Yes ☐ No ☐			T158	
V212	Yes ☐ No ☐			T158	
V213	Yes ☐ No ☐			T158	
V214	Yes ☐ No ☐			T158	
V215	Yes ☐ No ☐			T158	
V216	Yes ☐ No ☐			T158	

Equipment ID	Leak Detected	VALVE > Instr. Reading(ppm) *FLANGE >Leak Method(see below)	Comments	Sub-Area/Unit	Date
V217	Yes ☐ No ☐			T158	
V218	Yes ☐ No ☐			T158	
V219	Yes ☐ No ☐			T158	
V220	Yes ☐ No ☐			T158	
V221	Yes ☐ No ☐			T158	
V222	Yes ☐ No ☐			T158	
V223	Yes ☐ No ☐			T158	
V224	Yes ☐ No ☐			T158	
V225	Yes ☐ No ☐			T158	

***Flanges and other connections need to be visually inspected during routine monitoring for valves. Signs of a leak [Visual / Olfactory / Audible or any other detection method] must be indicated in this form and corrective action initiated.**

NOTE : If a leak has been detected, then a leak report must be filled out.

General Comments: _____

_____

Date: _____ **Recorded by:** _____ **Instrument: Foxboro TVA10**

APPENDIX G

EXEMPTION AND ALTERNATIVE STANDARDS

EXEMPTION AND ALTERNATIVE STANDARDS

Pumps

Pumps P1 and P2 have been designated as No Detectable Emissions Pump.
CWM hereby certifies that:

1. These pumps have no actuated shaft penetrating the pump housing;
2. These pumps will be tested initially and annually for No Detectable Emissions.
3. Visually inspected weekly for indications of a leak.

Valves

All valves that have not been designated as "Unsafe or Difficult to Monitor", will be subject to the Alternate Standard I (see Table 3.1).

COMPLIANCE PROGRAM
Air Emission Standards for Tanks, Surface Impoundments and Containers

40 CFR 264.1080-1091 (Subpart CC)
6 NYCRR 373-2.29

Prepared by:
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1550 Balmer Road
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November 1996
Updated August 2009
Updated October 2013
Updated May 2014

CHAPTER 1: INTRODUCTION

CWM Chemical Services, Inc. (CWM) developed a compliance program in 1996 to meet the requirements established by 40 CFR Part 265 Sections 1080 through 1091 (Subpart CC) -"Air Emission Standards for Tanks, Surface Impoundments, and Containers". Subpart CC is the third in a series of regulations that have been promulgated by the EPA to control hazardous organic emissions from large quantity generators and from Treatment, Storage, and Disposal Facilities (TSDFs). CWM became subject to 40 CFR 264.1080-1091 and 6 NYCRR 373-2.29 after Supbart CC was added to the facility's RCRA permit on August 5, 2005.

1.1 General Applicability of RCRA Subpart CC.

RCRA Subpart CC is applicable to owners and operators of a TSDF, which treats, stores, or disposes of hazardous waste in tanks, surface impoundments, and containers. The requirements of this subpart do not apply to the following units:

1) A waste management unit, which has had no hazardous waste added on or after December 6, 1996.

2) Addition of hazardous waste to the unit has been stopped and the owner or operator has begun implementing a closure pursuant to an approved closure plan.

3) wWaste management units that are used solely to treat or store hazardous waste generated on-site from remedial activities required under the RCRA corrective action or CERCLA response authorities or similar State remediation authorities.

4) Containers of less than or equal to 0.1 m^3 (26 gallons) in size.

5) Units, which receive waste from a Conditionally Exempt Small Quantity Generator (CESQG).

6) Units that receive listed hazardous waste that meets the applicable LDR numerical standards for applicable organics as specified in 40 CFR 268/6 NYCRR 376 or have been treated by the specified technology. This includes characteristic wastes that meet or would be expected to meet UHC standards for all organics expected to be present.

7) Units that receive only hazardous waste that contains less than 500 ppmw volatile organics or waste that has been treated to the specifications in 40 CFR 264.1082(c)(2)/6 NYCRR 373-2.29©

CWM was required to comply with the requirements of 40 CFR part 265 sections 1080 through 1091 until the requirements of Subpart CC were incorporated into the facility's

permit. After the requirements were incorporated into the facility's permit on August 5, 2005, CWM must comply with the requirements of 40 CFR part 264 sections 1080 through 1091 and 6 NY CRR 373-2.29.

1.2 Organization of this Compliance Manual:

This compliance manual is organized into nine chapters. In Chapter 1, an introduction to the scope and applicability of RCRA Subpart CC is presented. Dealt with in Chapter 2, are the protocols used for identification of "affected units". Waste Determination is addressed in Chapter 3. Delineated in Chapter 4, are the tank standards under Subpart CC. The container standards are presented in Chapter 5. The regulatory requirements for Surface Impoundments are included in Chapter 6. Chapter 7 is the Inspection and Monitoring Program. Chapter 8 is Recordkeeping. Appendix A includes the EPA monitoring methods and sample collection protocols. The vapor pressure results for Level 1 tanks are included in Appendix B. The treatment demonstration for leachate from SLFs 1-6, 7, 10, 11 is presented in Appendix C. The CC determination for SLF 12 and RMU-1 is included in Appendix D. The results of initial Method 27 pressure tests for on-site equipment is in Appendix E. Visual inspection forms are attached in Appendix F. Also included in Appendix F is the initial inspection of the Level 1 tank roofs and closure devices. Sample monitoring forms are provided in Appendix G.

CHAPTER 2: IDENTIFICATION OF AFFECTED UNITS

2.1 Protocols for Identification of Affected Units

Prior to the effective date of the Rule, the Environmental Management Department at CWM evaluated all RCRA permitted tanks, surface impoundments, and containers, which are used to store or treat hazardous waste. The following protocols were adopted for the identification of affected units, which will receive wastes that require CC air controls.

In order for a waste stream to be classified as a "Subpart CC controls required waste", the following questions must each be answered with a "NO":

1. Is the waste stream non-hazardous?

2. Is the waste from a RCRA Conditionally Exempt Small Quantity Generator?

3. Does the listed waste meet the numerical concentration limits for applicable organics as specified in 40 CFR 268 or has it been treated by the specified technology and/or is it a characteristic waste that meets or would meet applicable UHCs?

4. Has the hazardous waste been treated to remove or destroy the organics by a process which meets the minimum level of performance specified in the rule (264.1082(c)(2)/ 6 NYCRR 373-2.29©)?

5. Is the average VO concentration at the point of waste origination less than 500 ppmw? (see Chapter 3)

6. Is the waste generated as a result of on-site RCRA corrective actions?

If the answer to the six questions above is no, then the management of the waste stream under consideration must be performed in a unit with CC air controls. A waste management unit (tank, surface impoundment or a container) is said to be an "affected unit", if a Subpart CC waste is or will be placed in the unit on or after December 6, 1996. Note: waste from on-site RCRA corrective action will remain exempt as long as it is managed in unit(s) dedicated to this type of waste.

CHAPTER 3: WASTE DETERMINATION

The volatile organic (VO) concentration shall be determined at the point of origination either using knowledge of the waste or direct measurement.

3.1 Use of Generator Knowledge

To use generator knowledge, documentation must be prepared to demonstrate knowledge of the average VO content. Examples of this type of information include:

* material balances for source or process generating the waste
* previous test data
* test data for similar waste streams
* information included on manifests, shipping papers or waste certification notices

3.2 Use of Direct Measurement

A waste determination can be made analytically using EPA Method 25 D (see Appendix A). Samples must be collected as prescribed in the method. A minimum of 4 samples per test run (batch) must be collected within 1 hour, analyzed and averaged. A sufficient number of batches must be analyzed to address the variability of the waste. The data may be averaged for up to one year to demonstrate that the waste contains <500 ppmw VO and may be managed without controls.

Alternately, a combination of volatile and semivolatile methods (624, 625, 8260B, 8270C) may be selected and used as necessary to address all compounds with a Henry's law constant of greater than 0.1 Y/X (see Appendix VI to Part 265). To use these alternate methods, the facility must have a written sampling plan that addresses how the loss of volatiles will be minimized (see Appendix A). As with method 25D, a minimum of 4 samples must be collected in 1 hour per batch/run and the data may be averaged for up to one year.

3.3 Waste Determinations on Customer Waste streams

The CC waste determination is the generator's responsibility. The Hazardous Waste Profile that is completed by the customer includes the questions about the applicability of CC, such as:

Is the waste subject to RCRA Subpart CC Controls? [ ] Yes [ ] No

If no, does the waste meet the organic LDR exemption? [ ] Yes [ ] No

If no, does the waste contain <500 ppm volatile organics (VOCs)? [ ] Yes [ ] No

The Waste Approvals Manager (WAM) reviews the chemical composition, waste codes and LDR information for consistency with the CC information on the Profile. If the items are not consistent, the customer will be contacted and additional information obtained. The WAM records the CC status of each hazardous waste stream (Profile)in a supplemental field (SUBCC) on the computerized version of the profile (Y or N, LDR exempt or <500 ppm VOC). If the waste stream is non-CC based on VOCs <500 ppm and it will be managed in a tank that does not have organic air controls (e.g. stabilization pit), a one year approval is granted. After one year (12 months), the customer will be required to fill out a CC form to confirm that the waste continues to contain <500 ppm VOCs.

The SUBCC fields on the AS400 profile are used to communicate to Operations which profiles (wastestreams) require CC controls for treatment or storage.

CHAPTER 4: TANK STANDARDS

Subpart CC establishes two levels of controls for tanks that will be used manage CC wastes.

4.1 Level 1 Tank Controls

Level 1 controls are based on the size of the tank, the vapor pressure of the waste contained in the tank and the use of the tank. As long as the tank and the contents meet the specifications below, Level 1 controls consists of a fixed roof with no cracks, gaps or leaks. Openings in the roof (other than conservation vents and relief devices) must be equipped with a closure device (e.g. a hatch cover or cap) or the opening must be vented to a control device. All closure devices are to be maintained in the closed position except when necessary to access the waste or equipment under the cover. No performance standards are specified for the control device.

tank size (gallons)	maximum vapor pressure
≥ 40,000	< 5.2 kPa (<0.75 psi)
≥ 20,000 but <40,000	< 27.6 kPa (<4.5 psi)
< 20,000	< 76.6 kPa (<11.1 psi)

4.2 Level 2 Tank Controls

Level 2 controls are required for tanks that do not meet the Level 1 requirements and for tanks in which stabilization of wastes containing >500 ppmw VOCs or not meeting organic standards is performed or Stabilization is any physical or chemical process used to reduce mobility of hazardous constituents or eliminate free liquids, except for the addition of absorbent to the surface of a waste without mixing. is performed. Level 2 controls are also required if the waste is heated to a temperature greater than that at which the maximum organic vapor pressure was determined. . Level 2 tanks must be vented to a control device and monitoring is required.

Note: a tank can be determined to be in compliance with CC if the owner/operator can certify use of air controls and compliance with other applicable air regulations under 40 CFR 60, 61, 62 or 63 (e.g. Benzene NESHAP or Subpart Kb). CWM is not subject to these air regulations and thus is not eligible to use this method of compliance.

4.3 Affected Tanks at CWM

By virtue of the types of wastes that will be managed, the following tanks were determined to be affected by Subpart CC and require air controls. The determination that the affected units will be used to treat and/or store a Subpart CC waste is based on "Application of Knowledge" unless specified otherwise.

4.3.1 Tanks: Leachate Collection and Management System

Leachate collection tanks T-105, 130, 107, 108, 109, 110, 111 and Frac tank 3 have been identified as affected tanks. Based on the vapor pressure of the organic phase of the leachates from SLFs 1-6, 7, 10 and 11, and the size of the tanks, (see table below), Level 1 controls have been determined to be sufficient. These tanks are closed units, with no cracks or gaps and are vented to a carbon canister to filter the air displaced when liquids are transferred into the tank. Maximum vapor pressure (Vp) was determined at 100°F. Analytical results are included in Appendix B. The vapor pressure data can be found in Appendix B.

Tank	Waste		Size (gal)	Max Vp (kPa)	CC Max Vp (kPa)	Vented to:
T105	SLF 1-6	biphased	3000	3.70	76.6	carbon
T130	SLF 1-6	biphased	5732	3.70	76.6	carbon
T107	SLF 7	aqueous	350	4.75	76.6	carbon
T111	SLF 11	aqueous	350	4.49	76.6	T-108
T108	SLF 7/11	aqueous	10000	4.77	76.6	carbon
T109	SLF 10	aqueous	3000	5.02	76.6	carbon
T110	SLF 10	aqueous	350	5.02	76.6	T-109

* Vp for T-158 is less than or equal the leachate with the highest Vp, 5.02 from SLF 10.

T-158	SLF 1-11	biphased	17,000	<5.02*	76.6	carbon
T-159	SLF 1-11	aqueous	1000	<5.02*	76.6	T-158

T-101[a]	SLF 1-11	aqueous	350,000	<5.02*	5.2	carbon
T-102[a]	SLF 1-11	aqueous	350,000	<5.02*	5.2	carbon
T-103[a]	SLF 1-11	aqueous	350,000	<5.02*	5.2	carbon
Frac 3	SLF 7	aqueous	21,000	4.75	76.6	carbon

Footnote [a] is for T-101, 102 and 103 in the Leachate Tank Farm, the facility permit requires that one tank be dedicated to old landfill leachate (SLF 1-6) and one tank be dedicated to RMU-1 and SLF 12 (non-CC) and the third tank be specified as stand-by for RMU-1 in the event of a storm.

The carbon canisters on Level 1 tanks are monitored as a Best Management Practice. (Note: for some CC tanks, the piping valves and connections are also subject to Subpart BB.) A reading is taken weekly at the air effluent of the carbon canister using a Flame Ionization Detector (FID) instrument; a Photoionization Detector (PID) detector may be used if the FID is not operable. If practical, a transfer into the tank being monitored should be initiated prior to starting the monitoring. A result of greater than or equal to 500 ppm would indicate that the carbon is spent and requires replacement. This value is based on the definition of No Detective Emissions (NDE) in the Subpart BB regulations.

Tank T-158 is a Subpart CC affected tank. Tank T-158, a 17,000 gallon cone bottom oil water separator tank may receive biphased leachate from SLFs 1-6, 7, 10 and 11. Hence the vapor pressure for the material managed in the tank would be considered the maximum Vp from the list of leachate "waste streams" listed above, thus Level 1 controls are sufficient. Any gate receipts (GR) managed in T-158 would have to be evaluated on a case-by-case basis. T-158 is used to separate the organic and aqueous phases. The organic phase is decanted to a tank truck for shipment offsite. The aqueous phase is transferred the tank with "old landfill leachate" in the leachate tank farm (T-101, T-102 or T-103). The leachate from SLF 7 may be transferred from T-107 to Frac tank 3 for additional storage. It may be treated in the AWT system, or pre-treated in the AWT system and transferred to a tanker truck for shipment off-site. T-158, T-101, T-102, T-103 and Frac tank 3 are closed units with no cracks or gaps and are vented to a carbon canister. The carbon canisters are monitored as above.

Tanks T-101, T-102 and T-103 are also used store leachate from SLF 12 and RMU-1. The leachate from two the newer landfills contains <500 ppm VOCs and is exempt.

The aqueous waste from the Groundwater Extraction Systems stored in tanks T-8001, T-8004, T-8008 and T-8009 may contain VOCs >500 ppm at the point of origination (extraction wells). These storage tanks are CC-exempt as they are only

used for the storage of RCRA Corrective Action waste, however, when the wastewater is transferred to the AWT facility for processing, it is mixed with other hazardous waste and becomes subject to the Rule. Due to the level of VOCs in T-8008 and T-8009, these tanks are vented to carbon canisters and monitored as above as a BMP.

4.3.2 Tanks: Aqueous Treatment System

Figure 1.1 is a copy of the AWTS Flow Chart from the AWTS O&M Manual. This figure shows the tanks and their location in the AWTS treatment train. The treatment train (and various components) may be operated in a non-CC mode (vented to the caustic scrubber or atmosphere) or a CC mode (tanks vented to carbon canisters until the point of exit, the carbon adsorbers). When strong acids (non-CC) are pumped from containers into the reactor tanks (T-710, T810 or T820), the reactor tank is vented to the caustic scrubber. If containers of CC waste are pumped into a reactor tank, the tank is set to vent to a carbon canister. The larger receiving tanks T-210, T-220 and T-230 are generally vented to carbon canisters. They are set to vent to carbon whenever CC material is being received. The balance of the treatment tanks up to the carbon adsorbers, are generally vented to carbon canisters. They are set to vent to carbon whenever CC material is being treated. Carbon canisters for level 1 tanks in the AWTS treatment train are monitored for breakthrough as described above.

Tank	Waste		Size (gal)	Max Vp (kPa)	CC Max Vp	Vented to:
T-210	SLF 1-11/GR	aqueous	30,000	<5.02*	27.6	carbon
T-220	SLF 1-11/GR	aqueous	30,000	<5.02*	27.6	carbon
T-230	SLF 1-11/GR	aqueous	30,000	<5.02*	27.6	carbon
T-710	SLF 1-11/GR	aqueous	8,000	<5.02*	76.6	Caustic scrubber or carbon
T-810	SLF 1-11/GR	aqueous	8,000	<5.02*	76.6	Caustic scrubber or carbon
T-820	SLF 1-11/GR	aqueous	8,000	<5.02*	76.6	Caustic scrubber or carbon
T-1010	SLF 1-11/GR	aqueous	10,000	<5.02*	76.6	carbon
T-1020	SLF 1-11/GR	aqueous	8,000	<5.02*	76.6	carbon

T-1111	SLF 1-11/GR	aqueous	300	<5.02*	76.6	carbon
T-1112	SLF 1-11/GR	aqueous	450	<5.02*	76.6	carbon
T-100	SLF 1-11/GR	aqueous	150,000	<5.02*	76.6	carbon
T-3001	SLF 1-11/GR	aqueous	1255	<5.02*	76.6	carbon
T-3002	SLF 1-11/GR	aqueous	900	<5.02*	76.6	carbon
T-3003	SLF 1-11/GR	aqueous	1210	<5.02*	76.6	carbon
T-310@	SLF 1-11/GR	aqueous	20,000	<5.02*	76.6	carbon
T-320@	SLF 1-11/GR	aqueous	20,000	<5.02*	76.6	carbon
T-3011	SLF 1-11/GR	aqueous	375	<5.02*	76.6	carbon
T-3012	SLF 1-11/GR	aqueous	375	<5.02*	76.6	carbon
Carbon adsorbers (2)	SLF 1-11/GR	aqueous	7600	<5.02*	76.6	N/A - Pressure vessels

@ Biotowers T-310 and T-320 are level 2 tanks, monitoring of control device is required.

The aqueous leachate from the old landfills and the GWES systems is processed through the AWTS treatment train to achieve the exit concentration of "meets F039 LDR standards". The leachate may pretreated through one of the carbon adsorbers to reduce the organic content. These are pressure vessels and thus satisfy the Level 1 tank requirements. The leachate is transferred to tank T-210 or T-230, where it is acidified. Additional pre-treatment may be performed using hydrogen peroxide and ferrous sulfate (Fenton's reagent). The material is then processed through the lime slurry tanks (T1010, T-1020) and filter press units. The liquid is transferred via T-1111 or T-1112 to the filtrate holding tank (T-100). The liquid is then transferred through T-3001 to T-3002 (lift station) to the biotowers (T-310 and T-320). The tanks prior to biotowers in the AWT facility may be operated in a Level 1 CC mode by switching the vent system from the caustic scrubber to carbon canisters. Small quantities of gate receipts (GR) may also be included in the CC treatment train. Level 1 controls have been determined to be sufficient for these materials based on their similarity to site generated leachate and the Vp of the individual contaminants in the waste waters.

The biotowers have been classified as Level 2 tanks because the towers include an air distribution system and the contents may be heated by a steam loop during the colder months of the year. When CC material is being treated, these tanks are vented to a large carbon canister via tanks T-3012 and T-3011, the lift stations. The air influent and effluent of the carbon canister are monitored with a Flame Ionization Detector and/or Photoionization Detector (PID) daily on CC treatment days. The PID results and FID results using a carbon filter on the sample intake are used to screen out the non-VOC components in the air stream, such as methane. The canister is changed when the carbon is spent. This indicated by a VOC concentration (either non-methane (filtered) FID or PID) greater than or equal to 500 ppm or a result on the effluent (either non-methane (filtered) FID or PID) that is significantly higher than the influent.

After the biotowers, the final treatment step is the carbon adsorbers. These tanks are pressure vessels and meet the Level 1 criteria. The aqueous material qualifies for exit from CC controls at this point as it meets the LDR standards for F039, multisource leachate. Each batch of treated effluent is tested in accordance with the facility's WAP to demonstrate compliance with the LDR standards. In addition. VOC analysis is performed on daily samples of the feed, midpoint and effluent of the carbon beds to monitor the carbon loading and prevent the production of a batch of effluent that would exceed the LDR standards. The most predominant compound is acetone; its LDR standard is 280 ug/L (ppb).

4.4 Exempt Tanks at CWM

4.4.1 Tanks: SLF 12, and RMU-1 Leachate Collection

Tanks T-150, T-160 and T-165 have been identified as units which contain hazardous waste which has a VO concentration less than 500 ppmw at the point of waste origination. Waste determinations performed on samples of the SLF-12 and RMU-1 lift station leachates (T-150 and T-160) using Method 25 D have indicated that the VOC concentration is less than the trigger level of 500 ppmw VOC. Additional analysis performed using methods 8260 (VOCs) and 8270 (semi-volatiles) continue to confirm that the VO concentration is <500 ppm. Therefore, these two waste streams and the associated lift stations do not require CC controls. T-165 is the storage tank for water pumped from the RMU-1 leachate/stormwater basin. The concentration of VOCs would be less than the leachate that is transferred through the lift station, therefore, this tank is also exempt.

A copy of the analytical results is included in Appendix D.

4.4.2 Leachate Tank Farm

In the leachate storage tank farm, one tank usually receives leachate only from SLF 12 and RMU-1, which are exempt. Another tank is generally designated as a back up storage tank for RMU-1 leachate. Thus two of the three tanks (T101, T-102, T-103) are usually not being used for material that requires CC controls.

4.4.3 Tanks

Tank T-3009 receives only boiler blowdown, and backwash from the carbon beds. As previously discussed in section 4.3.1, the tanks in the AWT treatment train can be vented to either the caustic scrubber or a carbon canister, thus they can be operated as CC Level 1 tanks or exempt tanks depending on the waste water being treated. The AWT tanks after the final carbon treatment in the treatment train are exempt, as the material has been treated to the exit concentration. This includes AWT batch qualification tanks T-58 and T-125.

Truck wash tank T-120 is operated in non-hazardous service and is used to accumulate stormwater. It is exempt from the requirements of Subpart CC. It is, however, permitted for hazardous waste service. The expected hazardous waste will have a VO concentration less than 500 ppmw at the point of waste origination and so T-120 will continue to be exempt.

4.4.4 Tanks: Stabilization Pits

As open top tanks, the stabilization pits cannot satisfy the Level 1 control requirements of a fixed roof. In addition, in order to stabilize wastes with >500 ppm VO, the rule specifies that this must be done in a tank in a Procedure T enclosure that is vented to a combustion device. Because these controls have not been provided, no CC wastes (solids or debris) requiring air controls will be stabilized in the pits. The pits will continue to be used as an intermediate step in performing container-to-container transfers for solids and debris.

4.4.5 Stabilization Facility Water Storage Tanks

Tanks T-6001 and T-6002 are not permitted for hazardous waste. They are used for storm water storage and thus are exempt from Subpart CC. Tanks TA-1 and TA-2 are generally used for nonhazardous wastewater storage. As there are no organic controls on the tanks, no CC wastewaters will be stored in these tanks.

4.4.6 Ground Water Extraction System (GWES) Tanks

Tanks T-8001, T-8002, T-8004, T-8005, T-8006, T-8007, T-8008, T-8009 and T-8010 are used solely for wastewater generated from on-site RCRA Corrective Actions and thus are exempt. In addition, the wastewater in tanks T-8001/8002, T-8005, T-8006, T-8007, T-8009 and T-8010 contain <100 ppm VOCs and thus the wastewater would qualify as exempt based on the VOC concentration during

storage and when it is processed at the AWT facility. Several of these tanks have carbon canisters on the air vent line and are monitored as part of the BMP program (T-8001/8002, T-8009, T-8010). T-8008 has a carbon canister; DNAPL may be present in the tank and it may have greater than 500 ppm VOCs. T-8004 contains >500 ppm VOCs; a carbon canister has been added for this tank.

CHAPTER 5: CONTAINER STANDARDS

The rule establishes 3 levels of controls for containers of CC waste depending on container size and organic content. Containers with a design capacity less than 0.1 m^3 (26.4 gallons) are exempt irrespective of the VO content of the waste placed in it. The following containers are also exempt:

* Satellite accumulation containers
* Labpacks

5.1 Level 1 Container Controls

Level 1 controls may be used for the following containers:

* Container size <119 gallons
* Container size >119 gallons, not in "light material service"

Light material service is defined as the total concentration of pure organic constituents having a vapor pressure greater than 0.3 kPa (0.04 psi) at 20° C is equal to or greater than 20% by weight.

Level 1 controls may be satisfied by 3 alternatives:

1) Use a container that meets DOT specifications on packaging hazardous waste for transportation 2) Use a container equipped with a cover and closure device and the cover is secured with no visible cracks, holes, gaps or other spaces, such as a tarp on a roll-off box.

3) Use an open-top container, in which an organic vapor barrier, such as a foam, is placed over the surface of the waste such that no waste is exposed to the atmosphere

5.2 Level 2 Container Controls

Level 2 controls are required for the following containers:

* Container size > 119 gallons, in "light material service"

Level 2 controls may be satisfied by 3 alternatives:

1) Use a container that meets DOT specifications on packaging hazardous waste for transportation.

2) Use a container that operates with no detectable emissions as tested using Method 21 in accordance with 373-2.29(g)(7), for example a roll-off box of debris contaminated with solvent, covered with a tarp.

3) Use a container that is vapor tight as tested by Method 27, for example a tanker with fuels blend waste

5.3 Level 3 Container Controls

Level 3 controls are required to perform stabilization in a container greater than 26.4 gallons. Note: Stabilization does not include the addition of an absorbent to the surface of a waste without mixing. Level 3 controls include placing the container in an enclosure vented to a control device. No such unit is available at CWM.

5.4 Opening a Level 1 or 2 Container

When can a container subject to CC be opened?

* To add or remove waste; if this is done in batches,(must close container if no waste added in 15 minutes.
* For sampling or other routine activities.
* Use of pressure relief/safety devices.
* When container has been rendered RCRA empty.

Level 2 waste container transfers have special requirements:

* Transfer waste in or out in a manner to minimize exposure to the atmosphere to the extent practical.
* Examples include: submerged fill pipe, fitted opening in top of container through which waste is added, etc.

5.5 Inspection of Containers

Containers received at a TSDF must be inspected for integrity (no cracks, gaps, holes, etc.) within 24 hours of acceptance, unless they will be emptied or disposed of within 24 hours. See Section 5.6.1 and Chapter 7 for details.

5.6 Affected Units at CWM

5.6.1 Drum Warehouse and PCB Warehouse

For containers received at the warehouses, which are less than 119 gallons in size, Level 1 controls are sufficient. Containers subject to CC are identified on the Waste Tracking Form (CC field, Y = yes, subject to CC). The warehouse may also

receive totes containing up to 330 gallons. For these larger contains, the profile will also indicate LMS or not LMS to indicate whether Level 1 or level 2 controls are required. All containers (CC and non-CC) will be inspected for integrity at the time when they are received and the piece count is performed for manifest verification. The completion of this inspection will be noted on the Waste Tracking Form. If a deficiency is noted, the profile will be reviewed to determine if it is a container that requires CC controls. If so, a first attempt to rectify the condition will be made that day. According to the rule, the container deficiency must be addressed within 5 days.

The CC containers in the warehouses will be closed/covered at all times except when adding, removing, or sampling the waste. Speedi-dri may be added to the top of the waste in a container to address free liquid as long as the material is not mixed.

5.6.2 Fuels Blending

The tankers used for bulking solvents and other organic liquids will be subject to Subpart CC, with a Level 2 light material service (LMS) container requirement. When the drums are pumped into an outbound tanker for delivery to a cement kiln or an incinerator, or a tanker to tanker transfer is performed, the outbound unit will meet DOT specifications. CWM will express its concern about minimizing exposure of the waste to the atmosphere to the transporter, so that equipment that meets the requirements of the rule is provided and used.

On-site tankers will be qualified for Level 2 use annually. An organic vapor tightness test (EPA Method 27) will be performed. The results the first round of these tests are included in Appendix E. Cycle task CC110.2 is used to document the test dates and to remind the Heavy Equipment Supervisor when testing is due.

5.6.3 Bulk Solids Container

Bulk solid loads (roll-offs, dump trucks, etc.) are greater than 119 gallons in size, and some of the materials received for direct disposal in the landfill are CC wastes. None of the containers for direct landfill disposal are expected to be in "light material service". The vast majority of the shipments are unloaded directly in the landfill after inspection and analysis (if applicable). Because they are not stored, there is no need to inspect the containers within 24 hours. However, if a CC load should have to be stored (e.g. pending resolution of an off-specification), the Level 1 control, a tarp with good integrity, would be inspected and confirmed. This inspection is documented on the daily RCRA Inspection Form for the parking containment area in which the container is placed. If a direct bulk load is off-spec

due to free liquid, the CC status (SUBCC) must be reviewed to determine if the waste may be stabilized

All bulk loads destined for stabilization in the pits will either be hazardous waste and exempt from CC (<500 ppm VOCs ormeets the numerical concentration limits for applicable organics as specified in 40 CFR 268/6 NYCRR 376) or nonhazardous. Only loads of debris containing less than 500 ppmw VO will be accepted for microencapsulation in the pit. Hence containers of hazardous waste for stabilization and microencapsulation are exempt from CC.

Debris with higher levels of organic contamination are received for macroencapsulation. If a bulk container of this type of waste with > 500 ppm VO (not in light material service (LMS)) will be stored in the parking containment area prior to processing, this Level 1 container will be inspected and the integrity of its cover confirmed. If the debris in the container qualifies as LMS, Level 2 controls are required. A no detectable emissions determination will be made using Method 21 within 24 hours of receipt. The potential for a waste stream to be LMS is documented in the CC supplemental field the computerized Waste Profile.

CWM bulks solids and sludges for incineration. Due to the organic content, the containers for these materials may require CC controls and they may include LMS. The potential for a waste stream to be LMS is documented in the CC supplemental field the computerized Waste Profile. When a batch of material to be transferred into bulk container is identified, the Drum Lab will review the profiles for the inclusion of CC and LMS materials. The appropriate Level 1 or Level 2 controls will then be specified for the container.

Note: when CC material is bulked, absorbent may be added to the container prior to waste addition or to top off the container, it may not be added in between batches as that would constitute mixing

CHAPTER 6: SURFACE IMPOUNDMENTS

If CC wastes are managed in a surface impoundment, one of the following types of covers must be installed:

* a floating membrane continuous barrier

* a cover vented through a closed-vent system to a control device.

6.1 Exempt Units at CWM

The East/West Salts Area is exempt as no hazardous waste as no waste was added after December 6, 1996. The East/West Salts area was closed in place as a landfill.

Fac Ponds 1&2, 3 and 8 have been exempted based on the fact that the water (effluent from the AWT facility) placed in the ponds meets the applicable numerical organic limits for F039 (and any other applicable organic waste codes). This is demonstrated on the AWT facility's effluent as required by the facility's Waste Analysis Plan. Closure is in progress for Fac Pond 8.

Table: Summary of CWM Waste Management Units

Unit Number	Status	Comments
SURFACE IMPOUNDMENTS		
East/West Salts	Closed and capped	No waste placed after December 6, 1996.
Fac Pond 3	exempt	Water meets applicable organic LDR standards
Fac Pond 1	Exempt	Water meets applicable organic LDR standards
Fac Pond 2	Exempt	Water meets applicable organic LDR standards
Fac Pond 8	Exempt	Closure in progress

TANKS

Unit Number	Status	Comments
T-8001	Exempt	On-site remediation under RCRA CA
T-8002	Exempt	On-site remediation under RCRA CA
T-8004	Exempt	On-site remediation under RCRA CA
T-8005	Exempt	On-site remediation under RCRA CA
T-8006	Exempt	On-site remediation under RCRA CA
T-8007	Exempt	On-site remediation under RCRA CA
T-8008	Exempt	On-site remediation under RCRA CA
T-8009	Exempt	On-site remediation under RCRA CA
T-8010	Exempt	On-site remediation under RCRA CA
T-6001	Exempt	Rainwater storage only
T-6002	Exempt	Rainwater storage only
TA-1	Exempt	Used for Nonhazardous aqueous
TA-2	Exempt	Used for Nonhazardous aqueous

T-120	Exempt	Used for Nonhazardous aqueous
T-710	varies	May be operated in CC mode with Level 1 controls when needed
T-810	varies	May be operated in CC mode with Level 1 controls when needed
T-820	varies	May be operated in CC mode with Level 1 controls when needed
T-210	varies	May be operated in CC mode with Level 1 controls when needed
T-220	varies	May be operated in CC mode with Level 1 controls when needed
T-230	varies	May be operated in CC mode with Level 1 controls when needed
T-1010	varies	May be operated in CC mode with Level 1 controls when needed
T-1020	varies	May be operated in CC mode with Level 1 controls when needed
T-1410	Exempt	product tank
T-910	Exempt	product tank
T-1310	Exempt	Caustic scrubber - not used for CC material
T-1111	varies	May be operated in CC mode with Level 1 controls
T-1112	varies	May be operated in CC mode with Level 1 controls
T-100	varies	May be operated in CC mode with Level 1 controls
T-310	varies	May be operated in CC mode with Level 2 controls, vented to T-3011
T-320	varies	May be operated in CC mode with Level 2 controls, vented to T-3012
T-3011	varies	May be operated in CC mode, carbon canister monitored per Level 2

T-3012	varies	May be operated in CC mode, carbon canister monitored per Level 2
T-3002	varies	May be operated in CC mode with Level 1 controls when needed
T-3003	varies	May be operated in CC mode with Level 1 controls when needed
T-3009	varies	Backwash tank, meets Level 1 controls
Carbon adsorbers	varies	Pressure vessel, meets Level 1 controls
T-52	varies	Spent carbon tank, meets Level 1 controls
T-125	Exempt	Meets organic LDR standards
T-58	Exempt	Meets organic LDR standards
Filter press & sump	Exempt	
T-150	Exempt	SLF 12 leachate <500 ppm VOC.
T-160	Exempt	RMU-1 leachate <500 ppm VOC
T-165	Exempt	RMU-1 leachate <500 ppm VOC
T-101	varies	May either be used in exempt mode for RMU-1 leachate or Level 1 controls for SLF 1-6 leachate
T-102	varies	May either be used in exempt mode for RMU-1 leachate or Level 1 controls for SLF 1-6 leachate
T-103	varies	May either be used in exempt mode for RMU-1 leachate or Level 1 controls for SLF 1-6 leachate
Stab.North Pit	Exempt	No CC waste stabilized
Stab.South Pit	Exempt	No CC waste stabilized
T-105	Level 1 control	SLF 1-6 leachate
T-130	Level 1 control	SLF 1-6 leachate

T-107	Level 1 control	SLF 7 leachate
T-108	Level 1 control	SLF 7/11 leachate
T-109	Level 1 control	SLF 10 leachate
T-110	Level 1 control	SLF 10 leachate
T-111	Level 1 control	SLF 11 leachate
T-158, T-159	Level 1 control	SLF 1-6, 7, 10 & 11 leachate
Frac tank 3	Level 1 control	May be used for SLF 7 leachate

Some of the affected waste management units that use an air emission control device need to be inspected for integrity and/or monitored for leaks or detectable organic emissions. CWM has developed a program that will inspect and monitor all appropriate units as follows:

7.1 Inspection Requirements for Level 1 Tanks

7.1.1 Visual Inspection

Each fixed roof used in accordance with the standards prescribed for tanks will be visually inspected. To visually inspect a cover, the facility personnel will view the entire fixed roof or cover surface - there must be no visible cracks, holes or gaps in the roof. The inspector will verify that each cover opening is in a closed, sealed position; and that there is no evidence of any defect (including damaged seals or gaskets) that may result in an air emission from the tank. The inspection form and the results of the initial inspection are included in Appendix F.

7.1.2 Frequency of Inspection

The cover and all cover openings will be initially visually inspected on or before the date that the waste management unit becomes subject to the provisions of Subpart CC (December 6, 1996). Visual inspection will be performed annually thereafter. Cycle task CC150.2 is assigned to the Environmental Monitoring Manager and the site Inspector to remind the environmental staff of the inspection requirement. The completed inspection form is placed in the facility Operating Record. Exceptions include:

i. A cover opening that has continuously remained in a sealed position for the entire period since the last time that the cover opening was subjected to visual inspection.

ii. A cover that is designated as "unsafe to inspect and monitor".

iii. A cover opening that has been installed and placed in operation before December 6, 1994, and has been designated as "unsafe to inspect and monitor".

7.1.3 Repair of Defects

If a defect is noted, it will be documented on the inspection form. If it can be addressed immediately, this should be done and the correction noted on the form. If it can't be addressed immediately, an EWO should be issued and a first attempt at a repair made within 5 days. The deficiency must be repaired within 45 days.

7.2 Monitoring Requirements for Surface Impoundments

Based on the fact that the water going into the Fac ponds is exempt from the requirements of Subpart CC, no controls are required and no monitoring is required. The analysis of each AWT batch qualification showing that the water meets organic LDRs is placed in the Operating Record.

7.3 Inspection and Monitoring Requirements for Containers

7.3.1 Level 1 Containers

Refer to Section 5.6.1 for details on how Level 1 containers will be inspected in the Drum Warehouse and PCB Warehouse.

Refer to Section 5.6.3 for details on how inbound Level 1 bulk solid containers will be inspected if they are to be stored for more than 24 hours. This same criteria applies to site generated CC wastes.

7.3.2 Level 2 Containers

If an inbound bulk solids(LMS) Level 2 container is to be stored more than 24 hours, no detectable emissions will be verified using Method 21. This monitoring will be documented on the Waste Tracking Form. If > 500 ppm is detected, the controls for the container will be considered to be inadequate. A first attempt at repair will be made within 24 hours. The exceedance must be eliminated within 5 days.

For an outbound Level 2 bulk solids container (e.g. bulked drum material for Port Arthur), CWM will perform Method 21 monitoring if the container will remain on-site for more than 24 hours after loading.

Inbound or Outbound Level 2 tank trucks will meet DOT specification. The only inspection criteria would then be to insure that the hatches, etc. are properly secured after waste transfer, sampling, etc.

On-site vac trucks and tanker trucks will be qualified for light material service use by pressure testing using Method 27. When a unit is staged in the Fuels Containment area for the accumulation of hazardous waste liquids, the daily inspection for the area includes verification that hatches are closed. When units are containing hazardous waste are stored in the Full Trailer Park, the daily inspection for the area includes verification that hatches are closed.

CHAPTER 8: RECORD KEEPING

CWM Chemical Services, LLC. will record and maintain the following information in the facility's operating record:

1. Records of vapor pressure determinations for tanks using Level 1 controls (see Appendix B).

2. Records of all visual inspections on tanks, and defect repairs (Appendix F – for initial inspection, subsequent inspections maintained by Environmental Monitoring Manager).

3. Records for all method 27 tests performed on Level 2 containers (on-site tankers and vac trucks)(Appendix E – for initial round of testing, subsequent test results maintained by Heavy Equipment Maintenance Manager).

4. Records to demonstrate that the leachate from SLFs 1-6, 7, 10 and 11 have been treated in accordance with 373-2.29©((3)(iv) or 264.1082(c)(4) and the treated material is exempt from CC (Appendix C).

5. Records that demonstrate that only exempt waste streams are placed in units without CC controls (Customer waste profiles).

6. A written method for how the loss of volatiles will be minimized when samples are taken for analysis by methods 5035A, 8260 and 8270 (Appendix A).

7. Records for all monitoring for no detectable organic emissions conducted on Level 2 bulk solid containers (documented on Waste Tracking Forms).

CHAPTER 9: IMPLEMENTATION SCHEDULE

9.1 Affected Units

9.1.1 SLF 1-6, 7 & 11 Storage Tanks

In order to demonstrate that Level 1 controls are adequate for the storage and treatment of the leachate from landfills 1-6, 7 and 11, additional samples at the point of origination were taken and sent off-site for vapor pressure analysis. Based on the maximum vapor pressure for the combined organic phases of SLF 7 and 11 (4.77 kPa) and the true vapor pressure for all the organic phases combined (2.12 kPa), CWM has every confidence that the individual results would be well under the 76.6 kPa limit for the tanks that store this material. The samples were sent to Phoenix Laboratory in November 1996. Phoenix Labs is the only lab known to run vapor pressure by Method D2879. The lab is currently backed up with vapor pressure samples from generators and TSDFS attempting to confirm the suitability of Level 1 controls. CWM may not be able to obtain the vapor pressure results by December 6, 1996.

UPDATE: Results received 12/9/96. VPs ranged from 3.7 - 5.02 kPa at 100°F, well below level requiring controls (76.6 kPa for tank of < 19,813 gallons).

9.1.2 Level 2 Light Material Service Bulk Solid Containers

CWM is awaiting a clarification from USEPA as to whether a roll-off with a tarp is a DOT specification container. If the answer is no, CWM will utilize the second option, covered container with no visible cracks, holes, etc., as the criteria for Level 1 bulk solid containers. For Level 2 containers, the criteria will be no detectable emissions. CWM is uncertain what type of equipment may be necessary to meet this criteria. CWM will do some Method 21 monitoring prior to the effective date to determine if the current equipment will satisfy this criteria. However, if it does not, suitable equipment will have to be identified and procured.

Update: CWM will perform Method 21 on bulk solids in LMS if they will not be emptied within 24 hours.

9.1.3 Treatment of Leachate From SLFs 1-6, 7, 10, 11 to Meet Exemption Standards

CWM expected that the biphased leachate from SLFs 1-6, 7, 10, 11 could be treated in tank T-158, by decanting the organic phase and then adding a flocculent and decanting again to meet the exemption standards in 40 CFR 265.1083(c)(2)(ii) and achieve a 95% reduction in volatile organics and an average VO content of 500 ppm. By the federally effective date of this rule, CWM had tested two batches thus treated and found the average to be <500 ppm. CWM noted however, that the VO

content was higher after the flocculation step. Subsequent batches tested with and without floc did not appear to achieve a consistent result of <500 ppm. Therefore, CWM reviewed other alternatives for achievement of the treatment standard. Bench scale analysis shows that powdered activated carbon (after decanting the organic phase) should be able to achieve the exemption treatment standard. CWM will analyze four (4) treatment batches to demonstrate that this technology will consistently achieve these standards. The technology will then be put into routine use. Note: In March and April there have been difficulties getting the oil completely decanted from T-158 to perform the first test batch. Initially, Frac Tank 3 (the PCB organic storage tank) was full and the Port Arthur incinerator was down for routine maintenance.

Update: Treatment with powdered activated carbon was not successful in achieving the treatment specifications. CWM initiated a chemical oxidation study. Pilot studies were successful in achieving the calculated exit concentration as prescribed in section 265.1084(b)(4). Full scale treatment was initiated on December 2, 1997, with oxidizer added to T-101 to reduce the VO content. Prior to transferring any of the wastewater to the AWT facility, the contents of the tank will be sampled and analyzed to verify that it meets the exit concentration. Three subsequent weekly samples will be taken and analyzed.

The data from the test batches is included in Appendix C.

Update 4/1/98: Oxidation studies performed in late 1997-early 1998 using sodium hypochlorate, calcium hypochlorite solution, and hydrogen peroxide were unsuccessful in routinely achieving the calculated exit concentration mainly due to the presence of acetone and methyl ethyl ketone, which are difficult to destroy by oxidation. Batches that did not initially achieve the exit concentration were processed directly through carbon in the pressurized carbon vessels. The results from the oxidation batch studies are included in Appendix C.

CWM recognized that under the federal CC regulations, the AWT plant would not be affected as a CWA facility does not require a RCRA permit. Therefore, CC would not be effective in the AWT facility until it is adopted by NY on November 28, 1998. CWM is continuing to identify a treatment train that would allow the treated water to exit from CC controls.

Update 12/1/98: Data from full scale trials during the summer of 1998 showed that leachate could be treated to exit CC by acidification, lime slurry (neutralization/precipitation) and filtration through the filter press. Removal efficiency for volatile organics ranged from 38-71%. The exit concentration was recalculated based on the leachate volumes from the first three quarters of 1998. The exit concentration was raised due to the reduction in volume of SLF 12 leachate and the increase in that from SLF 1-6. The results from these trials are included in Appendix C.

Pretreatment by oxidation may also be employed.

Update 8/15/00: Exit concentration is updated as needed when major changes in leachate content/volumes or other wastewaters occur.

Update 10/7/02: The whole AWT train has been evaluated and carbon canisters added as needed so that leachate and other CC material may be treated through the whole train and exit after the carbon adsorbers when the effluent meets the organic LDR standards for F039 and other applicable waste codes. Samples from each batch of treated effluent are tested in accordance with the facility's Waste Analysis Plan (attachment C to the facility's Sitewide Operating Permit) to demonstrate that effluent meets a short list of F039 constituents. The short list includes VOCs by method 8260. The data from the exit demonstration is included in Appendix C.

APPENDIX A

EPA MONITORING METHODS AND SAMPLE COLLECTION PROTOCOLS

EPA Method 21	:	No Detectable Emissions Monitoring
EPA Method 25D	:	Determination of VO concentration in a Hazardous Waste
EPA Method 25E	:	Determination of organic vapor pressure in a tank
EPA Method 27	:	Organic vapor tightness testing for containers

Sample Collection Protocols	:	SDP 2006
	SDP 2001	Sampling solids and semi-solids in drums
	SDP 2002	Sampling liquids and sludges in drums
	SDP 2003	Sampling tankers
	SDP 2004	Sampling Bulk solids and semi-solids
	SDP 2005	Sampling fuel tanks
	SDP 2006	Sampling aqueous tanks
	SDP 2007	Sampling process lines
	SDP 2008	Sampling onds, lagoons and surface impoundments

APPENDIX B

Vapor Pressure Results

for

Level 1 Tanks

Subpart CC Level 1 tanks

			Actual V_p (kPa)	(kPa) Standard
SLF 1-6	T-105	3000 gal	3.70	< 76.6
	T-130	5732 gal	3.70	
SLF 7	T-107	350 gal	4.75	
SLF 11	T-111	350 gal	4.49	
SLF 7/11	T-108	10,000 gal	2.12 at 72°F	< 76.6
SLF 10	T-110	350 gal	5.02	< 76.6
	T-109	3000 gal	5.02	
SLF 1-11 o/w sep	T-158	17,000 gal	5.02 (max of 1-11)	
Fractank 3		25,996 gal	1.66 at 72°F	< 27.6
SLF 12 (< 500 ppmw by 250)	T-150	8000 gal		< 76.6
	T-152 (o/w)	18,000 gal	1.85	< 76.6
	T-153 (o/w)	18,000 gal	1.59	< 76.6

Level 1 Controls (fixed roof):

> 39,890 gallons 5.2 kPa max

19,813 - 39,890 gallons 27.6 kPa max

< 19,813 gallons 76.6 kPa max

$$\frac{0.0193368 \text{ psia}}{1 \text{ torr}} \times \frac{6.85 \text{ kPa}}{1 \text{ psia}} = \frac{0.132 \text{ kPa}}{\text{torr}}$$

T-107	100°F	36 torr	4.75 kPa
T-110		38	5.02
T-111		34	4.49
T-130		28	3.70

TELEPHONE 773-772-3577
FAX NO. 847-864-7356

For Subpart CC

Phoenix Chemical Laboratory, Inc.

FUEL AND LUBRICANT TECHNOLOGISTS
3953 SHAKESPEARE AVENUE
CHICAGO, ILL. 60647-3497

December 9, 1996

RECEIVED FROM Chemical Waste Mfg.
1550 Balmer Road
Model City, NY 14107

SAMPLE OF Leachate Samples

LABORATORY NO. 6 11 15 57-60

MARKED See below

Lab. No.	6 11 5 57	6 11 15 58	6 11 15 59	6 11 15 60
Marked	T107	T110	T111	T130

Vapor Pressure
by Isoteniscope (ASTM D2879),
torr

Temperature, °F				
72	15.5	19.0	16.0	11.5
75	17.0	21	17.0	13.0
100	36	38	34	28
125	73	69	63	57
150	140	115	115	115
175	245	185	185	200
200	420	290	300	355
225	700	440	465	600
250	-	650	690	-

Arthur A. Krawetz

PHOENIX CHEMICAL LABORATORY, INC. FOUNDED 1927 REG

TELEPHONE 312-772-3577
FAX No. 847-864-7356

Phoenix Chemical Laboratory, Inc.

FUEL AND LUBRICANT TECHNOLOGISTS
3953 SHAKESPEARE AVENUE
CHICAGO, ILL. 60647-3497

August 30, 1996

RECEIVED FROM Chemical Waste Mfg.
1550 Balmer Road
Model City, NY 14107

SAMPLE OF Leachate Samples

LABORATORY NO. 6 8 14 24-27

MARKED See below

Amended Report
9/6/96

Lab. No.	6 8 14 24	6 8 14 25
Marked	**T158**	**T108**
Vapor Pressure by Isoteniscope, torr		
Temperature, °F		
32	2.3	4.3
50	4.9	8.1
68	9.6	14.5
72	10.8	16.0
100	28	36
150	130	130
200	460	375
225	-	610

PHOENIX CHEMICAL LABORATORY, INC. FOUNDED 1927 REG.

TELEPHONE 312-772-3577
FAX No. 847-864-7356

Phoenix Chemical Laboratory, Inc.

FUEL AND LUBRICANT TECHNOLOGISTS
3953 SHAKESPEARE AVENUE
CHICAGO, ILL. 60647-3497

May 17, 1996

RECEIVED FROM Chemical Waste Mfg.
1550 Balmer Rd.
Model City, NY 14107

SAMPLE OF Leachate Samples LABORATORY NO. 6 5 10 5-17

MARKED See below

Lab. No.	Marked	Vapor Pressure by Isoteniscope, (ASTM D2879), @ 72°F, torr
6 5 10 5	T101	9.4
6 5 10 6	T102	10.5
6 5 10 7	T103	9.3
6 5 10 8	T100	9.0
6 5 10 9	T125	14.5
6 5 10 10	T58	11.5
6 5 10 11	T152	14.0
6 5 10 12	FRAC#3	12.5
6 5 10 13	T153	12.0
6 5 10 14	T310	11.5
6 5 10 15	T320	14.5
6 5 10 16	T220	11.5
6 5 10 17	T230	9.7

Arthur A. Krawetz

APPENDIX C

Treatment Demonstration for Leachate from SLFs 1-6, 7 & 11

As per 264/265.1082(c)(2), a tank is exempt if the organic content waste entering the tank has been reduced by an organic destruction or removal process that achieves any one of the conditions in (i)-(viii). For the biphased organic/aqueous leachate generated by the closed on-site landfills, the organic phase will be decanted in T-158. The aqueous phase will be transferred to T101 (via T-159) for further reduction of the VO content. CWM has selected chemical oxidation to treat CC affected aqueous waste such that it meets the calculated exit concentration as specified in 1082(c)(2)(i). To calculate the exit concentration, one is referred to section 1084(b)(4) and use of the following equation:

(i) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

(ii) If a single hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the exit concentration limit (C_t) shall be 500 ppmw.

(iii) If more than one hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section. The exit concentration limit (C_t) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation:

$$C_t = \frac{\sum_{x=1}^{m} (Q_x \times \overline{C_x}) + \sum_{y=1}^{n} (Q_y \times 500 \text{ ppmw})}{\sum_{x=1}^{m} Q_x + \sum_{y=1}^{n} Q_y}$$

where:

C_t = Exit concentration limit for treated hazardous waste, ppmw.

x = Individual hazardous waste stream "x" that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of §265.1084(a) of this subpart.

y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of §265.1084(a) of this subpart.

m = Total number of "x" hazardous waste streams treated by process.

n = Total number of "y" hazardous waste streams treated by process.

Q_x = Annual mass quantity of hazardous waste stream "x," kg/yr.

Q_y = Annual mass quantity of hazardous waste stream "y," kg/yr.

$\overline{C_x}$ = Average VO concentration of hazardous waste stream "x" at the point of waste origination as determined in accordance with the requirements of §265.1084(a)

December 6, 1997 - CWM's initial exit concentration was calculated based on the January-June 1997 volumes of leachate produced and mixed in tank T-101, along with an estimate of sitewater (stormwater) and gate receipts that are projected to be blended into T-101 and processed. To be conservative, the stormwater and gate receipts were assumed to contain 0 ppm VO. The calculation of the exit concentration is presented in Table 1.

On November 25, CWM initiated a pilot study of the selected chemical oxidation treatment using waste sodium chlorate. Waste water from T-101 was transferred to T-820 in the AWT facility. One drum of sodium chlorate was dissolved and added to the treatment tank. The results of the reduction of the individual constituents over time is presented in Table 2. The VO reduction was monitored using methods 8260 and 8270. A unique sampling protocol had to be employed in order to monitor the tank contents over time. A sample portion had to be drawn and a reducer (sodium metabisulfite) added to stop the oxidation reaction. Then the test portions were prepared and preserved for analysis (storage at 4 C). In 24 hours, a 91% reduction was noted, from 298 ppm VO to 27 ppm. This meets the calculated exit concentration of 68 ppm.

Based on the apparent success of the pilot study, an oxidizing agent was added to T-101 on December 2 to reduce the VO content. WMD plans to use T-101 as a continuous reactor, always in an oxidizer state. Additional portions of the oxidizer will be added on a routine basis as leachate, sitewater and gate receipts are added to the tank. In order to demonstrate that the VO content is being satisfactorily reduced to the exit concentration, the tank will be sampled prior to transferring the first batch of treatment material out for further processing in the AWT facility. Subsequently, three weekly samples will be collected for analysis to ensure that the exit concentration is achieved consistently. The test results will be filed in this section. As during the pilot study, the samples will have to be chemically reduced on the bench prior to storage and analysis in order to preserve the integrity of the sample and prevent further oxidation in the sample bottle. Note: analysis by method 25D as chlorinated inorganic oxidizers are known to produce a positive response, which would be falsely identified as volatile organics.

January 13, 1998 - After the oxidizer was added to T101, samples showed that the volatile organic level was not reduced to the extent expected (VOAs 139 ppm). Investigation showed that oil had inadvertently been transferred from T-158 to T-101 and this appeared to be interfering with an efficient chemical oxidation step. Water was transferred from the bottom of the tank to T-103. The balance of the oxidizer available on site was added. The water still didn't meet the exit limit of 68 ppm. Filtration through the carbon beds was determined to be the best course of additional treatment. Then, on January 7-8, the site received about two inches of rain. Exempt leachate from RMU-1 had to be added to T-103 to keep the landfill in compliance. Based on the volume of RMU-1 leachate added, the exit concentration was lowered to 23 ppm. The combined material was processed through the carbon beds on January 11-12. The effluent was sampled using the

autosampler used for F039 qualification. The total volatile content was determined to be 3.03 ppm. Three additional batches will be tested to complete the exit demonstration.

March, 1998 - determined that oxidation efficiency may be increased if oil/water separation was improved. Bench studies showed that adjusting pH to about 9 with caustic and adding floc improved the separation. This technique was implemented for full scale decanting.

May 1998- Oxidation batch in T-103 in April showed reduction of detected VOAs from 310 ppm to 296. As tanks are not agitated, added carbon canister to T-230 and tried a batch in this smaller agitated tank. Detected VOAs reduced from 414 ppm to 387 ppm. Of the 414 ppm of VOAs in the untreated sample, 189 ppm is acetone and 107 ppm is MeK. Due to the difficulty in destroying these compounds by oxidation, additional mechanisms to achieve the exit concentration reviewed.

November 28, 1998 - During the summer, a full scale study was performed to determine whether the exit concentration could be achieved by performing oil/water separation, then acidification, neutralization/precipitation and filtration. The following results were obtained:

Date 1998	Raw Leachate			After filterpress			
	VOAs	Semis	Total	VOAs	Semis	Total	%reduction
7/2 raw,7/7	424.4	3.9	428.3	122.6	0.62	123.3	71
8/9 raw,8/10	323.8	4.3	346.6	182.2	3.8	186.0	46
8/9 raw,8/10	323.8	4.3	346.6	211	3.8	214.8	38
11/9				93.2	1.6	94.8	

Values include CC compounds detected by methods 8260 and 8270, as well as 0.5 of the LOQ for any CC compounds that were ND.

The exit concentration was recalculated using the leachate volumes from the first three quarters of 1998. Based on a reduction in the SLF 12 volume (non-CC) and an increase in SLF 1-6 volume (>500), the new exit concentration is higher: 358 ppm. This value includes an estimation of 10,000 gallons of gate receipts per month at a conservative value of 0 ppm VOAs.

Note: the groundwater from T-8004,5,6,7 may also be included in the CC processing train. Based on the 1998 volumes, all these tanks produce about 3275 gallons per month. This volume may be considered "gate receipts" or may be factored into the exit concentration if the full allowance for gate receipts is needed during the time of the year when these systems operate. The following is the average VOAs detected:

T-8001	51.7 ppm (generally run through carbon only)
T-8004	67
T-8005	10.1
T-8006	145
T-8007	63

2000 Assume 2 tankers per month included in T-158 or T-101 & backfill mixed in proportion generated

		SLF 1-6	SLF 7	SLF 10	SLF 11	SLF 12	2 tankers mo
gal for 2000		149,532	31,491	40,717	178,441	142,807	90,000
total: 632,988	%	23.6	5.0	6.4	28.2	22.6	14.2
no 12 → total 490,181		30.5	6.4	8.3	36.4		18.4

Conservatively, assume gate receipts contain 0 ppm VOCs

	$C_{vo/ex}$	%	C_T	w/@12 %	w/@12 C_T
SLF 1-6	500	23.6	118	30.5	152.5
7	500	5.0	25	6.4	32
10	173.4	6.4	11.	8.3	14.4
11	500	28.2	141	36.4	182
12	25	22.6	6	—	—
tankers	0	14.2	0	18.4	0
			301		380.9

ppm exit concentration

no tankers:

	$C_{vo/ex}$	%	
SLF 1-6	500	27.5	137.5
7	500	5.8	29
10	173.4	7.5	13
11	500	32.9	164.5
12	25	26.3	6.6
			350.6

* If just leaklate from 7 & 11 processed:

	SLF 7	SLF 11
	31 491	178441
%	15	85

	C_{vo}/C_{ex}	%	C_T
SLF 7	500	15	75
SLF 11	500	85	425

C_T = 500 ppm exit conc.

* If you process 1-6, 10, 12 without any 7 or 11:

	SLF 1-6,	SLF 10	SLF 12
	149,532	40,717	142,807
%	45	2	43

	C_{vo}/C_{ex}	%	C_T
SLF 1-6	500	45	225
SLF 10	173.4	2	3
SLF 12	25	43	11

239 ppm exit concentration

October 9, 2002 – It was determined that due to the presence of alcohols, CC controls should be applied to the whole treatment train and that the treated leachate should be qualified to exit CC controls after the carbon adsorbers. The system was reviewed. Carbon canisters were added to the balance of the level 1 tanks. A one thousand pound carbon canister was added to the air coming off the biotowers (level 2 tanks). Air monitoring was set up to determine the life of the canister. On March 18, 2002, a sample of the mixed leachate from SLF 1-11 was collected and sent out for analysis by method 25 D and F039 characterization (volatiles, semivolatiles, pesticides, metals, alcohols, etc.). On March 20, after it was determined that treated leachate was exiting the treatment train, four samples were collected at 15 minute intervals after the carbon adsorbers. They were sent out for the same sample analyses. At this time, the carbon beds were determined to be spent (break through of acetone was reported for the morning samples on March 20). The system was shut down for a carbon change right after the effluent samples were taken. The data collected for the exit demonstration shows a worst case scenario, a spent carbon bed. In addition, the air monitoring performed on the carbon canister on the biotowers showed break through in about one and one-half days. For this demonstration, the leachate was not pretreated through carbon. This is again, a worst case scenario. A brief summary of the results of this exit demonstration is presented below:

	Influent	effluent-1	effluent-2	effluent-3	effluent-4
25D result	1863.6	119	148	172	167 ppmw
alcohols (4)	650	246.2	225.8	270	245.2 ppm
total CC detections	1426.2	246.35	226.1	270.1	245.3 ppm

The exit concentration calculated for leachate from SLFs 1-11 plus and estimated 2 tankers per month of gate receipts using the leachate generation data from 2000 is 380.9 ppm. Therefore, the water meets the Subpart CC exit concentration and no controls are required after the carbon adsorbers.

Because of the short life of the carbon canister on the biotowers and the odors present in the AWT facility, it was determined that the leachate should be pretreated prior to processing it through the treatment train. In addition, a larger carbon canister should be used on the biotower. In late September, 57,000 gallons of SLF 1-11 leachate was pretreated through carbon and processed through the treatment train. The biotowers were vented through a 2000 pound carbon canister and air monitoring of the influent and effluent was performed. No breakthrough was detected. CWM will continue to batch process leachate with the tanks set up in the CC mode (vented to carbon canisters instead of the caustic scrubbers) as time allows. The life of the carbon bed will be determined. A replacement schedule will developed.

APPENDIX D

CC DETERMINATION FOR

SLFs 10 and 12 AND RMU-1

WASTE STREAM TECHNOLOGY

Waste Stream Technology Inc.
302 Grote Street
Buffalo, N.Y. 14207-2496
Phone (716) 876-5290
FAX (716) 876-2412

May 21, 1996

Mr. Kevin Sheehan
CWM Chemical Services, Ir
Model City Facility
P.O. Box 200
1550 Balmer Road
Model City, NY 14107

Dear Mr. Sheehan,

Enclosed please find the original copy of the USEPA Method 25 D analysis results from Lancaster Laboratories for the samples corresponding to your COC # 96109 which were sampled on 4/18/96 and received on 4/19/96.

Please contact me if you have any question or comments regarding this report.

Sincerely,

Daniel W. Voll

Daniel W. Vollmer
QA/QC Officer

SLF12
+ RMU-1

Lancaster Laboratories
A Thermo Analytical Laboratory

RECEIVED
MAY 0 9 1996

LLI Sample No. G5 2497489
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

SLF12-A Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:10:58 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TIC's only)
P	Concentration difference between primary and confirmation columns >25%
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X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
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M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

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A Thermo Analytical Laboratory

LLI Sample No. G5 2497490
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

SLF12-B Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:00 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

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Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

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> greater than

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E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TIC's only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
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LLI Sample No. G5 2497491
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

SLF12-C Liquid Sample

Account No. [illegible]
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:03 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

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Analysis Report

Lancaster Laboratories
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LLI Sample No. G5 2497492
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

SLF12-D Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:06 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
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ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

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N	Presumptive evidence of a compound (TIC's only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

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Analysis Report

Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. G5 2497493
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

RMU1-A Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:09 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
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X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
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Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. G5 2497494
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

RMU1-B Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:12 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

Explanation of Symbols and Abbreviations

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N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte concentration to approximate the value present in a similar sample without moisture.

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X,Y,Z	Defined in case narrative

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Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. G5 2497495
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

RMU1-C Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:15 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

Explanation of Symbols and Abbreviations

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N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

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X,Y,Z	Defined in case narrative

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Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. G5 2497496
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

RMU1-D Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:17 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Explanation of Symbols and Abbreviations

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N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
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umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

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ppb parts per billion

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N	Presumptive evidence of a compound (TIC's only)
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M	Duplicate injection precision not met
N	Spike sample not within control limits
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U	Compound was not detected
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Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. G5 2497497
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

SLF1-11 Before Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	110.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:20 D 0001 10 U U 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

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TNTC	Too Numerous To Count	**MPN**	Most Probable Number
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umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib > 5 um/ml**	fibers greater than 5 microns in length per ml

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ppb parts per billion

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Lancaster Laboratories
A Thermo Analytical Laboratory

LLI Sample No. G5 2497498
Collected: 4/18/96 by SH

Submitted: 4/20/96 Reported: 5/ 7/96
Discard: 5/22/96

SLF1-11 After Liquid Sample

Account No: 09140
Waste Stream Technology
302 Grote Street
Buffalo, NY 14207-2496

P.O. 8234
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	LIMIT OF QUANTITATION	UNITS
7001	Volatile Organic Conc of Waste	< 50.	50.	mg/kg

1 COPY TO Waste Stream Technology ATTN: Sample Custodian

Questions? Contact your Client Services Representative
at (717) 656-2300

03:11:23 D 0001 10 0 0 512702
232 0.00 00029500 ASR000

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

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meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
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ppb parts per billion

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X,Y,Z	Defined in case narrative

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Quanterra Environmental Services

Quanterra Incorporated
8100-A Brownleigh Drive
Raleigh, North Carolina 27612

919 510-0228 Telephone
919 510-0141 Fax

October 29, 1996

CWM Chemical Services
1550 Balmer Road
Model City, NY 14107

ATTN: Kevin Sheehan

PROJECT: EPA Method 25D Analysis, E386-24

Enclosed with this letter is the report on the chemical analyses for the samples received August 2, 1996. The chemical analysis performed was for Volatile Organics as carbon/chlorine combined, by EPA Method 25D using FID/ELCD. Nine PEG vials were received in good condition with all chain-of-custody forms completed.

Please note that ND means not detected at the reporting limits expressed.

Roy L. Edmonson — APPROVED

10-29-96 — DATE

Quanterra
Environmental Services

Quanterra
Research Triangle Park/Air Toxics
8100-A Brownleigh Drive
Raleigh, NC 27612
1-800-291-4RTP * Fax 919-510-0141

EPA METHOD 25D

Client Name: CWM Chemical
Project ID: EPA Method 25D Analysis, E386-24
Matrix: PEG

Sampled: August 20, 1996
Received: August 23, 1996
Prepared: NA
Analyzed: October 23, 1996

SAMPLE ID	TOTAL VOs	REPORTING LIMIT/UNITS
T-130 Aqueous: CWM13-SLF1-6-01	5411	10 ppmw
T-130 Aqueous: CWM14-SLF1-6-02	5290	10 ppmw
T-130 Aqueous: CWM15-SLF1-6-03	3977	10 ppmw
CWM16-SLF1-6-TB	ND	10 ppmw
T-107 Aqueous: CWM20-SLF7-05	3411	10 ppmw
T-107 Aqueous: CWM21-SLF7-06	4072	10 ppmw
T-110 Aqueous: CWM22-SLF10-05	896	10 ppmw
T-110 Aqueous: CWM23-SLF10-06	105	10 ppmw
CWM24-SLF7-10-TB	ND	10 ppmw

ND = Not detected at the reporting limits expressed.

QA/QC REPORT

Calibration/Accuracy Check		QC1		QC2 (Spiked Blank)	
Carbon	105%	Carbon	51%	Carbon	57%
Chlorine	94%	Chlorine	6.0%	Chlorine	33%

Report approved by Alston Sykes, Lab Manager

APPENDIX E

RECORDS FOR METHOD 27 TESTS

Task Assignment Form

All Tasks That Are In Progress This Month

Group: North **MA: WM of New England** **BU ID: B02045** **Site: Model City/S04332**

Level 2 controls are required for the following containers:
* >119 gallons in size, in "Light Material Service (LMS)" (see task CC090.2 for definition)
Level 2 controls may be satisfied by 3 alternatives (40 CFR 264.1086(d)(i-iii):
1) Use of a container that meets DOT specifications
2) Use of a container that operates with no detectable emissions (Method 21)
3) Use of a container that has been demonstrated within the past 12 months to be vapor tight (Method 27 pressure test)

Facility must have a written plan to ensure LMS material is managed in a Level 2 container. In order to satisfy this requirement:

MAINTENANCE On-site tankers and vac trucks that transport leachate from SLFs 1-6,7,10&11 will be pressure tested using Method 27 and qualified for use. The test must be repeated annually. Method 27 performed on CWM tankers & vac units as indicated below

Date Performed:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Unit #700976/31	05/01/03	03/16/04	03/31/05	03/23/06	3/13/07	4/9/08 10/29/08	11/18/09	12/7/10	1/9/12	8/1012	
Unit #700977/2653	03/24/03	03/30/04	04/12/05	04/06/06	2/21/07	5/14/08 10/06/08	11/19/09	12/7/10	1/4/12	8/1012	
Unit#360633	----------	----------	----------	----------	----------	3/25/08	4/16/09	6/15/10*	2/15/11*	11/09/12	
Unit# 705696 (added 1/26/12)										1/31/12	10/27/12

Unit #700973/20 03/20/03 07/29/04 03/31/05 03/15/06 3/24/07 OOS - Waiting to be scraped

** This unit was O.O.S. for 120 days for repairs.

*******3/31/08 First 3 units matl in them and they are frozen at this time. *********
Unit 700973/20 taken o.o.s., to be scrapped

Drum Coordinator Outbound fuels tankers will be DOT specification containers. Obtain copies of test results for each tanker USED. Depending on the type of tanker and material shipped, inspection frequencies vary and are listed in 49 CFR Part 180.407. Ensure that the tankers used for outbound shipments meet the inspection frequencies.

DRUM LAB The wastestreams to be included in a bulk solids load for shipment to Port Arthur will be reviewed by the Drum Lab and a determination made as to whether the load is LMS. Rolloffs and dumps with tarps DO NOT meet DOT specifications. No detectable emissions monitoring (Method 21) must be performed.

* Current use for SLF 7 leachate, not LMS (MOCA is CC-exempt)
**AT Ops - Ensure that only tankers listed above are used for "Light Material Service" (>20% volatile organics)

Notes:

APPENDIX F

INSPECTION OF LEVEL 1 TANKS
VISUAL INSPECTION FORM FOR 2016

WASTE MANAGEMENT UNIT ID NUMBER	DATE OF INSPECTION	EVIDENCE OF CRACKS, GAPS, ETC. (YES OR NO)	EWO / COMMENTS
AQUEOUS TREATMENT FACILITY			
T-100			
T-210			
T-220			
T-230			
T-310			
T-320			
T-710			
T-810			
T-820			
T-1010			
T-1020			
T-1111			
T-1112			
T-3011			
T-3012			
WATER TREATMENT FACILITY			
CARBON ADSORBERS		pressure vessel	No access to tops of tanks
T-3001	closed/disposed of 2014		
T-3002			
T-3003			
T-3009			
LANDFILL LEACHATE SYSTEMS			
T-105			
T-130			
T-107			
T-108			
T-109			
T-110			
T-111			
T-158			
T-159			
LEACHATE TANK FARM			
T-101			
T-102			
T-103			
FRAC TANK 3	empty		
GWES (as a BMP)			
T-8004 (>500 ppm VOC)			
T-8008 (DNAPL tank)			
T-8009			

If any deficiencies noted in fixed roof or closure devices and not immediately addressed and so noted, an EWO should be issued. A first attempt at repair must be made in 5 days, The repair must be completed no later than 45 days after identification.

Name and Signature of Inspector **Date**

APPENDIX G

Monitoring-Sample Forms

Method 21: No Detectable Emission Monitoring

CWM will adopt a calibration/monitoring method which is consistent with USEPA method 21 (40 CFR Appendix A). CWM will record information in its operating record in a manner that is comparable to the following formats:

Form 1: Calibration and Instrument Precision Sheet.

Equipment model number = TVA 1000 Toxic Vapor Analyzer (FID)

Instrument ID # (if any)= _____

Definitions:

Zero calibration gas is defined as a hydrocarbon free air with a VOC concentration less than 10 ppm.

Calibration gas is defined as an appropriate VOC with a concentration approximating the concentration range of interest.

RUN #	Gas Type	Calibration gas concentration(ppm)	Instrument reading (ppm)	Difference (ppm)
1	zero	-	-	-
2	calib.			
If greater than 5% then recalibrate.				
3	zero	-	-	-
4	calib.			

Precision Calculation of Calibration Error:

$$\text{Calibration precision} = \frac{(\text{Calibration gas mean difference})}{(\text{Calibration gas concentration})} * 100$$

Certification of the Calibration procedure

Signature : _____ Date: _____

Name (printed): _____

Form 2: Response Time Determination Sheet

Instrument ID: _____

Calibration gas concentration = _____ ppm

Introduce the zero gas into the sample probe. When the meter reading has stabilized, switch quickly to the specified calibration gas. Measure the time from switching to when 90 % of the final stable reading is attained. (e.g., 90 % of 2000 ppm is equal to 1800 ppm). Perform this test sequence three times and record the results. Calculate the average response time.

90 % response time:

1. _____ seconds

2. _____ seconds

3. _____ seconds

Mean response time =[(time 1)+(time 2)+(time 3)]/3
Mean response time = _____ seconds

Manufacturers specified response time = _____ seconds

If the instrument does not meet the manufacturers response time specifications, then the unit must be repaired.

Frequency of calibration/response time determination

Instrument precision calibration must be performed once prior to placing the equipment into service and thereafter once every three months or at the next use, whichever is later. The response time test is required prior to placing the equipment in service. If a modification to the sampling pumping system or flow configuration is made, then a new test is require before use.

Certification of the Calibration procedure

Signature : _____ Date:_____

Name (printed): _____

Form 3: Monitoring for No Detectable Emissions

Instrument ID #: _____

Waste management unit: _____

Testing Covers/Equipment/Control Devices: _____ (covers, pumps, valves or carbon canisters)

Procedure:

Type I - Leak Definition Based On Concentration

Place the probe inlet at the surface of the component interface where leakage could occur. Move the probe along the interface periphery while observing instrument readout. If an increased meter reading is observed, slowly sample the interface where leakage is indicated until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately two times the instrument response time. If the maximum observed meter reading is greater than the leak definition, action must be taken.

Type II - "No-Detectable Emission"

Determine the background concentration around the source by moving the probe inlet randomly upwind and downwind at a distance of one or two meters from the source. If interference exists with this determination due to a nearby emission or leak, the local ambient concentration may be determined at distances closer to the source, but it cannot be less than 25 centimeters.

Then move the probe inlet to the surface of the source and determine the concentration. The difference between these concentrations determines whether there are no detectable emissions.

CWM Chemical Services, LLC
Subpart BB Compliance Program
Weekly Monitoring

CONTROL DEVICES (CARBON CANISTERS)

DATE: _____ INSTRUMENT USED: MicroFID

PERFORMED BY: _____ WEATHER/TEMP. _____

CARBON CANISTER	DESCRIPTION	INSTRUMENT READING	TRANSFER IN PROGRESS?	BREAK THROUGH?
T-105	SLF 1-6 LEACHATE LIFT STATION			☐ YES ☐ NO
T-130*	SLF 1-6 LEACHATE			☐ YES ☐ NO
T-158**	OIL/WATER SEPARATOR			☐ YES ☐ NO
T-107	SLF 7 LEACHATE			☐ YES ☐ NO

* Ideal monitoring conditions would be when T-105 is being transferred to T-130

** Ideal monitoring conditions would be when material is being transferred into T-158

NOTES:

1. These carbon canisters will be monitored weekly by Method 21 and maintained as No Detectable Emissions (NDE) . Consequently, the canister must be replaced with fresh carbon if an instrument reading of >500 ppm VOCs above background is obtained.

FID monitoring to be performed on the following carbon canisters as a BMP:

T-108/T-111	SLF 11 LEACHATE			☐ YES ☐ NO
T-109/T-110	SLF 10 LEACHATE			☐ YES ☐ NO
T-8008***	GWES DNAPL			☐ YES ☐ NO

*** Seasonal operation April 15 - November 1

CWM Chemical Services, LLC
Weekly FID Monitoring

CONTROL DEVICES (CARBON CANISTERS)

DATE: _____ INSTRUMENT USED: MicroFID

PERFORMED BY: _____ WEATHER/TEMP. _____

CARBON CANISTER	DESCRIPTION	INSTRUMENT READING (ppm)	TRANSFER IN PROGRESS?	BREAK THROUGH?
T-100	Partially treated waste water			☐ YES ☐ NO
T-101	RMU-1/SLF 12 LEACHATE			☐ YES ☐ NO
T-102	RMU-1/SLF 12 LEACHATE			☐ YES ☐ NO
T-103	SLF 1-6 LEACHATE (Aqueous from O/W			☐ YES ☐ NO
FRAC TANK 3	LEACHATE			☐ YES ☐ NO
T-210	AQUEOUS WASTE			☐ YES ☐ NO
T-220	AQUEOUS WASTE			☐ YES ☐ NO
T-230	AQUEOUS WASTE			☐ YES ☐ NO
T-710 T-810 T-820	AQUEOUS WASTE			☐ YES ☐ NO
T-1010	LIME SLURRY			☐ YES ☐ NO
T-1020	LIME SLURRY			☐ YES ☐ NO
T-1111/T-1112	FILTRATE			☐ YES ☐ NO
T-3002	AQUEOUS WASTE			☐ YES ☐ NO
T-3003	AQUEOUS WASTE			☐ YES ☐ NO
T-3009	AQUEOUS WASTE			☐ YES ☐ NO
T-8001/ T-8002***	GWES			☐ YES ☐ NO
T-8004***	GWES			☐ YES ☐ NO
T-8009	GWES			☐ YES ☐ NO
T-8010***	GWES			☐ YES ☐ NO

*** Seasonal operation April 15 - November 1

NOTES:

1. these carbon canisters will be monitored weekly by Method 21 and maintained as No Detectable Emissions (NDE) . Consequently, the canister must be replaced with fresh carbon if a VOC instrument reading of >500 ppm above background is obtained.