APPENDIX G

WASTE ACCEPTED, STORED AND PROCESSED BY CHF

	S01	S02	T50	T63	T40	T47
D001	5000	5000	3100	1000	3100	3100
D002	500	5	1	1	1	1
D003	100	5	0	1	0	0
D004	100	100	10	1	10	10
D005	100	100	10	1	10	10
D006	100	100	10	1	10	10
D007	100	100	10	1	10	10
D008	100	100	10	1	10	10
D009	100	100	10	1	10	10
D010	100	100	10	1	10	10
D011	100	100	10	1	10	10
D012	50	50	1	1	1	1
D013	50	50	1	1	1	1
D014	50	50	1	1	1	1
D015	50	50	1	1	1	1
D016	50	50	1	1	1	1
D017	50	50	1	1	1	1
D018	1000	1000	500	10	500	500
D019	1000	1000	500	10	500	500
D020	50	50	1	1	1	1
D021	1000	1000	500	10	500	500
D022	1000	1000	500	10	500	500
D023	1000	1000	500	10	500	500
D024	1000	1000	500	10	500	500
D025	1000	1000	500	10	500	500
D026	1000	1000	500	10	500	500
D027	1000	1000	500	10	500	500

D028	1000	1000	500	10	500	500
D029	1000	1000	500	10	500	500
D030	1000	1000	500	10	500	500
D031	50	50	1	1	1	1
D032	1000	1000	500	10	500	500
D033	1000	1000	500	10	500	500
D034	1000	1000	500	10	500	500
D035	1000	1000	500	10	500	500
D036	1000	1000	500	10	500	500
D037	50	50	1	1	1	1
D038	1000	1000	500	10	500	500
D039	1000	1000	500	10	500	500
D040	1000	1000	500	10	500	500
D041	1000	1000	500	10	500	500
D042	1000	1000	500	10	500	500
D043	1000	1000	500	10	500	500
F001	5000	5000	500	100	500	500
F002	5000	5000	500	100	500	500
F003	5000	5000	3100	100	3100	3100
F004	1000	1000	500	50	500	500
F005	5000	5000	3100	100	3100	3100
F006	1000	1000	10	1	10	10
F007	100	100	5	5	5	5
F008	100	100	5	5	5	5
F009	100	100	5	5	5	5
F010	100	100	5	5	5	5
F011	100	100	5	5	5	5
F012	100	100	5	5	5	5
F019	100	100	5	5	5	5
F020	10	10	1	1	1	1

F021	10	10	1	1	1	1
F022	10	10	1	1	1	1
F023	10	10	1	1	1	1
F024	100	100	10	1	10	10
F025	100	100	10	1	10	10
F026	100	100	10	1	10	10
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K004	100	100	10	1	10	10
K005	100	100	10	1	10	10
K006	100	100	10	1	10	10
K007	10	10	1	1	1	1
K008	100	100	10	1	10	10
K009	100	100	10	1	10	10
K010	100	100	10	1	10	10
K011	10	10	1	1	1	1
K013	10	10	1	1	1	1
K014	10	10	1	1	1	1
K015	100	100	10	1	10	10
K016	100	100	10	1	10	10
K017	100	100	10	1	10	10

K018	100	100	10	1	10	10
K019	100	100	10	1	10	10
K020	100	100	10	1	10	10
K021	100	100	10	1	10	10
K022	100	100	10	1	10	10
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K043	100	100	10	1	10	10
K044	100	100	10	1	10	10
K045	100	100	10	1	10	10
K046	100	100	10	1	10	10
K047	100	100	10	1	10	10

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K049	100	100	10	1	10	10
K050	100	100	10	1	10	10
K051	100	100	10	1	10	10
K052	100	100	10	1	10	10
K060	100	10	1	1	1	1
K061	100	100	10	1	10	10
K062	100	100	10	1	10	10
K069	100	100	10	1	10	10
K071	100	100	10	1	10	10
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K086	100	100	10	1	10	10
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K094	100	100	10	1	10	10
K095	100	100	10	1	10	10
K096	100	100	10	1	10	10
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K101	100	100	10	1	10	10
K102	100	100	10	1	10	10
K103	100	100	10	1	10	10
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K114	100	100	10	1	10	10
K115	100	100	10	1	10	10
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K118	100	100	10	1	10	10
K123	100	100	10	1	10	10
K124	10	10	1	1	1	1
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K126	100	100	10	1	10	10
K131	10	10	1	1	1	1
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K136	100	100	10	1	10	10
K141	100	100	10	1	10	10
K142	100	100	10	1	10	10
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K149	100	100	10	1	10	10
K150	100	100	10	1	10	10
K151	100	100	10	1	10	10

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P010	10	1	1	1	1	1
P011	10	1	1	1	1	1
P012	10	1	1	1	1	1
P013	10	1	1	1	1	1
P014	10	1	1	1	1	1
P015	10	1	1	1	1	1

P016	10	1	1	1	1	1
P017	10	1	1	1	1	1
P018	10	1	1	1	1	1
P020	10	1	1	1	1	1
P021	10	1	1	1	1	1
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P046	10	1	1	1	1	1
P047	10	1	1	1	1	1
P048	10	1	1	1	1	1
P049	10	1	1	1	1	1

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P084	10	1	1	1	1	1
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P087	10	1	1	1	1	1

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P128	10	1	1	1	1	1
P185	10	1	1	1	1	1
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P201	10	1	1	1	1	1
P202	10	1	1	1	1	1
P203	10	1	1	1	1	1
P204	10	1	1	1	1	1
P205	10	1	1	1	1	1
U001	100	100	10	10	10	10
U002	500	500	500	10	500	500
U003	10	10	1	1	1	1
U004	100	100	10	10	10	10
U005	10	10	1	1	1	1
U006	10	10	1	1	1	1
U007	100	100	10	10	10	10
U008	10	10	1	1	1	1
U009	10	10	1	1	1	1
U010	100	100	10	10	10	10
U011	100	100	10	10	10	10

U012	100	100	10	10	10	10
U014	100	100	10	10	10	10
U015	100	100	10	10	10	10
U016	100	100	10	10	10	10
U017	100	100	10	10	10	10
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U029	100	100	10	10	10	10
U030	100	100	10	10	10	10
U031	100	100	10	10	10	10
U032	10	10	1	1	1	1
U033	10	10	1	1	1	1
U034	100	100	10	10	10	10
U035	100	100	10	10	10	10
U036	100	100	10	10	10	10
U037	100	100	10	10	10	10
U038	10	10	1	1	1	1
U039	100	100	10	10	10	10
U041	10	10	1	1	1	1
U042	100	100	10	10	10	10
U043	100	100	10	10	10	10

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U045	100	100	10	10	10	10
U046	100	100	10	10	10	10
U047	100	100	10	10	10	10
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U071	100	100	10	10	10	10
U072	100	100	10	10	10	10
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U077	100	100	10	10	10	10
U078	100	100	10	10	10	10
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U102	100	100	10	10	10	10
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U106	100	100	10	10	10	10
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U109	100	100	10	10	10	10
U110	100	100	10	10	10	10
U111	100	100	10	10	10	10
U112	100	100	10	10	10	10
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U158	100	100	10	10	10	10
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U160	10	10	1	1	1	1
U161	100	100	10	10	10	10
U162	100	100	10	10	10	10
U163	10	10	1	1	1	1
U164	100	100	10	10	10	10
U165	100	100	10	10	10	10
U166	100	100	10	10	10	10
U167	100	100	10	10	10	10
U168	100	100	10	10	10	10

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U172	100	100	10	10	10	10
U173	100	100	10	10	10	10
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U194	100	100	10	10	10	10
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U197	100	100	10	10	10	10
U200	100	100	10	10	10	10
U201	100	100	10	10	10	10
U202	100	100	10	10	10	10

U203	100	100	10	10	10	10
U204	10	10	1	1	1	1
U205	100	100	10	10	10	10
U206	100	100	10	10	10	10
U207	100	100	10	10	10	10
U208	100	100	10	10	10	10
U209	100	100	10	10	10	10
U210	100	100	10	10	10	10
U211	100	100	10	10	10	10
U213	100	100	10	10	10	10
U214	100	100	10	10	10	10
U215	100	100	10	10	10	10
U216	100	100	10	10	10	10
U217	100	100	10	10	10	10
U218	100	100	10	10	10	10
U219	100	100	10	10	10	10
U220	500	500	500	10	500	500
U221	10	10	10	10	10	10
U222	100	100	10	10	10	10
U223	10	10	1	1	1	1
U225	10	10	1	1	1	1
U226	100	100	10	10	10	10
U227	100	100	10	10	10	10
U228	100	100	10	10	10	10
U234	10	10	1	1	1	1
U235	100	100	10	10	10	10
U236	100	100	10	10	10	10
U237	100	100	10	10	10	10
U238	100	100	10	10	10	10
U239	100	100	10	10	10	10

U240	100	100	10	10	10	10
U243	100	100	10	10	10	10
U244	100	100	10	10	10	10
U246	10	10	1	1	1	1
U247	100	100	10	10	10	10
U248	100	100	10	10	10	10
U249	10	10	1	1	1	1
U271	100	100	10	10	10	10
U278	100	100	10	10	10	10
U279	100	100	10	10	10	10
U280	100	100	10	10	10	10
U328	100	100	10	10	10	10
U353	100	100	10	10	10	10
U359	100	100	10	10	10	10
U364	100	100	10	10	10	10
U367	100	100	10	10	10	10
U372	100	100	10	10	10	10
U373	100	100	10	10	10	10
U387	100	100	10	10	10	10
U389	100	100	10	10	10	10
U394	100	100	10	10	10	10
U395	100	100	10	10	10	10
U404	100	100	10	10	10	10
U409	100	100	10	10	10	10
U410	100	100	10	10	10	10
U411	100	100	10	10	10	10

Appendix H

WASTE ANALYSIS PLAN

2.1 Identification of Wastes to be Managed

CHF manages a wide variety of hazardous wastes. These wastes are identified in Appendix G of Chapter One by EPA Hazardous Waste Code Number. CHF will not accept or manage any hazardous waste for which it is not permitted. (Please note that the list of waste codes in Appendix G does not apply to the Transfer Facility described in Chapter 17.)

CHF does not store any wastes in a manner that would result in a reduction in toxicity. Waste received and stored at the facility with an LDR applied will be shipped off-site with the same LDR applied. Waste processed at the facility for recovery and resale, will be shipped off-site as a product without an LDR.

The specified treatment technology for some ignitable (D001), corrosive (D002), and reactive (D003) waste is deactivation. Wastes of these three types may contain liquids and solids. In cases where the liquid is pumped or poured from the solids, either the liquids or the solids portion may no longer meet the "D" code characteristic. The respective liquids or solids will then be considered deactivated. Containers of corrosive waste may be deactivated by neutralization, and the resultant material no longer meet the "D" code characteristic.

The portion of the waste, which not longer exhibits the "D" characteristic, will then meet the LDR criteria, provided no underlying constituents (40 CFR 268.48) apply to it. Any such waste on which this deactivation is performed, CHF will document such as required in 40 CFR 268.7 and 40 CFR 268, Appendix I.

There is no need for special waste analysis for ignitable waste because all hazardous waste managed at CHF is managed in areas designated for ignitable waste. Incompatible wastes will be segregated as outlined in Chapters 11 & 12. The information and analyses used to determine compatibility are described below.

2.2 Waste Pre-qualification Protocol

Every waste stream will be evaluated prior to consignment of the waste to CHF for management. The evaluation will be conducted by any of the following: sales personnel, customer service personnel, lab personnel, QC Chemist, Facility Manager, or Environmental Compliance Manager. In order for a new waste stream

to be considered for management by CHF, the waste generator must submit a completed Material Profile Sheet (MPS). An example of the MPS is given in Figure 2.1. (**NOTE:** The MPS is subject to change due to regulatory changes, operational needs, etc. Any change(s) will ensure that the MPS is at least as stringent.) Based on the information contained in the MPS, a determination will be made by technical personnel whether the waste can be managed on-site or whether additional information is needed to complete the evaluation.

Additional information, if requested, would be based on either; the results of a previous analysis of the waste stream or; a representative sample of the waste stream. If a sample is requested and submitted, CHF's on-site laboratory will perform waste analysis using the appropriate test methods as described in Section 2.4 of this plan.

An updated MPS and any additional information deemed necessary will be requested from a waste generator when:

1. it is believed that the process or operation generating the hazardous waste has changed; or

2. the results of the waste analysis conducted by CHF on an incoming waste stream indicate that the waste is not appropriately characterized on the accompanying hazardous waste manifest.

2.3 In-Processing of Waste Shipments

2.3.1 In-Processing of Containers

Upon arrival at CHF, a shipment of containers undergoes a preliminary evaluation to verify that the markings on the containers match the shipment as described on the accompanying manifest. Any discrepancies noted on the manifest will be resolved with the generator and/or transporter. Additionally, the condition of each container is inspected. Containers of questionable integrity are overpacked before subsequent receiving is continued. Should the containers be too large to overpack (such as a tote) the contents will be transferred to another container(s).

After the preliminary evaluation, containers of waste are segregated into groups based on compatibility and other operating parameters and material verification is conducted. A representative sample will be obtained using the sampling methods specified in Section 2.5.3. A representative sample is a smaller

quantity of waste than the whole container with the same characteristics of the whole contents.

2.3.2 Lab Pack and Paint Can Procedures

CHF also receives lab pack wastes and small cans of wastes (such as paint cans). The primary use of these wastes is for fuels. However should the waste not meet fuels specifications it will be reclaimed or shipped to an off-site permitted TSDF. This waste is shipped to CHF in small containers (ampoules to 5 gallon) inside larger containers. These wastes may be consolidated from the small containers into larger containers (typically 55 gallon drums). After the waste has been emptied into the larger container it is then sampled and analyzed.

The quality control procedure for a lab pack begins when the materials are packaged for shipment. Clean Harbors chemists who provide the packaging service are trained to follow the guidelines for lab packs. Each container is examined and the label verified prior to packaging. A packing list is prepared identifying the contents of every container packaged in the lab pack. CHF requires a packing list to be provided for each lab pack before the lab pack is received.

For the lab packs not packaged by Clean Harbors personnel, 10% of the lab packs are opened and the contents compared to the packing list to identify any discrepancies in quantity or identity. Should the contents in the container not match the description of same on the packing list, the discrepancy will be resolved with the generator or the lab pack could be rejected.

For small cans, as described in Chapter One, a packing list is not included. CHF, therefore, will sample a portion of these containers to verify the contents before they are emptied into a receiving drum. These waste streams are very consistent waste streams, so each container will not need sampling. The sampling procedures for sampling paint cans are given in Section 2.5.3.3.

2.3.3 In-Processing of Tank Trucks and Roll-offs

Documentation of the waste sample is initiated after a tanker is sampled. An internal process form is used to document this for all wastes received. An example of this form is presented in Figure 2.2. The sampling procedures for sampling these large bulk shipments are given in Section 2.5.3.2.

2.4 Waste Verification Methods, and Rationale

2.4.1 Waste Verification

Verification of materials is accomplished using fingerprinting procedures. These procedures are:

- Visual inspection
- Water miscibility
- Determination of pH
- Ignitability screen
- Cyanide reactivity screen
- Sulfide reactivity screen
- Oxidizer presence screen
- Chlorine screen

The following table presents a list of parameters and test the facility may use as supplemental analyses:

Parameter*	Wastes for Which Test is Applicable
Major Organic Components	As necessary#
Moisture Content	Solvents as necessary#
TCLP Constituents	As necessary#
PCB's	Solvents and Fuels
Heating Value (BTU)	Fuels**
Compatibility	As necessary
Specific Gravity	Fuels and Solvents as necessary

*Should CHF not have the capability to perform the analysis or if CHF feels it necessary to confirm it's own analysis, a contract lab may be used.

**Some chemicals have known and documented BTU values and when these chemicals are received the BTU analysis may not conducted.

#As necessary for Major Organic Components means that this analysis will be conducted when more details are needed on the major organic constituents of a waste stream; for Moisture Content, it means that this analysis will be conducted when more details are needed concerning the moisture content of a waste stream; for TCLP Constituents means that this analysis will be conducted when required to determine if characteristic waste codes should be assigned to a particular waste stream.

NOTE: Fingerprinting will be conducted where the sample is collected.

Used oil as defined by 40 CFR Part 279 will be analyzed for halogens using a screening test kit. If there are more than 1000 ppm of halogens, the generator will be contacted to rebut the presumption that this is now hazardous waste.

2.4.2 Methods and Rationale

2.4.2.1 pH

Fingerprinting pH is determined using pH paper. Should a more accurate pH be needed, the pH of a waste will be determined using Method 9040 from SW-846. This method uses a pH meter, which is calibrated using a series of standard solutions of known pH. Portable pH meters may also be used.

The rationale for measuring pH is to determine if the waste matches the MPS.

2.4.2.2 Major Organic Components

Major organic components are determined using gas chromatography according to procedures similar to those described in SW-846, Method 8000. The retention time of the waste's constituents are measured and compared to the retention time of a mixed standard.

The rationale for determining the major organic components is to verify MPS description and to determine how the waste will be processed.

2.4.2.3 Moisture Content

The Moisture content of a waste is measured as percent water using the standard method ASTM E203-75 basis.

The rationale for determining the water content is to verify if the waste matches the MPS description and to determine how the waste will be processed.

1.4.2.4 TCLP Constituents

When a TCLP analysis of a waste is measured, EPA method 1311 will be used.

The rationale for determining the TCLP constituents is to verify the characterization of waste as hazardous or non-hazardous; to verify if the waste matches the MPS description; and to determine how the waste will be processed.

2.4.2.5 PCB's

Analysis for PCB content will be conducted using the SW-846 method 8080 basis.

The rationale for determining the PCB content of a waste stream is to verify that it contains less than 50 ppm. If the waste contains 50 ppm or more it will be managed according to the requirements of the facility's permit issued under the Toxics Substances and Control Act (TSCA) by EPA.

2.4.2.6 Heating Value (BTU)

The analysis to determine the BTU value of each hazardous waste is conducted using the ASTM D-240 basis.

The rationale for determining the BTU content of each hazardous waste is to verify that the waste matches the MPS description and to determine how the waste will be processed.

2.4.2.7 Compatibility

Waste compatibility will be determined prior to adding waste to a tank, if there is any reason to suspect an incompatible reaction with it's current or previous contents.

The analysis will be conducted by drawing a representative sample from each waste stream to be composited. One waste sample will be slowly added to another. During the course of addition, the evolution of gas, temperature of the reaction, and viscosity of the mixture will be monitored. Two wastes streams will be determined incompatible if:

- a substantial temperature change occurs that cannot be controlled by the process equipment; or
- when combined in a storage or treatment tank, the evolution of gas would be too violent to be contained by the tank; or
- would result in a release that could threaten human health and the environment.

The viscosity of the mixture would be monitored to ensure that the resulting waste mixture would be a flowable solution.

2.4.2.8 Specific Gravity

The Specific Gravity of liquid waste is determined using standard method ASTM D 5057.

The rationale for determining specific gravity is to determine if the material can be processed as intended.

2.4.2.9

The non-RCRA liquids that are screened for flash point will be screened using the standard method ASTM D 3828.

The rationale for screening flash point is to ensure that waste materials received at the facility are properly classified, and match the MPS.

2.5 Quality Assurance/Quality Control (QA/QC) Program And Sampling

2.5.1 QA/QC Program

The General Manager or designee will have responsibility for implementation, evaluation, and documentation of the QA/QC program. The goals of this program are to:

- ensure that representative sampling is being carried out,
- ensure the integrity of laboratory equipment,
- ensure that the proper analytical parameters are being evaluated,
- ensure the analytical methods are being properly followed,
- ensure that all data generated are scientifically valid, defensible and accurate, and
- ensure that the protocol described in the Waste Analysis Plan is being carried out and that the plan accurately reflects the waste analysis procedures conducted by CHF.

2.5.2 Waste Movements

The results of the waste analyses are input into a computer. The information is reviewed by the appropriate personnel to designate how and where the waste is to be processed. The designated operations personnel then obtain the information, including the instructions, to direct the methods and locations for processing the specific waste.

2.5.3 Sampling

Personnel who have been properly trained to use the sampling

equipment will sample all wastes. The training of the personnel involved in sampling will be evaluated and updated annually.

2.5.3.1 Small Container Sampling

1. Select, at a minimum, 10% of the containers from each waste shipment to be sampled.

2. Select proper, clean sampling device. A sampling device may be a coliwassa, drum thief, sampling rod, etc.

3. After sampling a container, empty the volume of the sampling device into a sample container.

4. Use a clean sampling device to obtain a representative core sample of all solids in a drum.

5. Once the phases, appearance, and solids have been measured and recorded, the samples within a waste shipment can be composited into a single sample container. The lab and/or sampling personnel will create the composite.

6. No more than 20 drums can be composited.

7. If a container for compositing has more than one phase, then the composite sample must be taken using representative volumes of each phase.

8. If a shipment for compositing is single phased, an equal portion of each drum can be added directly to the composite sample.

9. All samples are to be labeled with the following information: bar code drum number.

10. All samples are delivered to the lab unless the analysis is simple (such as pH) and is conducted where the sample is taken.

11. The appropriate personnel will review all samples. If there is a problem, the appropriate personnel may request that the drums be resampled and/or recomposited.

2.5.3.2 Larger Container Sampling

1. Select proper, clean sampling device. A sampling device may

be a coliwassa, sampling rod, etc.

2. Take sample from the container and wipe any excess from the sampling device and empty into a sample jar. Make sure the sample is taken from the full depth of the material being sampled. (**NOTE:** these wipes, if disposable must be disposed as a hazardous waste).

3. If more than one compartment exists then sample each compartment following steps 1 and 2.

4. All samples are brought to the lab.

5. If a liquid load has more than one phase, then the sample must be taken using representative volumes of each phase.

2.5.3.3 Sampling of Paint Can Consolidation Drums

1. Select proper, clean sampling device. A sampling device may be similar to a coliwassa, drum thief, sampling rod, etc.

2. Select 100% of the containers of consolidated paint waste to extract a sample from.

3. After sampling a container, empty the volume of the sampling device into a sample container. Use a clean sampling device to obtain a representative core sample of any solids in the container. The samples will be composited from no more than 20 drums for analysis. These composite samples will be from an equal portion of each drum. The samples may be composited by lab and/or sampling personnel.

4. All samples are to be labeled with the following information: bar code drum number.

5. The lab personnel will review all samples. If there is a problem, the lab may request that the paint cans be resampled and recomposited or analyzed individually.

LIST OF FIGURES

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No.

A. GENERAL INFORMATION

GENERATOR EPA-ID: GENERATOR PROFILE No.

GENERATOR CODE (Assigned by Clean Harbors)

ADDRESS GENERATOR NAME:

CITY STATE ZIP/POSTAL CODE

PHONE:

CUSTOMER CODE (Assigned by Clean Harbors) CUSTOMER NAME:

ADDRESS CITY STATE/PROVINCE ZIP/POSTAL CODE

B. WASTE DESCRIPTION

WASTE DESCRIPTION:

PROCESS GENERATING WASTE (Please provide detailed description of process generating waste):

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
  - % FREE LIQUID
  - % SETTLED SOLID
  - % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

1 2 3

% BY VOLUME (Approx.)

TOP
MIDDLE
BOTTOM

VISCOSITY (If liquid present)
- 1 - 100 (e.g. WATER)
- 101 - 500 (e.g. MOTOR OIL)
- 501 - 10,000 (e.g. MOLASSES)
- > 10,000

COLOR

ODOR
- NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- > 200 (>93)

TOTAL ORGANIC CARBON
- <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- > 200 (>93)

Actual:

pH
- <= 2
- 2.1 - 6.9
- 7 (Neutral)
- 7.1 - 12.4
- >= 12.5

Actual:

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze
- > 1.2 (e.g. Methylene Chloride)

ASH
- < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- Unknown

Actual:

BTU/LB (MJ/kg)
- < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

VAPOR PRESSURE (for liquids only) mm Hg

D. COMPOSITION (List the complete composition of the waste, include any inert components and /or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN -- MAX	UOM	CHEMICAL	MIN -- MAX	UOM

ANY METAL OBJECTs PRESENT? YES NO

If yes include dimension:

Clean Harbors Profile No.

E. CONSTITUENTS -- Are these values based on testing or knowledge? ☐ Knowledge ☐ Testing

If constituent concentrations are base on analytical testing, analysis must be provided. If based on knowledge, basis of knowledge must be provided below.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL ppm
D004	ARSENIC	5.0		
D005	BARIUM	100.0		
D006	CADMIUM	1.0		
D007	CHROMIUM	5.0		
D008	LEAD	5.0		
D009	MERCURY	0.2		
D010	SELENIUM	1.0		
D011	SILVER	5.0		

RCRA	VOLATILE COMPOUNDS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL ppm
D018	BENZENE	0.5		
D019	CARBON TETRACHLORIDE	0.5		
D021	CHLOROBENZENE	100.0		
D022	CHLOROFORM	6.0		
D028	1,2-DICHLOROETHANE	0.5		
D029	1,1-DICHLOROETHYLENE	0.7		
D035	METHYL ETHYL KETONE	200.0		
D039	TETRACHLOROETHYLENE	0.7		
D040	TRICHLOROETHYLENE	0.5		
D043	VINYL CHLORIDE	0.2		

RCRA	SEMI-VOLATILE COMPOUND	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL ppm
D023	o-CRESOL	200.0		
D024	m-CRESOL	200.0		
D025	p-CRESOL	200.0		
D026	CRESOL (TOTAL)	200.0		
D027	1,4-DICHLOROBENZENE	7.5		
D030	2,4-DINITROTOLUENE	0.13		
D032	HEXACHLOROBENZENE	0.13		
D033	HEXACHLOROBUTADIENE	0.5		
D034	HEXACHLOROETHANE	3.0		
D036	NITROBENZENE	2.0		
D037	PENTACHLOROPHENOL	100.0		
D038	PYRIDINE	5.0		
D041	2,4,5-TRICHLOROPHENOL	400.0		
D042	2,4,6-TRICHLOROPHENOL	2.0		

RCRA	PESTICIDES AND HERBICIDES	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL ppm
D012	ENDRIN	0.02		
D013	LINDANE	0.4		
D014	METHOXYCHLOR	10.0		
D015	TOXAPHENE	0.5		
D016	2,4-D	10.0		
D017	2,4,5-TP (SILVEX)	1.0		
D020	CHLORDANE	0.03		
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008		

OTHER METALS	MIN	MAX	UOM
ALUMINUM			
ANTIMONY			
BERYLLIUM			
CALCIUM			
COPPER			
MAGNESIUM			
MOLYBDENUM			
NICKEL			
POTASSIUM			
SILICON			
SODIUM			
THALLIUM			
TIN			
VANADIUM			
ZINC			

NON-METALS	MIN	MAX	UOM
BROMINE			
CHLORINE			
FLUORINE			
IODINE			
SULFUR			

OTHER NON-METALS	MIN	MAX	UOM
AMMONIA			
REACTIVE SULFIDE			
CYANIDE-TOTAL			
CYANIDE AMENABLE			
CYANIDE REACTIVE			

OTHER CHEMICALS	MIN	MAX	UOM
PHENOL			
Total Petroleum Hydrocarbons			

OTHER

HOCs

NONE
< 1000 PPM
>= 1000 PPM

PCBs

NONE
<50 PPM
>= 50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES NO

ADDITIONAL HAZARD

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES NO (If yes, explain)

ASBESTOS
DEA REGULATED SUBSTANCES
DIOXIN
EXPLOSIVE
HERBICIDE
FUMING / SMOKING WASTE
INFECTIOUS, PATHOGENIC, OR ETIOLOGICAL AGENT
OXIDIZER
OSHA REGULATED CARCINOGENS
PESTICIDE
POLYMERIZABLE
RADIOACTIVE
REDUCING AGENT
SHOCK SENSITIVE
SPONTANEOUSLY IGNITES WITH AIR
THERMALLY SENSITIVE
WATER REACTIVE
NONE OF THE ABOVE

CleanHarbors
ENVIRONMENTAL SERVICES, INC.

Clean Harbors Profile No.

F. REGULATORY STATUS

YES NO USEPA HAZARDOUS WASTE?

YES NO DO ANY STATE WASTE CODES APPLY?

YES NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?
LDR CATEGORY:
VARIANCE INFO:

YES NO IS THIS A UNIVERSAL WASTE?

YES NO IS THIS A WASTEWATER PER 40 CFR PART 268.2?

YES NO IF ANY WASTE CODES D001, D002, D003 (OTHER THAN REACTIVE CYANIDE OR REACTIVE SULFIDE), D004-D0011, D012-DO17 NON-WASTEWATERS, OR D018- D043 APPLY, ARE ANY UNDERLYING HAZARDOUS (UHCs) PRESENT ABOVE UNIVERSAL TREATMENT STANDARDS (UTS)?

YES NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE SUBJECT TO CATEGORICAL PRETREATMENT DISCHARGE STANDARDS?
IF YES, SPECIFY POINT SOURCE CATEGORY LISTED IN 40 CFR PART 401.

YES NO IS THIS WASTE REGULATED UNDER THE BENZENE NESHAP RULES?
IF YES, IS THE GENERATOR'S TOTAL ANNUAL BENZENE >= 10 Megagrams? YES NO

YES NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE GREATER THAN 77 KPa (11.2PSIA)?

YES NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES NO IS THIS WASTE REGULATED UNDER THE OZONE DEPLETING SUBSTANCE ACT FOR ONTARIO?

G. D.O.T INFORMATION: (Include proper shipping name, hazard class and ID number).
US D.O.T. DESCRIPTION:

H. TRANSPORTATION REQUIREMENTS
ESTIMATED SHIPMENT FREQUENCY: ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

IF BULK LIQUID OR BULK SOLID PLEASE INDICATE THE EXPECTED NUMBER OF LOADS PER SHIPPING FREQUENCY:

CONTAINERIZED
CONTAINERS/SHIPMENT
STORAGE CAPACITY:
CONTAINER TYPE:
CUBIC YARD BOX
PALLET
TOTE TANK
OTHER:
DRUM SIZE:
CONTAINER MATERIAL:
STEEL
FIBER
PLASTIC
OTHER

BULK LIQUID
GALLONS/SHIPMENT: GAL.
FROM TANKS: TANK SIZE GAL.
FROM DRUMS
VEHICLE TYPE:
VAC TRUCK
TANK TRUCK
RAILROAD TANK CAR
CHECK COMPATIBLE STORAGE MATERIALS.
STEEL | STAINLESS STEEL
RUBBER LINED | FIBERGLASS LINED
DERAKANE
OTHER

BULK SOLID
SHIPMENT UOM: TON YARD
PER SHIPMENT: MIN MAX
STORAGE CAPACITY TON/YD
VEHICLE TYPE:
DUMP TRAILER
ROLL OFF BOX
INTERMODAL ROLLOFF BOX
CUSCO/VACTOR
OTHER

I. SPECIAL REQUEST
SPECIFIC DISPOSAL RESTRICTIONS OR REQUESTS:
SPECIAL WASTE HANDLING REQUIREMENTS:
OTHER COMMENTS OR REQUESTS:

J. BIENNIAL / ANNUAL REPORTING INFORMATION
SIC CODE SOURCE CODE FORM CODE

K. SAMPLE STATUS
REPRESENTATIVE SAMPLE HAS BEEN SUPPLIED. YES NO SAMPLED BY DATE SAMPLED WHERE SENT

GENERATORS CERTIFICATION

I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE NAME (PRINT) TITLE DATE

Clean Harbors Environmental Services, Inc.

Waste Receiving Report

Containers

Plant Received Date: 12/8/2006 12:00:00AM
Work Order #:
Receiving Facility: Bartow Facility (BW)
Equipment:

Generator:
Customer:
Manifest:
Generator EPA ID:

Cnt: 1
State EPA ID:

Line Item	Shipping Name/ US DOT Description	UN/NA Number	Container No. Type	Total Quantity	Unit Wt/Vol	CHI Pre-Code	Profile Number	Pkg Grp	Hazard Class	Hzrd Zone

Profile Constituents (ordered by Max %) Min Max

NOTE: DRIVER APPROVAL MAY BE REQUIRED - If this is a battery profile, it must be packed in accordance with CHES Battery Packaging Guidelines. Drivers MUST inspect pallets and drums and contents to ensure they are packed in accordance with CHES Battery Packaging Guidelines for battery profiles. Shipments of batteries, which violate CHES Battery Packaging Guidelines, are not permitted and will be refused from shipment. Contact your coordinator or H&S representative with questions or issues. Please be advised that employees who accept improperly packaged materials for transport will be subject to disciplinary action.

Waste Codes

Least Cost Outlet	Outbound Profile	Outbound Profile Description	Cons (Y/N)

Billing Requirements:

Container (Y/N)	Weight (Y/N)	Special Instructions

Restrictions:

Restrictions, Other:

Drum No.	Final Code	Qty	Cont. Type	H2O Mix (+/-)	Ph (Value)	Ign (+/-)	CN (+/-)	Sulfide (+/-)	PCB Value	Rad (+/-)	Oxid (+/-)	CC Insp	CHL (+/-)	Weight	Weight UOM	Comments

Item(s) printed for

APPENDIX I

MANIFEST SYSTEM, RECORDS AND NOTICES

16.1 In-Processing of Manifest

Upon delivery of incoming shipments of wastes they will be inspected for piece count and/or volume as required. Any discrepancies will be noted in Section 19 of the manifest and indicated to the generator and/or transporter prior to signing the manifest. If a significant discrepancy exists between the delivered load and the waste described on the manifest, facility personnel will attempt to reconcile the discrepancy. Significant discrepancies are:

- bulk wastes variations greater than 10% in weight or volume,
- variations in container count, and
- mislabeling discrepancies between the manifest and container.

If the discrepancy cannot be resolved within 15 days of receipt with the generator or waste hauler, CLHB will notify in writing the Florida Department of Environmental Protection (FDEP) of the unresolved discrepancy. This notification will include a description of the discrepancy, an explanation of the attempt to reconcile the discrepancy, and a copy of the manifest.

If wastes are rejected they will be returned to the generator, or transported to an alternate disposal facility as directed by the generator.

If the manifest is accurate and all discrepancies, if any, are resolved, facility personnel will:

1. Sign and date all manifests presented.
2. Immediately give a copy to the transporter.
3. Send one copy to the generator within 30 days of acceptance of the waste.
4. Place a copy in the facility filing system. These copies will be retained for 3 years.
5. Enter the appropriate information from the manifest into the operating record.

16.2 Unmanifested Waste Reports

CLHB may accept waste from conditionally exempt small quantity generators (CESQG). CLHB will obtain confirmation during the waste profiling process that the wastes from these generators qualify for a manifest exclusion according to 40 CFR 261.5. If waste is received from a generator for which the shipping paper is marked as being from a CESQG, but confirmation has not been obtained, CLHB will verify the accuracy of the CESQG claim or file an unmanifested waste report to the FDEP within 15 days of receiving the wastes. If CLHB accepts other wastes which are not shipped on a hazardous waste manifest or other proper shipping paper (i.e. hazardous waste shipped to CLHB on a non-hazardous manifest), an unmanifested waste report will also be filed.

The report will include:

- CLHB's name, address and EPA ID number,
- the date the waste was received,
- the name, address, and EPA ID number of the generator and transporter (if available),
- a description of the waste received and quantity,
- the method of treatment or storage for each hazardous waste,
- certification signed by the Facility Manager (or his authorized representative), and
- a brief explanation as to why the waste was unmanifested (to the extent known).

16.3 Additional Reports

Biennial Report (as required in Part 264.75)

Incident Report (as required in Part 264.56(j))

Facility Closure (as required in Part 264.115)

As otherwise required by 40 CFR Part 264, Subparts F, and K through N.

16.4 Operating Record

CLHB's operating record describes all wastes accepted at the facility, the location of these wastes during storage, and the date which the wastes entered the production process.

The operating record will contain the following information:

- A description, by common name and EPA Hazardous Waste Number(s) from Part 261 which apply, of the waste received. The waste description will also include the waste's physical form (e.g., liquid, sludge, solid, or containerized gas). If the waste is not listed in Part 261, Subpart D, the description will also include the process that produced it.

- The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Appendix I, Table 1 of 40 CFR Part 264.

- The method(s) (by handling code(s) as specified in Appendix I, Table 2, of 40 CFR Part 264) and date(s) of treatment, storage, and disposal.

- Records and results of waste analyses performed as specified in 40 CFR Parts 264.13, 264.17, 268.4(a), and 268.7.

- Summary reports and details of all incidents that require implementing the contingency plan as specified in Part 264.56(d).

- Records and results of inspections as required by Part 264.15(d).

- Monitoring, testing or analytical data, and corrective action where required by Subpart F as appropriate.

- Notices to generators as specified in Part 264.12(b).

- All closure cost estimates under Part 264.142.

- A certification which is updated annually, that CLHB has a program in place to reduce the volume and toxicity of hazardous waste that it generates to the degree determined by CLHB to be economically practicable, and that the proposed method of treatment, storage, or disposal is that practicable method currently available to CLHB which

minimizes the present and future threat to human health and the environment.

- Copies of the notices or certifications required by the land disposal restrictions in Part 268.7 or 268.8.

16.5 Manifests for Outgoing Shipments of Hazardous Waste

For hazardous wastes generated or processed on site and subsequently shipped off-site, CLHB will complete hazardous waste manifests in accordance with the requirements of 40 CFR Part 262. Wastes shipped off-site may include hazardous waste fuels, filtered waste solids, storage-only wastes, unprocessable residues from reclamation processes, self generated wastes, and wastes produced from closure activities.

16.6 Retention of Records

All plans and records pertaining to the operation of the CLHB facility will be retained on-site, and will be made readily available for representatives of the FDEP upon request. The operating record and waste analysis records will be retained for the life of the facility when required. All manifests will be retained for three years from the date it is signed. All records of training completed by personnel will be maintained during their employment and for three years after termination. Land disposal notifications will be retained for a minimum of three years (or more as required by statute or regulations) from the date wastes are received by or shipped from CLHB.

Upon closure, no hazardous wastes will remain on-site, therefore the requirements in 40 CFR 264.74(c) are not applicable.

16.7 Required Notices

16.7.1 International Shipments

In the event that CLHB will receive hazardous waste from a foreign country the Director of the Florida Department of Environmental Protection (Tallahassee and Tampa offices) will be notified of the intent to receive such waste four weeks prior to receiving the waste into the facility. In the event that hazardous waste or hazardous waste treatment residues will be shipped off-site to a foreign country, permission will be obtained from the foreign country and the Directors will be notified in advance of the shipment.

16.7.2 Generator Notices

Prior to receiving waste, CLHB will inform each generator that the facility is permitted to receive the waste stream.

16.7.3 Ownership Transfers

Prior to transfer of ownership, CLHB will, in writing, notify the prospective owner of the requirements of 40 CFR, Parts 264 and 270.

SECTION B

CONTAINERS AND CONTAINMENT STRUCTURES FOR THE STORAGE OF HAZARDOUS WASTE

11.1 South Container Storage Building

11.1.1 Design of Aisle Space, Capacity, and Containment Volume

The South Container Storage Building consists of a graded 6-inch thick reinforced concrete slab with a dike beginning flush with the highest point of the slab and extending around the perimeter of the building, maintaining the same elevation as the highest point of the slab. The reinforced concrete foundation is enclosed with a structural steel super structure and a metal roof. The 6-inch reinforced concrete slab provides an effective impermeable base due to the rapid removal of any standing liquids (see Section 11.2). At the time of construction, the floor was sealed with a concrete curing agent and sealer making it impervious. All joints in the building have stainless steel troughs to direct any leakage to the building center trench for collection and removal. The building is not totally enclosed, but has the south, east and west sides closed, and the north side fully open. This configuration reduces the amount of rainfall which can blow into the building. In addition to providing shelter from the rain, these sides add structural support. The roof is equipped with several vents and skylights. The open air nature of this storage area is deemed to be the safest design in that it provides:

1. Shelter from the sun, which could otherwise cause problems with confined flammable liquids.

2. Shelter from rain, which could otherwise cause deterioration of the drums.

3. Will not allow a potentially explosive vapor buildup in the building in the case of a spill.

4. Allows access to control fires.

The South Container Storage Building will be used to store typically 55-gallon containers. Other types of containers stored are totes, cubic yard boxes, 5-gallon containers, 30-gallon containers, etc. The containers will be stored on pallets 42" X 42" or 48" X 48" with typically 4 drums placed on each pallet, and stacked two pallets high. The drums, with a 2' diameter, will extend over the sides of the pallets in some cases.

(**NOTE:** smaller containers such as 5-gallon pails may be stored more than two containers high but the total height of these containers will typically not exceed the height of two pallets of 85 gallon drums).

The pallets used for this operation are designed to hold the weight of 8 drums. The maximum weight that could be supported is 9,500 lbs. The pallets constructed for this purpose are typically manufactured from oak or plywood. Figure 11.1 illustrates the typical arrangement of pallets in the building. However, any alternate arrangement which may be used will not allow more than the maximum of 106,920 gallons in the storage building. Thirty-inch spacing will be provided as aisle space between each row of pallets. Eighteen (18) rows will be the maximum number of rows south of the collection trench and these 18 rows will have no more than 26 pallets (13 double Stacked) per row. Therefore, each row on Figure 11.1 represents a maximum of 104 55-gallon drums stored. There will be one row of nine pallets north of the collection trench located immediately behind the fuels blending area wall.

The building has the capacity to hold the volume equivalent of 1944 55-gallon drums (i.e. 106,920 gallons). CLHB will store wastes in portions of the building which are protected by a low expansion foam fire protection system. All storage will conform with NFPA-30 requirements. Wastes to be stored in the South Container Storage Building are compatible with each other and will be at least 50 feet from the fence which is the facility boundary.

The South Container Storage Building is designed with a secondary containment volume of 16,852 gallons (10% of 106,920 gallons of storage requires 10,692 gallons of containment capacity). The building has an approximate slope of 1/8" per foot to allow for the drainage of any spills or rainwater. Since most of the liquids handled have viscosities very similar to water, and are not highly viscous wastes, the 1/8" per foot slope is considered to be adequate. This results in a 7 1/4" drop across the building. In addition, the drums will be resting on pallets, so they will not rest in standing liquids even if a removal system were not in place. The system for removal of standing liquids is the sloped floor provided by the concrete slab base. The calculation of design containment is very conservative because the pallets will allow liquids to collect within the volume they occupy. The volumes calculated were determined by the open area on the building floor, the allowable height of accumulated liquids prior to contacting the drums (5" at the drum locations), the containment volume of drainage ditch and slope of the floor.

The containment volume calculations are as follows:

At 1/8" per foot slope, liquid (at a depth of 5") will accumulate at a distance of 40' on each side of the centerline containment trench.

The volume of this triangle shaped containment on each side of the trench is:

$\frac{1}{2}bhl = \frac{1}{2}(40')(.4167')(125') = 1041\ ft^3$

where: b = base
h = height
l = length

volume of the centerline trench is 171 ft^3 (20.125" deep on the east end, 4.5" deep on the west end, (for an average depth of 12.3125"), 16" wide and 125' long).

Total containment volume = $2(1041\ ft^3) + 171\ ft^3$
$= 2253\ ft^3$
$= 16{,}852$ gal (@ 7.48 gal/ft^3)

11.1.2 Containment System Run-on

The containment system (building concrete pad) is constructed 6 inches above the surrounding grade. Therefore, run-on into the building is precluded. Some rainwater, however, could be trapped in the drainage system because of rain blowing it. This amount would be minimal, and as seen by the containment volume calculations, which is a very conservative figure, any rain blown into the building would be easily contained in addition to the 10% of the total volume of wastes.

Also the capacity allows for the volume occupied by the 8" concrete wall in back of, and on the west end of the fuels blending area. The wall is .67' wide; 102' in length (62' on back, 40' on west end); and 5" deep for a total volume of 28 ft^3 (213 gallons). It also leaves plenty of secondary containment volume for the fuels blending tanks (largest is 780 gallons of working volume).

Design Containment Volume	16,852 gallons
Volume occupied by fuel blend wall	213 gallons
Volume of fuels blending tank	780 gallons
10% of drums capacity*	10,692 gallons
Additional available containment	5,167 gallons

* This number will actually be less because solids which contain no liquids will also be stored in this building.

Spilled or leaked waste and accumulated precipitation will be removed within 24 hours of discovery (unless additional time is needed for identification, and/or additional equipment is needed) to assure that the collection trench will not overflow. Since the system is designed to drain the liquids away from the drums it is not critical that the liquids be removed immediately. Figure 11.1 depicts the drainage pattern in the building. Should waste accumulate in the trench, it will be collected in containers and managed in accordance with regulatory requirements. Water collected in the drainage ditch will be removed from the collection trench, analyzed and the analysis will define the handling procedures. If determined to be acceptable for discharge, it will be discharged to the P.O.T.W.

Access to remove the liquids can be accomplished without entering the building with any mechanical equipment since the drain extends outside of the building.

11.2 North Container Storage Building

11.2.1 Design of Aisle Space, Capacity, and Containment Volume

The North Container Storage Building consists of a graded reinforced concrete slab 8" thick. The floor is divided into 17 separate cells which allow segregated storage of incompatible wastes. The reinforced concrete foundation is enclosed with a structural steel super structure and a metal roof. The concrete floor is sealed with a concrete sealer and curing agent which makes it impervious. All joints in the containment cells have been sealed and are equipped with water stops to prevent migration from the containment area to the environment. The building is totally enclosed, except for the loading dock areas which are open. This configuration reduces the amount of rainfall which can blow into the building. In addition to providing shelter from the rain, these sides add structural support. The roof is also equipped with vents. The nature of this storage area is deemed to be the safest design because it provides:

1. Shelter from the sun, which could otherwise cause problems with confined flammable liquids.

2. Shelter from rain, which could otherwise cause deterioration of the drums.

3. Will not allow a potentially explosive vapor buildup in the building in the case of a spill.

4. Allows access to control fires.

The North Container Storage Building is used to store typically 55-gallon containers. Examples of other types of containers stored are totes, cubic yard boxes, 5-gallon containers, 30-gallon containers, etc. The containers will be stored on pallets 42" X 42" or 48" X 48" with typically 4 drums placed on each pallet, and stacked two pallets high. The drums, with a 2' diameter, will extend over the sides of the pallets in some cases. (**NOTE:** smaller containers such as 5-gallon pails may be stored more than two containers high but the total height of these containers will not exceed the height of two pallets of 55 gallon drums).

The pallets used for this operation are designed to hold the weight of 8 drums. The maximum weight that could be supported is 9,500 lbs. The pallets constructed for this purpose are typically manufactured from oak or plywood. Figure 11.2 illustrates the typical arrangement of pallets in the building. However, any alternate arrangement which may be used will not allow more than the maximum of 136,400 gallons in the storage building. Thirty-inch spacing will be provided as aisle space between each row of pallets.

The building has the capacity to hold the volume equivalent of 2480 55-gallon drums (i.e. 136,400 gallons). The building will be protected by a foam fire protection system. All storage will conform with NFPA-30 requirements. All flammable waste in the North Container Storage Building will be at least 50 feet from the fence which is the facility boundary.

Each cell in the North Container Storage Building is designed to contain greater than 10% of its total storage volume contained therein. The containment calculations of each cell are included in Figure 11.3. The system for removal of standing liquids is the sloped floor provided by the concrete slab base so that the liquids will drain to one side of each cell. Any contained liquid will then be removed using absorbent, a portable pump, etc. Should waste accumulate in the cells, it will be collected in containers and managed in accordance with regulatory requirements and will be handled and disposed of as determined by analysis.

Pallets are placed in aisle for two purposes; while in the process of actively loading and unloading trucks, and to gain access to pallets stored behind the first pallet of a row.

11.2.2 Containment System Run-on

The containment system (building concrete pad) is constructed at least 3 feet above the surrounding grade. Therefore, run-on into the building is precluded. Some rainwater may, blow into the building from extreme weather events but this will be minimal and be on the dock area only.

11.3 CONTAINER MANAGEMENT PRACTICES

All containers will be kept closed during storage, and opened only when material is being sampled, added or removed from the containers. Drums will be stored on wooden pallets, each measuring 42" X 42" or the typical 48" square and holding 4 drums. Each pallet will be moved using a forklift which meets the OSHA requirements of 29 CFR 1910.178. Other containers, such as totes which have legs may not be stored on pallets. In addition, the forklift may be equipped with a detachable device which will enable the driver to handle drums without pallets. Hand carts for moving drums will also be available. All containers used by CLHB for the storage of hazardous wastes will meet appropriate D.O.T. performance standards.

Up to four hazardous waste roll-off containers are stored at the facility. They will be stored within the curbed driveway area which will provide secondary containment. However, the roll-offs will generally contain solids so the need for secondary containment will be minimal. The tops of the containers will be kept closed, unless it is necessary to add or remove waste. CLHB uses two types of roll-offs, open top roll-offs and "sludge boxes". Liquids are not placed in open top roll-offs, however on occasion rain or absorbed liquids may accumulate in the bottom.

11.4 Waste Segregation and Classification System

11.4.1 Container Storage

CLHB will use a waste classification system for containerized waste that will preclude incompatible reactions due to the commingling of incompatible hazardous wastes. Incompatible materials will be kept separate. In the North Container Storage Building there are 17 segregation cells. Wastes are segregated in one of these cells according to compatibility so that incompatible wastes are not in the same cell. Each cell is labeled as to which compatibility class it contains. There will be at a minimum, eleven compatibility classes as demonstrated below. These compatibility classes are based on the Department

of Transportation (DOT) segregation rules which apply to the commingling of wastes during transportation.

Compatibility Group	Description	Class or Division
A	Non-regulated materials	
B	Poisonous gases (zone A and zone B)	2.3 and 2.4
C	Other gases not in Category B	2.1 and 2.2
D	Flammable liquids	3
E	Flammable solids	4.1
F	Oxidizers	5.1 and 5.2
G	Poisonous liquids and solids	6.1
H	Corrosive materials (acidic)	8
I	Corrosive materials (alkaline)	8
J	Reactives	4.2 and 4.3
K	Non-reactive, Non-corrosive materials	

The container management practices outlined in this chapter as well as Chapters 5, 6, & 7, provide for the safe management of containers. Employees who handle these containers receive extensive training on proper container management practices (as outlined in Chapter 8). However, even with all these precautions, there is a remote possibility that a drum could fall from one cell to it's neighboring cell. In order to reduce the risk of any adverse affects as a result, CLHB has a procedure in place to further minimize the possibility of mixing incompatibles.

The procedure is based on the DOT shipping restrictions specified in 49 CFR 177.848. The Segregation Table for Hazardous Materials denotes which class of material may be transported together and any special precautions which must be observed. The items which cannot be transported together are denoted by an "X". CLHB does not store in adjacent cells those materials which are classified by an "X".

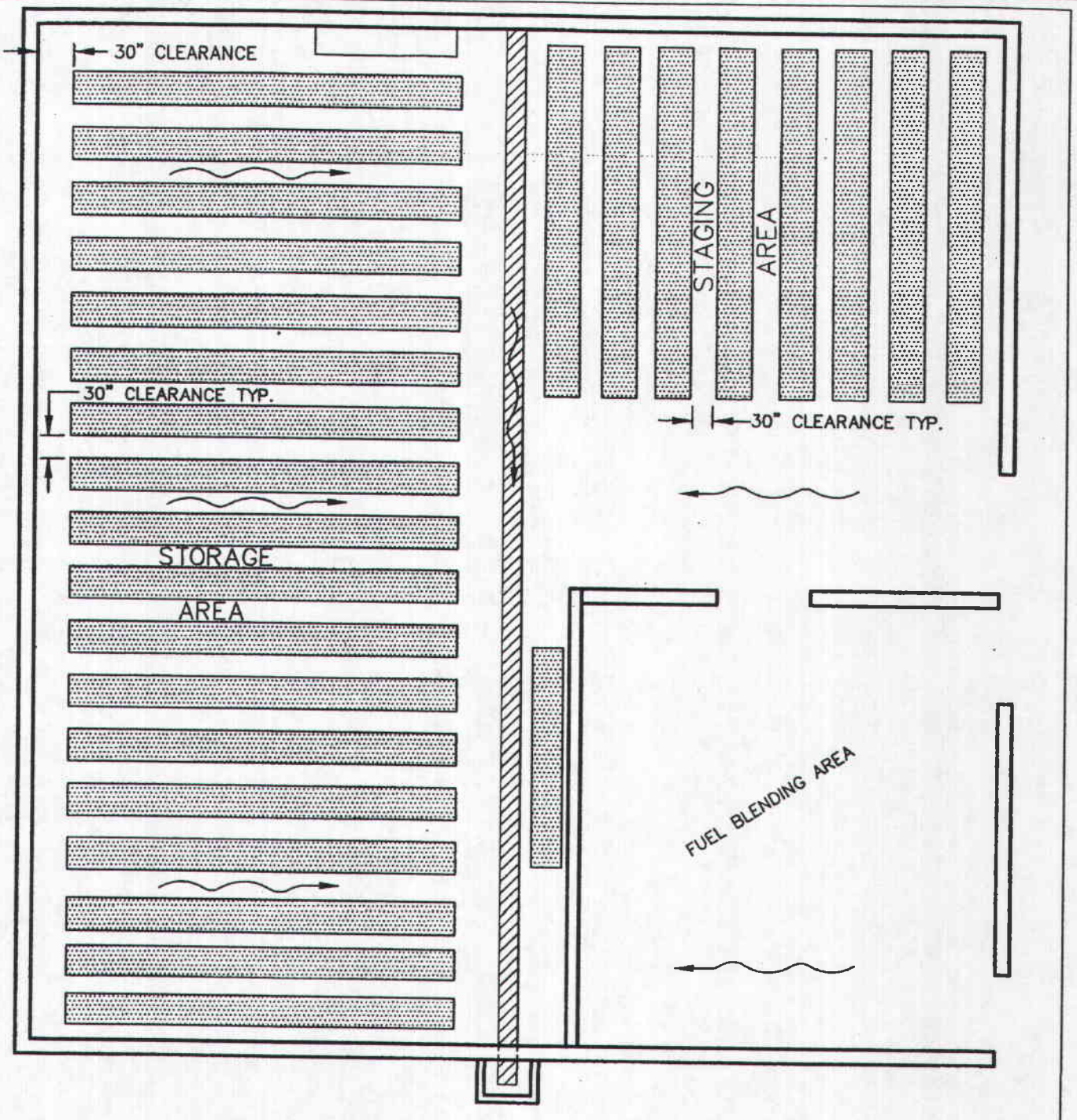
Materials denoted by an "O" may not be stored together without the use of special management practices. CLHB does not store in adjacent cells those materials denoted by "O". Adjacent, as used in this section, means cells that share a common side. Adjacent does not mean those cells that touch only at the corners.

As an additional precaution, cyanide containing materials will not be stored in cells adjacent to cells containing acidic waste. These waste will be stored (space available) in Cell "L" with

separate containment. Cell "L" is used for the storage of reactive materials. These reactive materials may be USDOT hazardous class incompatible and still be stored in Cell "L" because of the use of multiple containment devices.

Storage compatibility decisions will be made based upon the primary hazard class of the material.
The South Container Storage Building does not contain segregation cells, therefore all wastes within this building are of the same compatibility class. The building is labeled as to which compatibility class it contains.

LIST OF FIGURES



NOTES:

1. CONTAINERS AND PALLETS MAY BE STAGED IN THE STAGING AREA TEMPORARILY FOR CHARACTERIZATION AND LABELING BEFORE STORAGE.

2. ANY ARRANGEMENT OF PALLETS WILL NOT ALLOW MORE THAN THE MAXIMUM OF 106,920 GALLONS IN THE CONTAINER STORAGE BUILDING.

N

Not to Scale

LEGEND

- PALLET ROW
- FLUID COLLECTION TRENCH
- SLOPE OF BUILDING FLOOR

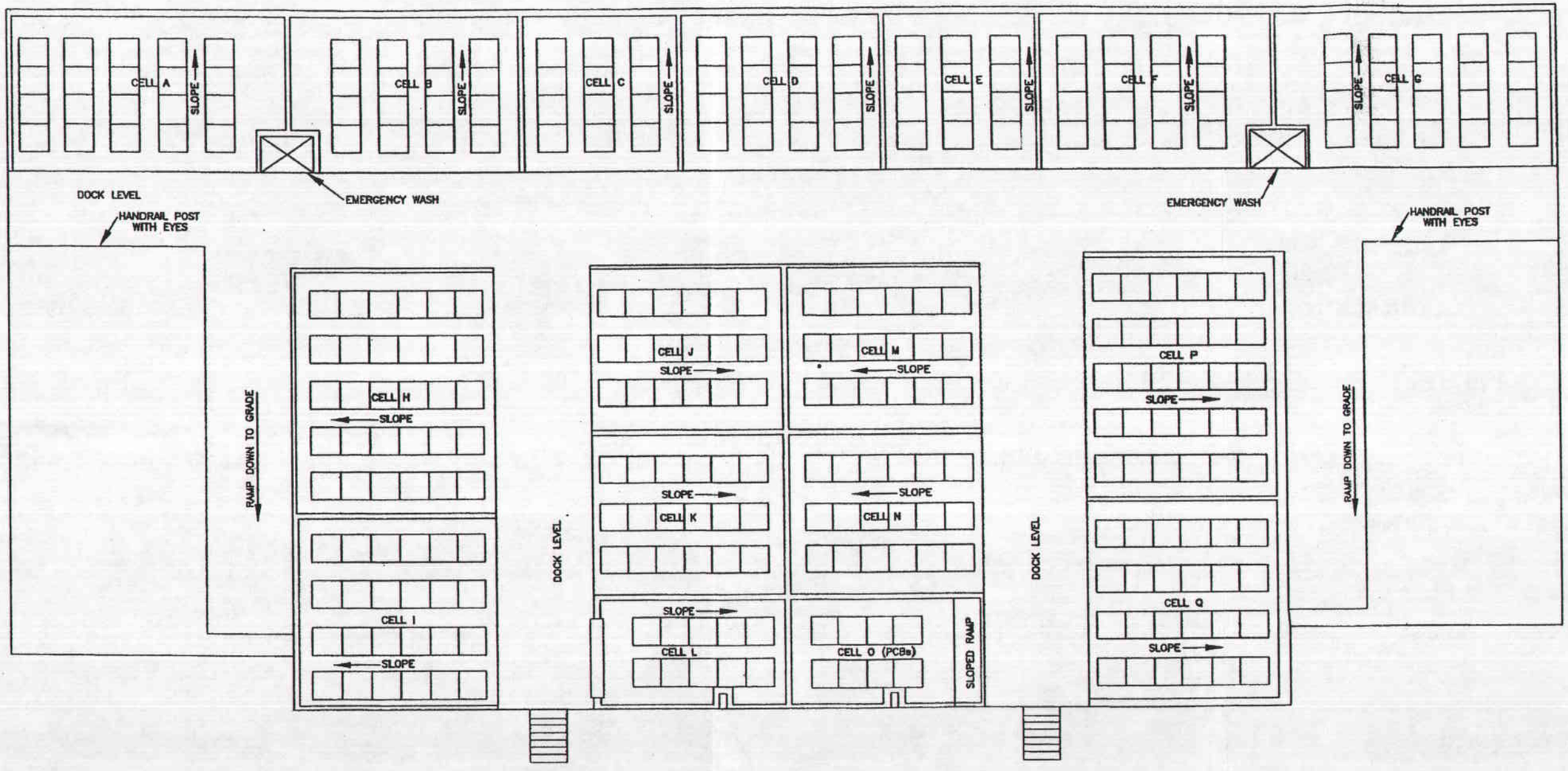
REV.	DESCRIPTION	DRAWN BY	DATE	APPVD. BY
A	FOR APPROVAL	JKM	01/31/06	

CleanHarbors BARTOW

DRAWN	CHECKED	SCALE	DATE
JKM	MJO	NTS	01/31/06

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
TYPICAL PALLET ARRANGEMENT AND DRAINAGE PATTERNS IN SOUTH CONTAINER STORAGE BLDG.

DRAWING NO. FIGURE 11.1 REV. A



GENERAL NOTES

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	MJG

CleanHarbors BARTOW

DRAWN	CHECKED	SCALE	DATE
JKM	MJG	NTS	01/31/06

TITLE: Figure 11.3

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FLOORPLAN & TYPICAL ARRANGEMENT IN NORTH CONTAINER STORAGE BUILDING LAYOUT

DRAWING NO.: Figure 11.2

REV.: A

Figure 11.3 SECONDARY CONTAINMENT CALCULATIONS

NORTH CONTAINER STORAGE BUILDING

Storage capacity = 136,400 gallons (2480 55-gallon drum equivalent)

****

NOTE: the cross-sectional areas of these containment cells are triangles. Therefore the volume of each cell (except Cell Q) is calculated using the cross-sectional area of each triangular shaped cell multiplied by it's length. The formula is:

Area = (0.5 X Base X height) = 0.5bh

Volume = Area X Length
= 0.5bhl cubic feet

gallons = cubic feet X 7.48

****

CELL A:
Containment Volume:
b=19.25'
h=0.469'
l=39.43'
Volume = 0.5 X 19.25' X 0.457' X 39.43' = 178.0 ft^3
Volume occupied by support columns:
1.33' X 1.33' X 0.469' = 0.83 ft^3
1.33' X 0.25' X 0.69' = 0.16 ft^3
Volume occupied by emergency shower area:
5.0' X 4.5' X 0.05' = 1.13 ft^3
Available containment volume is:
178.0 ft^3 - 0.83 ft^3 - 0.16 ft^3 - 1.13 ft^3 = 175.9 ft^3
175.9 ft^3 X 7.48 gallons/ft^3 = **1315.6 gallons**
40 pallets (20 double stacked)
4 drums per pallet x 40 pallets = 160 drums
160 drums x 55 gal/drum = 8,800 gallons
1,315 gallons > 10% of 8,800 gallons
1,315 gallons > 880 gallons
Containment OK

CELL B:
Containment Volume:
b=19.25'
h=0.5'
l=32.3'
Volume = 0.5 X 19.25' X 0.5' X 32.3' = 155.4 ft^3
Volume occupied by support columns:
1.25' X 1.33' X 0.5' = 0.83 ft^3
1.33' X 2.0' X 0.5' = 1.33 ft^3
Volume occupied by emergency shower area:
5.0' X 4.5' X 0.05' = 0.96 ft^3
Available containment volume is:
155.4 ft^3 - 0.83 ft^3 - 1.33 ft^3 - 0.96 ft^3 = 152.3 ft^3
152.3 ft^3 X 7.48 gallons/ft^3 = **1139.4 gallons**
32 pallets (16 double stacked)
4 drums per pallet x 32 pallets = 128 drums
128 drums x 55 gal/drum = 7,040 gallons
1139 gallons > 10 % of 7,040 gallons
1139 gallons > 704 gallons
Containment OK

CELL C:
Containment Volume:
b=19.25'
h=0.479'
l=22.31'
Volume = 0.5 X 19.25' X 0.5' X 22.31' = 102.9 ft^3
Volume occupied by support column:
1.33' X 2.0' X 0.5' = 1.33 ft^3
Available containment volume is:
102.9 ft^3 - 1.33 ft^3 = 101.5 ft^3
101.5 ft^3 X 7.48 gallons/ft^3 = **759.4 gallons**
24 pallets (12 double stacked)
4 drums per pallet x 24 pallets = 96 drums
96 drums x 55 gallons/drum = 5,280 gallons
759.4 gallons > 10 % of 5,280 gallons
759.4 gallons > 528 gallons
Containment OK

CELL D:
Containment Volume:
b=19.25'
h=0.484'
l=28.47'
Volume = 0.5 X 19.25' X 0.484' X 28.47' = 132.6 ft^3
Volume occupied by support columns:
1.33' X 2.0' X 0.5' = 1.33 ft^3
1.33' X 2.0' X 0.5' = 1.33 ft^3
Available containment volume is:
132.6 ft^3 - 1.33 ft^3 - 1.33 ft^3 = 130.0 ft^3
130.0 ft^3 X 7.48 gallons/ft^3 = **972.2 gallons**
32 pallets (16 double stacked)
4 drums per pallet x 32 pallets = 128 drums
128 drums x 55 gallons/drum = 7,040 gallons
972.2 gallons > 10 % of 7,040 gallons
972.2 gallons > 704 gallons
Containment OK

CELL E:
Containment Volume:
b=19.27'
h=0.464'
l=22.04'
Volume = 0.5 X 19.27' X 0.464' X 22.04' = 98.5 ft^3
Volume occupied by support columns:
1.33' X 2.0' X 0.5' = 1.33 ft^3
Available containment volume is:
98.5 ft^3 - 1.33 ft^3 = 97.2 ft^3
97.2 ft^3 X 7.48 gallons/ft^3 = **727.1 gallons**
24 pallets (12 double stacked)
4 drums per pallet x 24 pallets = 96 drums
96 drums x 55 gallons/drum = 5,280 gallons
727.1 gallons > 10 % of 5,280 gallons
727.1 gallons > 528 gallons
Containment OK

CELL F:
Containment Volume:
b=19.25'
h=0.443'
l=32.27'
Volume = 0.5 X 19.25' X 0.443' X 32.27' = 137.6 ft^3
Volume occupied by support columns:
1.33' X 2.0' X 0.443' = 1.18 ft^3
1.33' X 1.33' X 0.443' = 0.78 ft^3
Volume occupied by emergency shower area:
4.75' X 4.75' X 0.08' = 1.81 ft^3
Available containment volume is:
137.6 ft^3 - 1.18 ft^3 - 0.78 ft^3 - 1.81 ft^3 = 133.8 ft^3
133.8 ft^3 X 7.48 gallons/ft^3 = **1001.0 gallons**
32 pallets (16 double stacked)
4 drums per pallet x 32 pallets = 128 drums
128 drums x 55 gal/drum = 7,040 gallons
1001.0 gallons > 10 % of 7,040 gallons
1001.0 gallons > 704 gallons
Containment OK

CELL G:
Containment Volume:
b=19.33'
h=0.443'
l=39.49'
Volume = 0.5 X 19.33' X 0.443' X 39.49' = 169.1 ft^3
Volume occupied by support columns:
1.33' X 0.21' X 0.443' = 0.12 ft^3
1.33' X 1.33' X 0.443' = 0.78 ft^3
Volume occupied by emergency shower area:
4.5' X 4.75' X 0.08' = 1.71 ft^3
Available containment volume is:
169.1 ft^3 - 0.12 ft^3 - 0.78 ft^3 - 1.71 ft^3 = 166.5 ft^3
166.5 ft^3 X 7.48 gallons/ft^3 = **1245.1 gallons**
40 pallets (20 double stacked)
4 drums per pallet x 40 pallets = 160 drums
160 drums x 55 gal/drum = 8,800 gallons
1245.1 gallons > 10% of 8,800 gallons
1245.1 gallons > 880 gallons
Containment OK

CELL H:
Containment Volume:
b=27.43'
h=0.490'
l=35.08'
Volume = 0.5 X 27.43' X 0.490' X 35.08' = 235.7.0 ft^3
Volume occupied by support columns:
1.33' X 2.0' X 0.490' = 1.30 ft^3
1.33' X 2.0' X 0.490' = 1.30 ft^3
1.43' X 1.5' X 0.490' = 1.05 ft^3
Available containment volume is:
235.7 ft^3 - 1.30 ft^3 - 1.30 ft^3 - 1.05 ft^3 = 232.1 ft^3
232.1 ft^3 X 7.48 gallons/ft^3 = **1736.0 gallons**
60 pallets (30 double stacked)
4 drums per pallet x 60 pallets = 240 drums
240 drums x 55 gallons = 13,200 gallons
1,736.0 gallons > 10 % of 13,200 gallons
1,736.0 gallons > 1,320 gallons
Containment OK

CELL I:
Containment Volume:
b=27.43'
h=0.495'
l=28.43'
Volume = 0.5 X 27.43' X 0.495' X 28.43' = 193.0 ft^3
Volume occupied by support columns:
1.33' X 2.0' X 0.495' = 1.32 ft^3
1.33' X 1.33' X 0.495' = 0.88 ft^3
1.33' X 2.0' X 0.25' = 0.67 ft^3
Available containment volume is:
193.0 ft^3 - 1.32 ft^3 - 0.88 ft^3 - 0.67 ft^3 = 190.2 ft^3
190.2 ft^3 X 7.48 gallons/ft^3 = **1422.3 gallons**
48 pallets (24 double stacked)
4 drums per pallet x 48 pallets = 192 drums
192 drums x 55 gallons/drum = 10,560 gallons
1422.3 gallons > 10 % of 10,560 gallons
1422.3 gallons > 1,056 gallons
Containment OK

CELL J:
Containment Volume:
b=27.83'
h=0.468'
l=23.52'
Volume = 0.5 X 27.83' X 0.468' X 23.52' = 153.2 ft^3
153.2 ft^3 X 7.48 gallons/ft^3 = **1145.7 gallons**
36 pallets (18 double stacked)
4 drums per pallet x 36 pallets = 144 drums
144 drums x 55 gallons/drum = 7,920 gallons
1145.7 gallons > 10% of 7,920 gallons
1145.7 gallons > 792 gallons
Containment OK

CELL K:
Containment Volume:
b=27.91'
h=0.495'
l=23.54'
Volume = 0.5 X 27.91' X 0.495' X 23.54' = 162.6 ft^3
162.6 ft^3 X 7.48 gallons/ft^3 = **1216.3 gallons**
36 pallets (18 double stacked)
4 drums per pallet x 36 pallets = 144 drums
144 drums x 55 gallons/drum = 7,920 gallons
1216.3 gallons > 10% of 7,920 gallons
1216.3 gallons > 792 gallons
Containment OK

CELL L:
Containment Volume:
b=27.21'
h=0.531'
l=15.69'
Volume = 0.5 X 27.21' X 0.531' X 15.69' = 113.3 ft^3
Volume occupied by support column:
2.0' X 4.0' X 0.5' = 4.0 ft^3
Available containment volume is:
113.3 ft^3 - 4.0 ft^3 = 109.3 ft^3
109.3 ft^3 X 7.48 gallons/ft^3 = **817.9 gallons**
20 pallets (10 double stacked)
4 drums per pallet x 20 pallets = 80 drums
80 drums x 55 gallons/drum = 4,400 gallons
817.9 gallons > 10 % 4,400 gallons
817.9 gallons > 440 gallons
Containment OK

CELL M:
Containment Volume:
b=27.75'
h=0.495'
l=23.54'
Volume = 0.5 X 27.75' X 0.495' X 23.54' = 161.7 ft^3
161.7 ft^3 X 7.48 gallons/ft^3 = **1209.3 gallons**
36 pallets (18 double stacked)
4 drums per pallet x 36 pallets = 144 drums
144 drums x 55 gallons/drum = 7,920 gallons
1209.3 gallons > 10% of 7,920 gallons
1209.3 gallons > 792 gallons
Containment OK

CELL N:
Containment Volume:
b=27.75'
h=0.5'
l=23.54'
Volume = 0.5 X 27.75' X 0.5' X 23.54' = 163.3 ft^3
163.3 ft^3 X 7.48 gallons/ft^3 = **1221.5 gallons**
36 pallets (18 double stacked)
4 drums per pallet x 36 pallets = 144 drums
144 drums x 55 gallons/drum = 7,920 gallons
1221.5 gallons > 10% of 7,920 gallons
1221.5 gallons > 792 gallons
Containment OK

CELL O:

[**NOTE:** Cell O is not shaped the same as the others because it was designed to meet the requirements of the TSCA regulations (which exceed the requirements of the RCRA requirements). Instead of the cross sectional area being a triangle it is a rectangle. There is also an access ramp at the front of the cell which occupies a small amount of volume.]

Containment Volume:
Volume = length X width X depth
l=27.21'
w=15.89'
d=0.526
Volume = 27.21' X 15.79' X 0.526' = 227.4 ft^3
Volume occupied by ramp:
0.5 X 4' X 0.526' X 15.89' = 16.72 ft^3
Volume occupied by support column:
1.33' X 2.0' X 0.5' = 1.33 ft^3
Available containment volume is:
227.4 ft^3 - 16.72 ft^3 - 1.33 ft^3 = 209.35 ft^3
209.35 ft^3 X 7.48 gallons/ft^3 = **1565.9 gallons**
16 pallets (8 double stacked)
4 drums per pallet x 16 pallets = 64 drums
64 drums x 55 gallons/drum = 3,520 gallons
1565.9 gallons > 10 % 3,520 gallons
1565.9 gallons > 352 gallons
Containment OK

CELL P:
Containment Volume:
b=27.43'
h=0.531'
l=35.05'
Volume = 0.5 X 27.43' X 0.531' X 35.05' = 255.3 ft^3
Volume occupied by support columns:
1.47' X 1.33' X 0.531' = 1.04 ft^3
1.33' X 2.0' X 0.531' = 1.41 ft^3
1.33' X 2.0' X 0.531' = 1.41 ft^3
Available containment volume is:
255.3 ft^3 - 1.04 ft^3 - 1.41 ft^3 - 1.41 ft^3 = 251.4 ft^3
251.4 ft^3 X 7.48 gallons/ft^3 = **1880.4 gallons**
60 pallets (30 double stacked)
4 drums per pallet x 60 pallets = 240 drums
240 drums x 55 gallons = 13,200 gallons
1880.4 gallons > 10 % of 13,200 gallons
1880.4 gallons > 1,320 gallons
Containment OK

CELL Q:
Containment Volume:
b=27.43'
h=0.521'
l=28.45'
Volume = 0.5 X 27.43' X 0.521' X 28.43' = 203.3 ft^3
Volume occupied by support columns:
1.33' X 2.0' X 0.521' = 1.39 ft^3
1.33' X 1.33' X 0.521' = 0.92 ft^3
1.33' X 2.0' X 0.521' = 1.39 ft^3
Available containment volume is:
203.3 ft^3 - 1.39 ft^3 - 0.92 ft^3 - 1.39 ft^3 = 199.6 ft^3
199.6 ft^3 X 7.48 gallons/ft^3 = **1493.0 gallons**
48 pallets (24 double stacked)
4 drums per pallet x 48 pallets = 192 drums
192 drums x 55 gallons/drum = 10,560 gallons
1493.0 gallons > 10 % of 10,560 gallons
1493.0 gallons > 1,056 gallons
Containment OK

SECTION C

TANK SYSTEMS

12.1 Tank System Integrity

An engineering assessment of an existing tank system's integrity is only required for tank systems that do not have secondary containment meeting the requirements of 40 CFR 264.193. Tanks T-101 to T-110, R-202 and R-203 are existing tank systems (installed in 1985) and have secondary containment meeting the requirements of 40 CFR 264.193, hence the engineering assessment provisions of 40 CFR 264.191 are not applicable. Tanks T-101, T-102, T-103, T-104 and T-105 were replaced in 2000.

The engineering assessment of tanks T-112 and T-114 (installed in 1989) is included in Attachment 12.1 of this Chapter.

12.2 Tank System Specifications

Three groups of RCRA hazardous waste tanks are in use at the CLHB facility. Hazardous waste tank storage is conducted in tanks T-101 to T-110 (referred to as the crude storage tanks) located in the south tank farm and R-202/R-203 (referred to as bottoms tanks) located in the west tank farm. Blending of hazardous waste fuels is conducted in tanks T-112 and T-114 (referred to as the fuel blending tanks) located in the northeast corner of the South Container Storage Building.

All tanks are designed to conform to Underwriters Laboratories (UL) specification UL-142, where applicable. With small tanks, the UL specifications are much more stringent with regard to shell thickness than the American Petroleum Institute (API) standards; therefore, the UL standards were adhered to, even in the case of non-flammable solvents. The specific gravity of material placed in these tanks ranges from 0.6 - 1.7. The flash points of these same materials range from < 0 to > 200. Each hazardous waste storage tank in the south and west tank farms is equipped with emergency vents and a nitrogen blanketing system. Should the nitrogen blanket be taken out of service, flame arresters will be placed on each crude and bottoms tank. The required vent opening size for the hazardous waste tanks and the actual size of the vent opening are listed below:

VENTING REQUIREMENTS FOR TANKS CONTAINING FLAMMABLE LIQUIDS

Normal Vent Size = 2 inches

Wetted Area = 404
Required Venting Capacity = 314,000 ft^3/hr
Minimum Vent Size = 8 inches

SPECIFICATIONS FOR CLHB TANKS

- Normal Vent Opening - 3 inches
  Emergency Vent Opening - 20 inches
  Relief-pressure setting on manhole 0.5 oz/in^2

- Venting Capacity - > 314,000 ft^3/hr.

Nothing will be placed in a tank system that would cause the system to rupture, leak, or fail. Although all wastes stored in these tanks are compatible, no waste will be stored in any manner that may cause it to ignite or react. Additionally, all waste handling operations will be conducted to prevent reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;

- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

- Damage the structural integrity of the tank system or facility; and

- Through other like means threaten human health or the environment.

Typical construction and installation standards for the hazardous waste storage tanks and fuel blending tanks are shown in Figures 12.1 through 12.3. The tanks used by CLHB are designed to meet appropriate UL specifications. The hazardous waste tanks are over designed with regard to shell thickness, with a minimum 10% over design present.

Corrosion and erosion of the tank walls are monitored by CLHB. The tanks will be inspected annually using ultrasonic thickness gauges. The frequency and number of tests per tank are discussed in Chapter Four. If a discrepancy of 10% is detected using this test, the tank will be opened and visually inspected. If necessary, repairs will then be conducted, or the tank will be replaced. The minimum wall thickness for each tank are given

below:

{PRIVATE }	Minimum Thickness		
Tank I.D.	Wall	Head	Cone/Bottom
Crude	0.1801"	0.1339"	0.2175"
Bottoms	0.1900"	0.1900"	0.1900"
Fuels Blend	0.1337"	0.1462"	0.1551"

The tanks are designed to hold the waste streams CLHB will place in tank storage. Therefore, specific wastes to be stored in specific tanks will not be designated. The Daily Inventory will be a daily record of which waste category is stored in each tank.

12.2.1 Crude Storage Tanks

The crude storage tanks are 6,600-gallon, carbon steel, cone bottom tanks. The tanks are located in the south tank farm. The working volume of these tanks is 6,000 gallons with a liquid level of 21 feet from the cone bottom.

The typical dimensions, piping, and instrumentation of each crude storage tank are presented in Figure 12.1(a) and 12.1(b). The tanks are painted to provide external corrosion protection.

12.2.2 Bottoms Tanks

The bottoms tanks are two 7,000-gallon, carbon steel tanks. The bottoms tanks are located, along with 10 non-RCRA tanks, in the west tank farm. The working volume of these tanks is 6,300 gallons with a liquid level of 12 feet from the bottom.

The typical dimensions, piping, and instrumentation for each bottoms tank are presented in Figure 12.2. The tanks are insulated and jacketed to provide external corrosion protection.

While these tanks typically contain bottoms from the reclamation processes, they are also used for storing waste blended in the fuels blend tanks or waste received from customers.

12.2.3 Fuel Blending Tanks

The fuel blending tanks are two 980-gallon carbon steel tanks. These fuel blending tanks are located in the northeastern portion of the South Container Storage Building. The working volume of

these tanks is 780 gallons with minimum of 2 feet of freeboard.

The typical dimensions, piping, and instrumentation for each fuel blending tank are presented in Figure 12.3. The tanks are located indoors, so external corrosion has not historically been significant.

While these tanks are used primarily for fuels blending, they are also used to bulk and blend non-fuel material. When non-fuel material is blended in these tanks, the contents are transferred to a crude storage tank or bottoms tank which contains other non-fuel material or to a tanker.

12.3 Transfer Operations

Five types of transfer operations involving RCRA-regulated materials to/from tanks can occur: 1) pumping to/from tankers; 2) pumping to/from containers; 3) pouring container contents into the fuel blending tanks; 4) pumping between tanks; and 5) pumping crude solvent and process bottoms to/from solvent recovery process equipment.

12.3.1 Tanker Transfers

Wastes will be transferred from incoming tankers into the crude storage tanks and/or bottoms tanks through dip tubes. The tanker will be connected to the fill line, which enters the storage tank through the top, with a flexible hose. The tanker can be off-loaded using either a gear pump, a centrifugal pump, a portable air-operated diaphragm pump, or the truck's onboard pump. The pumping rate is usually 100 gpm. During pumping, an operator is in constant attendance to monitor the tank liquid level and shut the system down in the event of a spill. Each tank is equipped with a level indicator accurate to 1/16 of an inch.

A high level alarm is provided on each tank to warn the operator in time to prevent overfilling. The alarm on the crude storage tanks is activated when the tank is filled to 5,300 gallons. The alarm on the bottoms tanks is activated when the tank is filled to 6,300 gallons. This allows a 700 gallon safety margin, which gives the operator approximately 7 minutes to shut off the pump before the tank overfills. This is considered to be adequate to stop the pumping operation because the operator of the transfer is required to stay in the immediate vicinity in charge of the transfer operation. The shutdown of the pumping operation and closing of the valves will take only a few seconds as the procedures are accomplished within a few feet of each other.

A roll-over curb around the tanker pumping station (approximately 50' x 12') is provided to contain minor spills and leaks caused during connection and disconnection of hoses and operation of equipment. A drum of absorbent is kept at the pumping station during unloading to clean up any solvent leaks as they occur. Spill residues will be placed in DOT-approved open head 55-gallon drums, closed, labeled, placed in the hazardous waste storage area, and transported off site to a permitted facility. If a spill larger than the containment volume of the curbed area occurs, it will be contained within the perimeter road.

After loading is complete, the hoses are disconnected and drained into a pan or pail. The pan or pail is then poured into a DOT-approved accumulation drum, which is then closed, labeled, and placed in hazardous waste storage or satellite accumulation area.

During all transfers from tankers, a drip pan or pail will be used to contain any possible minor spillage from the coupling operation between the pump in the containment area and the tanker. There is a potential for spills in this operation. One way is from the coupling attached to the truck where the hose connects, and another is from moving the hose after completing the operation. To avoid possible contamination of the road surface, one of four actions will be taken; 1) a pail or pan will be moved under the transfer point (from hose to tankers); 2) drain the hose of enough liquid so is does not leak from the hose; 3) by lifting the end of the hose attached to the tanker and walking it into the containment area; or 4) a cap will be placed on the ends of the hose. If more than one compartment is unloaded at a time, measures will be taken so the potential leaks from each compartment are contained. Any drippings collected in a drip pail or pan will be managed as a hazardous waste.

12.3.2 Container Transfers

Unloading of containers to the crude or bottoms tanks will be accomplished via aboveground fixed pipes leading from one of the container unloading areas. When a sufficient amount of a waste has been accumulated for processing or when sufficient capacity in the storage tank farms warrants, containers containing a particular category of waste, will be staged and prepared for unloading. After the container bungs are opened with a spark-proof bung wrench, a spark-proof wand will be inserted into the container and the contents pumped to a specified crude or bottoms tank using an air-operated diaphragm pump. Upon completion, the hose and wand will be elevated to ensure that all material possible is pumped from the hose. Residues left in the

containers will be processed into the blending tanks, or collected into a satellite container.

The fuel blending tanks are equipped with hatch openings in the roof. The contents of hazardous waste containers can be pumped into these tanks according to the procedures described above, or the contents may be physically poured into the top of the fuel blending tanks, using a forklift to elevate and tip the containers for dumping. The operator observes the level of the tanks and verifies sufficient available volume before adding additional waste.

12.3.3 Process Transfers

The wastes in both the crude storage tanks and the bottoms tanks may be of the quality to be recycled. When a decision is made to reclaim a tank's contents, the contents will be pumped to the process area using either a centrifugal pump, gear pump, or air diaphragm pump. All piping to the process area from these tanks, will be galvanized, carbon steel or stainless steel pipe, which will be over containment areas. Therefore, should a leak from the piping occur, it will be contained.

12.4 Tank System Secondary Containment

12.4.1 Crude Storage Tanks

The crude storage tanks are located in the south tank farm. The tanks are resting on a 12-inch-thick reinforced concrete slab measuring 55.3' by 22.7'. The slab is surrounded by a 16-inch-high, 8-inch-thick reinforced concrete block wall. In accordance with 40 CFR 264.193(e), the size of the secondary containment was designed and constructed to provide sufficient volume to contain 110% of the capacity of the largest tank within the containment and precipitation from a 25-year, 24-hour rainfall event and prevent run-on or infiltration of precipitation. The tank farm is surrounded by concrete that extends no less than 18.9 feet to contain any lateral release of waste from a tank. Calculations of the secondary containment volume are contained in Attachment 12.2.

According to Table 4-3 of "Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems" (US EPA, December 1986, EPA/530-SW-86-044), concrete is compatible with the materials that will be stored at the south tank farm. The concrete will prevent hazardous waste that has leaked from the tanks from entering into the environment. In addition, all joints, gaps and cracks are sealed with an epoxy resin coating.

12.4.2 Bottoms Tanks

The bottoms tanks are located in the west tank farm. The west tank farm also includes 10 non-RCRA 6,000-gallon carbon steel tanks. The tanks are resting on a 12-inch thick reinforced concrete slab covering 1,831.27 ft^2 (see Figure 12.5 for dimensions). The slab is surrounded by a 20-inch high reinforced concrete berm. In accordance with 40 CFR 264.193(e), the size of the secondary containment was designed and constructed to contain 110% of the capacity of the largest tank within the containment and precipitation from a 25-year, 24-hour rainfall event, and prevent run-on or infiltration of precipitation. Calculations of the secondary containment volume are contained in Attachment 12.2.

According to Table 4-3 of "Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems" (US EPA, December 1986, EPA/530-SW-86-044), concrete is compatible with the materials that will be stored at the west tank farm. The concrete will prevent hazardous waste that has leaked from the tanks from entering into the environment. In addition, all joints, gaps and cracks are sealed with an epoxy resin coating.

12.4.3 Fuel Blending Tanks

The fuel blending tanks are located in the northeast corner of the South Container Storage Building. The building consists of a graded six-inch thick reinforced concrete slab with a dike beginning flush with the highest point of the slab and extending around the perimeter of the building, maintaining the same elevation as the highest point of the slab. The reinforced concrete foundation is enclosed by a structural steel super structure and a metal roof. The six-inch reinforced concrete slab provides an effective impermeable base due to the rapid removal of any standing liquids (see Section 11.2). Chapter Eleven provides more detail about the secondary containment of the South Container Storage Building. The fuel blending tanks will not be used to store hazardous waste; however, should a total failure of one of the fuel blending tanks occur during use, the building has sufficient secondary containment volume reserve to contain the hazardous waste. Calculations of the secondary containment volume of the South Container Storage Building are contained in Chapter Eleven.

Figures 12.4 through 12.6 diagram the tank and secondary

containment layouts.

12.5 Controls And Spill Prevention

Each hazardous waste tank farm and its ancillary equipment, including aboveground piping, flanges, fittings, coupling devices, pumps, and lines, is designed, installed, and operated to prevent any release of hazardous waste or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system. The secondary system is capable of collecting releases of hazardous waste from each tank system.

All tank systems used to store ignitable hazardous waste are designed with a 50-foot buffer zone between the storage area and the facility property line. This exceeds the requirement for such tank systems as specified in Tables 2-1 and 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (i.e., NFPA 30). The minimum shell-to-shell spacing set forth in the code is 1/6 of the adjacent tank diameters, but not less than three feet. The facility design uses a minimum three-foot separation.

The operational procedures which are followed to prevent any release of hazardous waste into the environment are described below.

- Each containment area will be monitored by visual observation by personnel working in the vicinity of the tanks.
- Each containment system will be inspected daily for signs of releases according to the schedule identified in Chapter Four.
- The operator performing the transfer of waste to a tank will ensure that adequate storage capacity is available in the tank by checking the tank gauge prior to adding waste to the tank.
- The Daily Inventory will be compared to actual tank levels at the end of each work shift to ensure that all wastes stored and received are accounted for.
- Accumulated liquids detected in any of the containment systems will be collected and removed within 24 hours or in

as timely a manner as is necessary to prevent harm to human health and the environment. If it is determined that hazardous waste constituents are present in the accumulated liquids, the tank system will be thoroughly inspected to determine the source of the release, if resulting from a leak, the leaking portion of the system will be removed from service until it is replaced or repaired. The accumulated liquid will be pumped into either a container or a tank. If it is determined that the accumulated liquid is water, it will be analyzed and if appropriate, the liquid will be discharged to the sanitary sewer.

Each of the containment systems is equipped with a small sump which is designed to drain and remove liquids resulting from leaks, spills, or precipitation.

In order to prevent spills and overflows from the tank, a tank gauge and a high level alarm is provided on each crude tank. Each bottoms tank and fuels blend tank is equipped with a high level alarm. The alarm is activated when the tank is filled to approximately 90% capacity. This allows a sufficient enough margin of safety for an operator to shut off the pump before the tank overfills.

A drum of absorbent is kept near all pumping stations during unloading to clean up any hazardous waste leaks as they occur. Spill residues will be placed in DOT-approved containers, closed, labeled, placed in the hazardous waste storage area, or satellite accumulation area as appropriate. A large spill will be contained in the perimeter road containment system (refer to Section 9.2.2 of the Contingency Plan) or in the containment trench in the South Container Storage Building.

After transfer of a hazardous waste into a tank is complete, hoses will be disconnected and drained into a pail. The waste residues in the pail will be poured into a DOT-specification accumulation drum, which will then be closed, marked, and placed in hazardous waste storage, placed into a satellite accumulation container, or put into process promptly.

12.6 Response To Leaks Or Spills And Disposition Of Leaking, Unfit-For-Use Tank Systems

If ever a tank system is found leaking or unfit for use, it will be immediately removed from service and:

- The flow of hazardous waste to the system will immediately be stopped and the system will be inspected to determine the

cause of the release;

- Not greater than 24 hours after the detection of the leak, all of the hazardous waste will be removed to prevent release of hazardous waste to the environment and to allow inspection and repair of the tank system;

- If a waste is released to the secondary containment system, all released materials will be removed within 24 hours or in as timely a manner as is necessary to prevent harm to human health or the environment.

If visible releases to the environment are identified, CLHB will immediately conduct a visual inspection of the release, and based on the inspection:

- Prevent further migration of the leak or spill to soils or surface water; and

- Remove and properly dispose of any visible contamination of the soil or surface water.

Any release to the environment, except for releases less than or equal to one pound which are immediately contained and cleaned up, will be reported to the Florida Department of Environmental Protection (FDEP) within 24 hours of its detection. Within 30 days of detection of a release to the environment, a report containing the following information will be submitted to FDEP:

- Likely route of migration of the release;

- Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

- Results of any monitoring or sampling conducted;

- Proximity to downgradient drinking water, surface water, populated areas; and

- Description of response actions taken or planned.

If the spill or release has not damaged the integrity of the tank and containment system, the system will be returned to service as soon as released waste is removed, and repairs, if necessary, are made. If the cause of the release was a leak from the primary tank system into the secondary containment system, the system will be repaired prior to returning the tank system to service.

All tank systems are protected by secondary containment. Therefore, 40 CFR 264.196(e)(4) does not apply.

In the case where a tank ruptures or a tank is damaged, the spilled solvent will be transferred to an available storage tank. One tank at the facility is always empty and available to transfer spilled waste to.

If CLHB has repaired a tank system and the repairs have been extensive (e.g., repairs of ruptured primary containment or secondary containment), the tank system will not be returned to service until CLHB has obtained a certification by an independent, qualified, registered, professional engineer in accordance with 40 CFR 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification will be submitted to FDEP within seven days after returning the tank system to use.

12.7 Waste Segregation and Classification System

CLHB will accept for on-site management in tanks three categories of hazardous waste: 1) fuels; 2) reclaimable solvents; and 3) storage only.

Prior to adding waste to a tank which previously held or holds a waste, the compatibility of the two wastes will be confirmed as described in the Waste Analysis Plan. Ignitable wastes will not be placed in a tank system unless the waste is stored or treated in such a way that it is protected from any material or condition that may cause the waste to ignite. This will be accomplished by utilizing tanks that meet API standards for flammable materials.

12.8 Special Management Procedures For Ignitable Wastes

Hazardous waste will be stored and treated in a manner that will protect the waste from any material or condition that may cause it to ignite or react. Additionally, all waste handling operations will be conducted to prevent reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;
- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
- Produce uncontrolled flammable fumes or gases in sufficient

quantities to pose a risk of fire or explosions;

- Damage the structural integrity of the tank system or facility; or
- Through other like means, threaten human health or the environment.

12.9 Air Emissions From Tanks

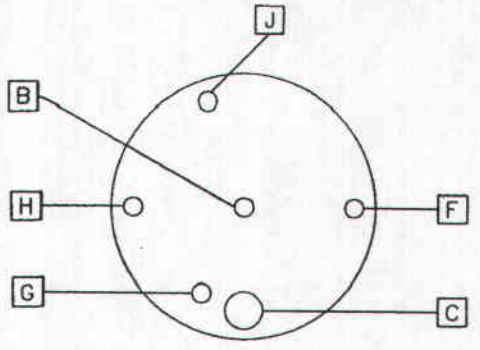
Chapter Fifteen details how CLHB complies with 40 CFR 270.27 (40 CFR 264, Subpart CC).

The fuel blend tanks are not subject to the control device requirements of Subpart CC and they are equipped with fixed roofs. These fixed roofs have a hatch which is capable of being opened for the purpose of adding or removing waste, sampling, maintenance, etc. The hatch is equipped with a seal mechanism as required by Subpart CC. They are also equipped with a conservation vent.

The crude and bottoms tanks also are not subject to the control device requirements. They are also of a fixed roof design and are equipped with a common header system which is equipped with a common conservation vent. The hatches on these tanks are also kept closed except when opened for sampling, inspections, etc.

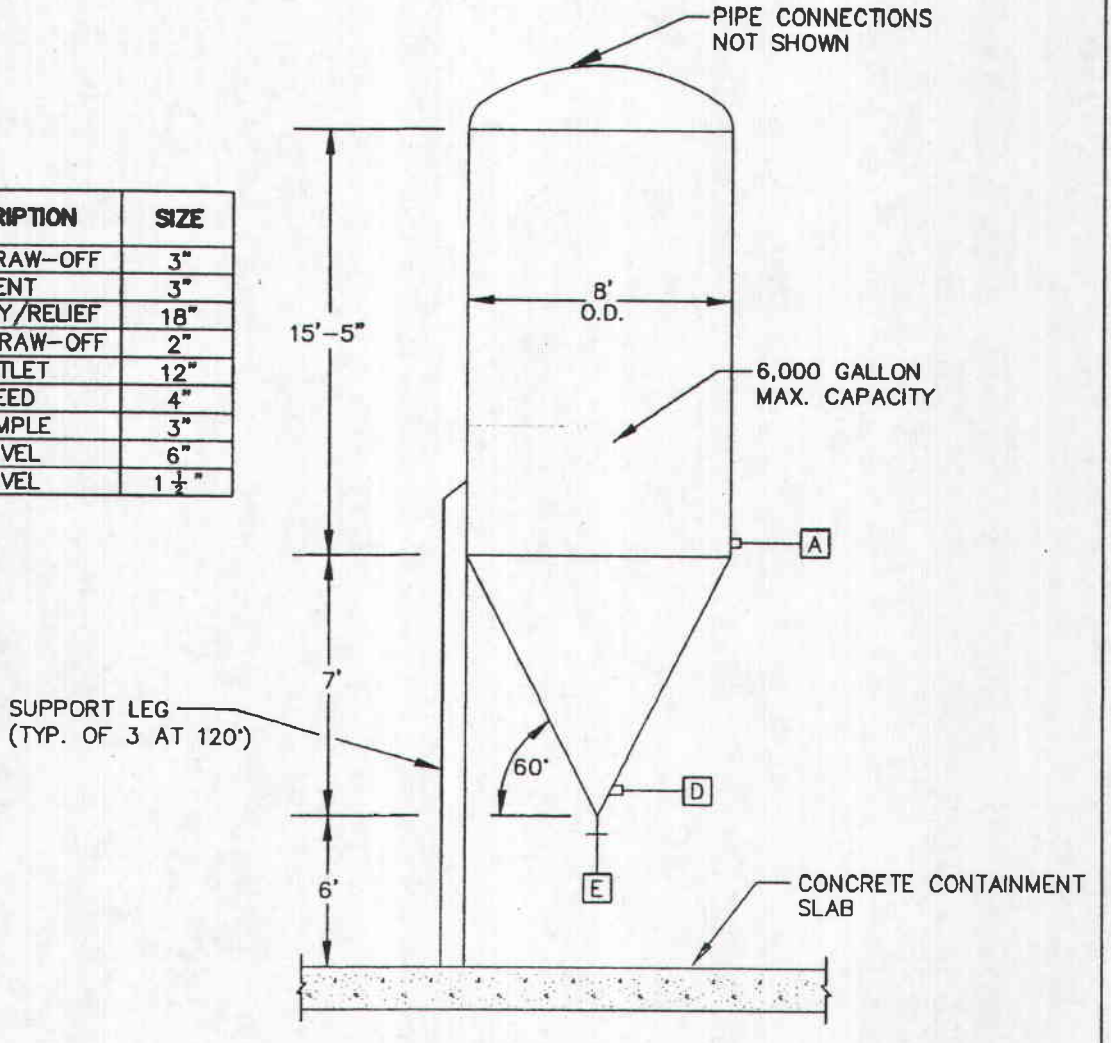
LIST OF FIGURES

LIST OF ATTACHMENTS



PLAN VIEW

MARK	DESCRIPTION	SIZE
A	SIDE DRAW-OFF	3"
B	VENT	3"
C	MANWAY/RELIEF	18"
D	CONE DRAW-OFF	2"
E	OUTLET	12"
F	FEED	4"
G	SAMPLE	3"
H	LEVEL	6"
J	LEVEL	1 1/2"



ELEVATION
NOT TO SCALE

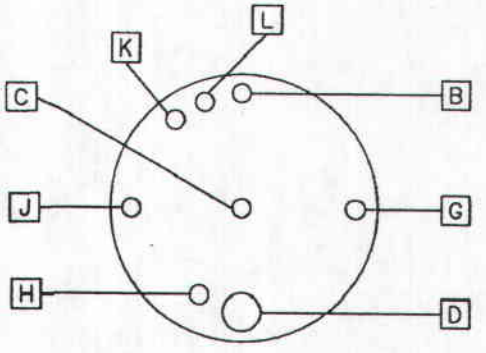
REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/01/08	

CleanHarbors BARTOW

DESIGNED JKM | CHECKED MJC | SCALE NTS | DATE 01/31/08

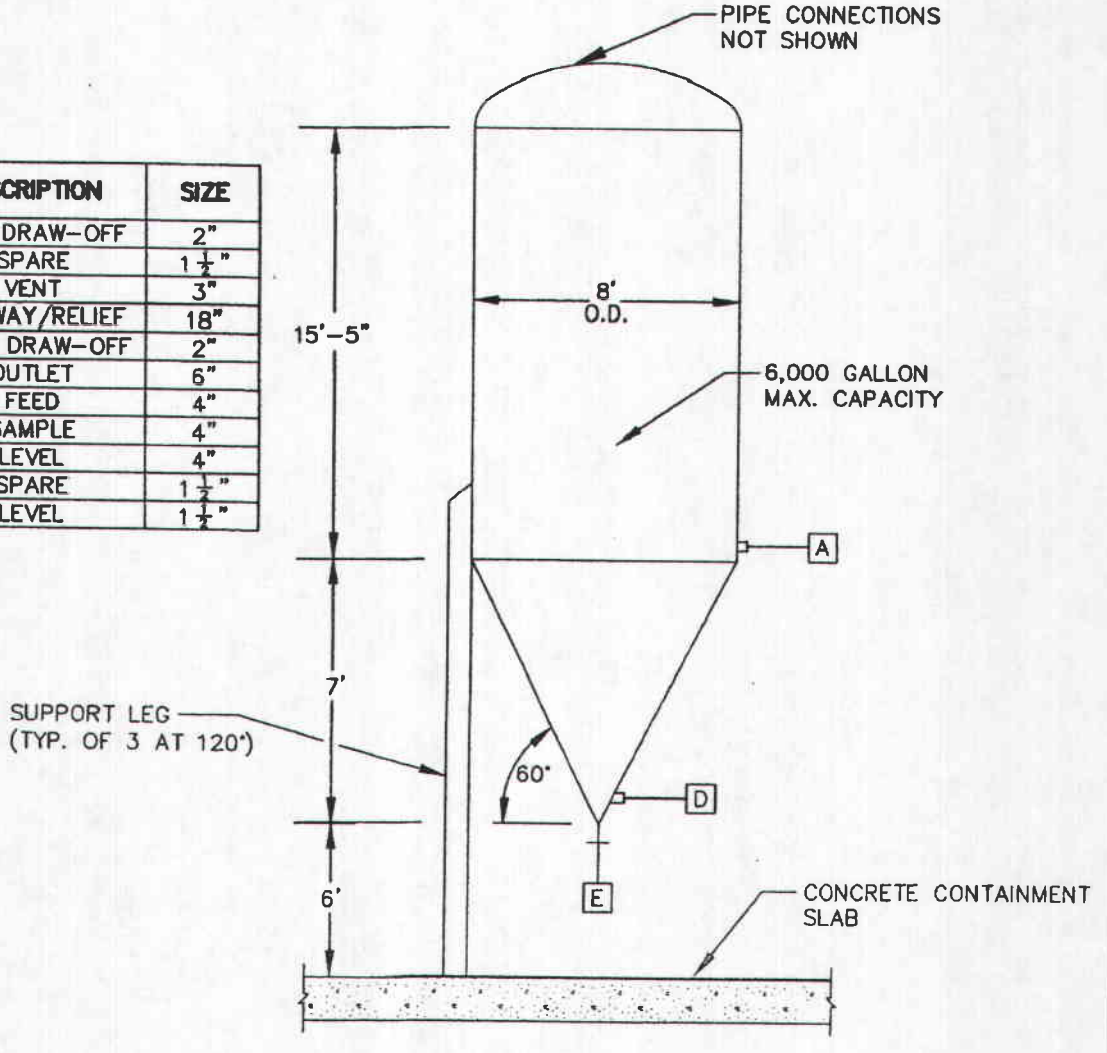
TITLE: CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
CRUDE STORAGE TANKS T-101 TO T-105
DIMENSIONS, PIPING & INSTRUMENTATION DETAILS

DRAWING NO. FIGURE 12.1a | REV. A



PLAN VIEW

MARK	DESCRIPTION	SIZE
A	SIDE DRAW-OFF	2"
B	SPARE	1½"
C	VENT	3"
D	MANWAY/RELIEF	18"
E	CONE DRAW-OFF	2"
F	OUTLET	6"
G	FEED	4"
H	SAMPLE	4"
J	LEVEL	4"
K	SPARE	1½"
L	LEVEL	1½"



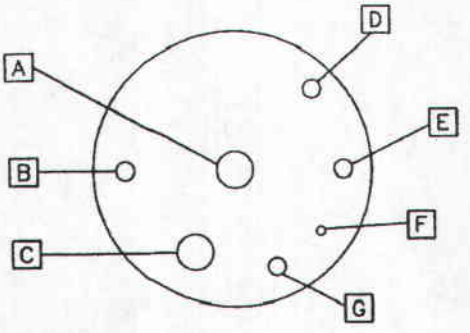
ELEVATION
NOT TO SCALE

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	

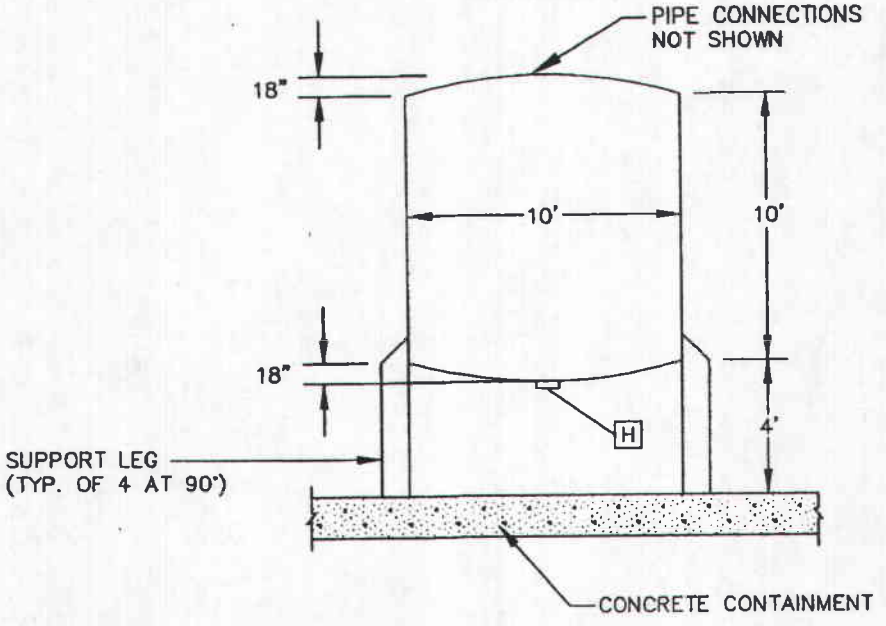
CleanHarbors BARTOW

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
CRUDE STORAGE TANKS T-108 TO T-110
DIMENSIONS, PIPING & INSTRUMENTATION DETAILS

DRAWN	CHECKED	SCALE	DATE	DRAWING NO.	REV.
JKM	MJG	NTS	01/31/06	FIGURE 12.1b	A



PLAN VIEW
NOT TO SCALE



ELEVATION
NOT TO SCALE

MARK	DESCRIPTION	SIZE
A	AGITATOR OPENING	20"
B	VALVE	3"
C	MANWAY	20"
D	VAPOR LINE	1"
E	PRESSURE RELIEF	3"
F	HIGH LEVEL ALARM	–
G	FEED	6"
H	OUTLET	6"

OTES:

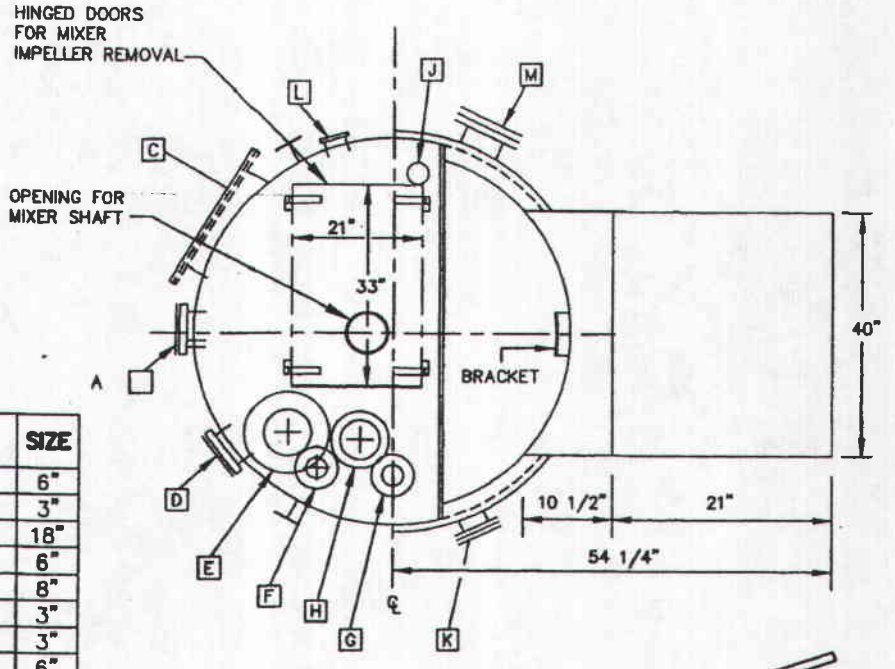
REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	

CleanHarbors

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
BOTTOM STORAGE TANK
DIMENSIONS, PIPING & INSTRUMENTATION DETAILS

DRAWN	CHECKED	SCALE	DATE
JKM	MJG	NTS	01/31/06

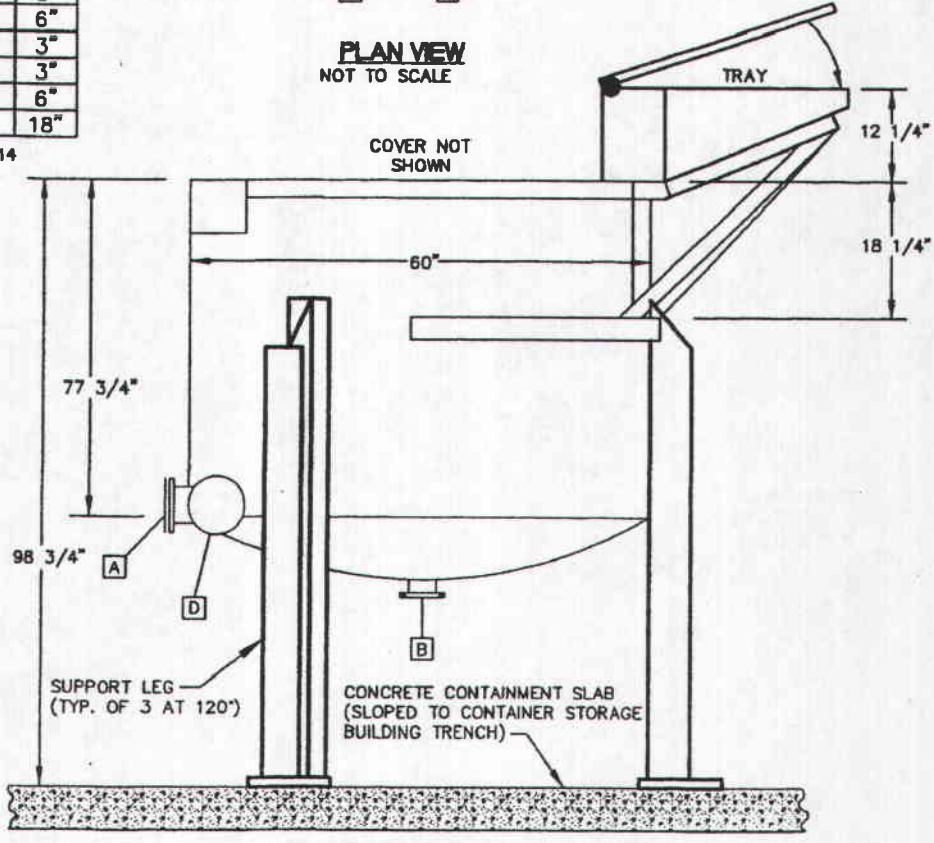
DRAWING NO. FIGURE 12.2 REV. A



PLAN VIEW
NOT TO SCALE

MARK	DESCRIPTION	SIZE
A	OUTLET	6"
B	DRAIN	3"
C	MANWAY	18"
D	OUTLET	6"
E	VENT	8"
F	RECIRCULATION	3"
G	RUPTURE DISC	3"
H	FEED	6"
J	SAMPLE CONNECTION	3"
K	OVERFLOW	3"
L*	SPARE	6"
M*	SPARE	18"

* THESE ITEMS ARE FUTURE FOR T-114



ELEVATION
NOT TO SCALE

NOTES:

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	

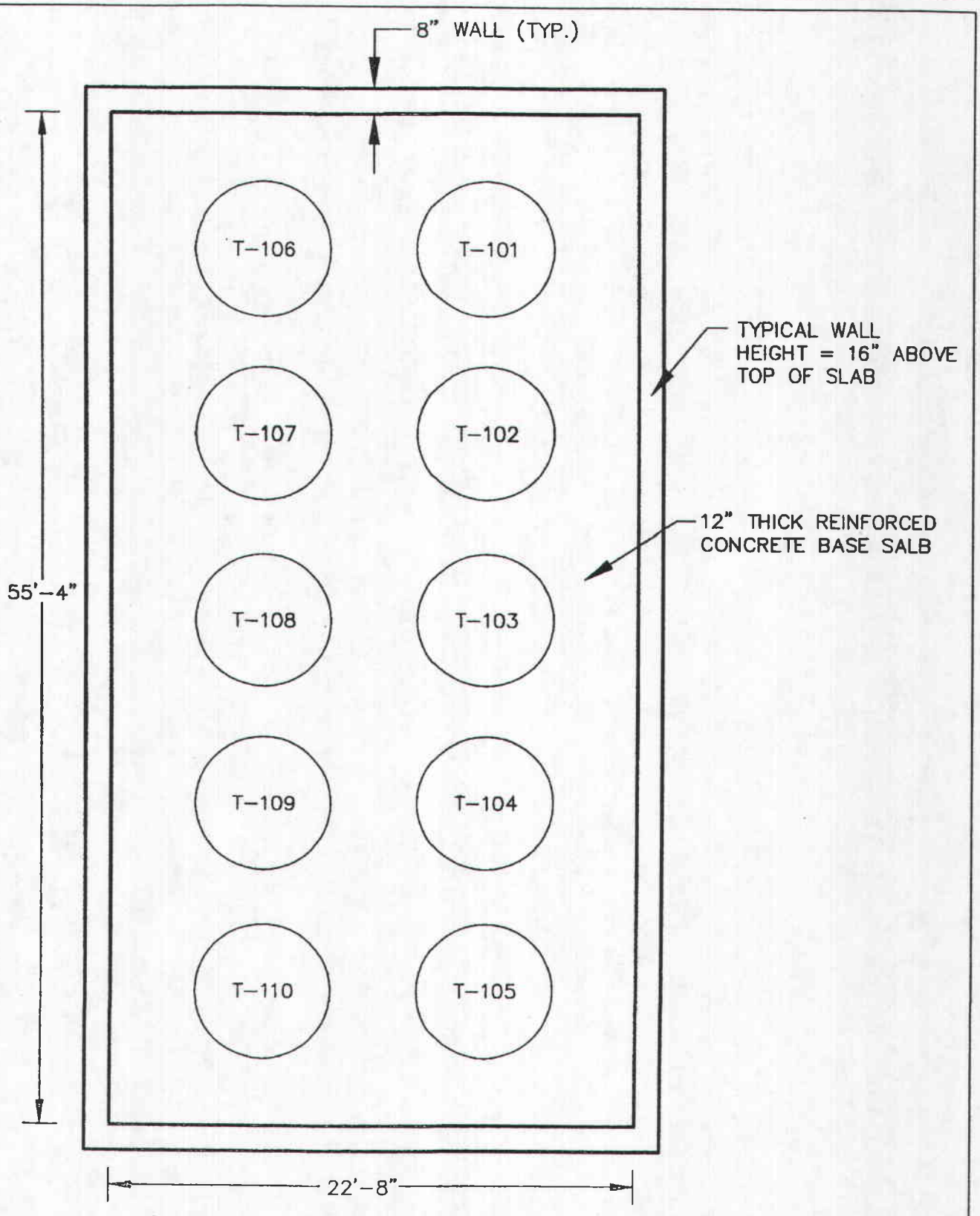
CleanHarbors BARTOW

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLEND TANKS T-112 AND T-114
DIMENSIONS, PIPING & INSTRUMENTATION DETAILS

DRAWN	DESIGNED	SCALE	DATE
JKM	MJG	NTS	01/31/06

FIGURE 12.3

REV. A



Not to Scale

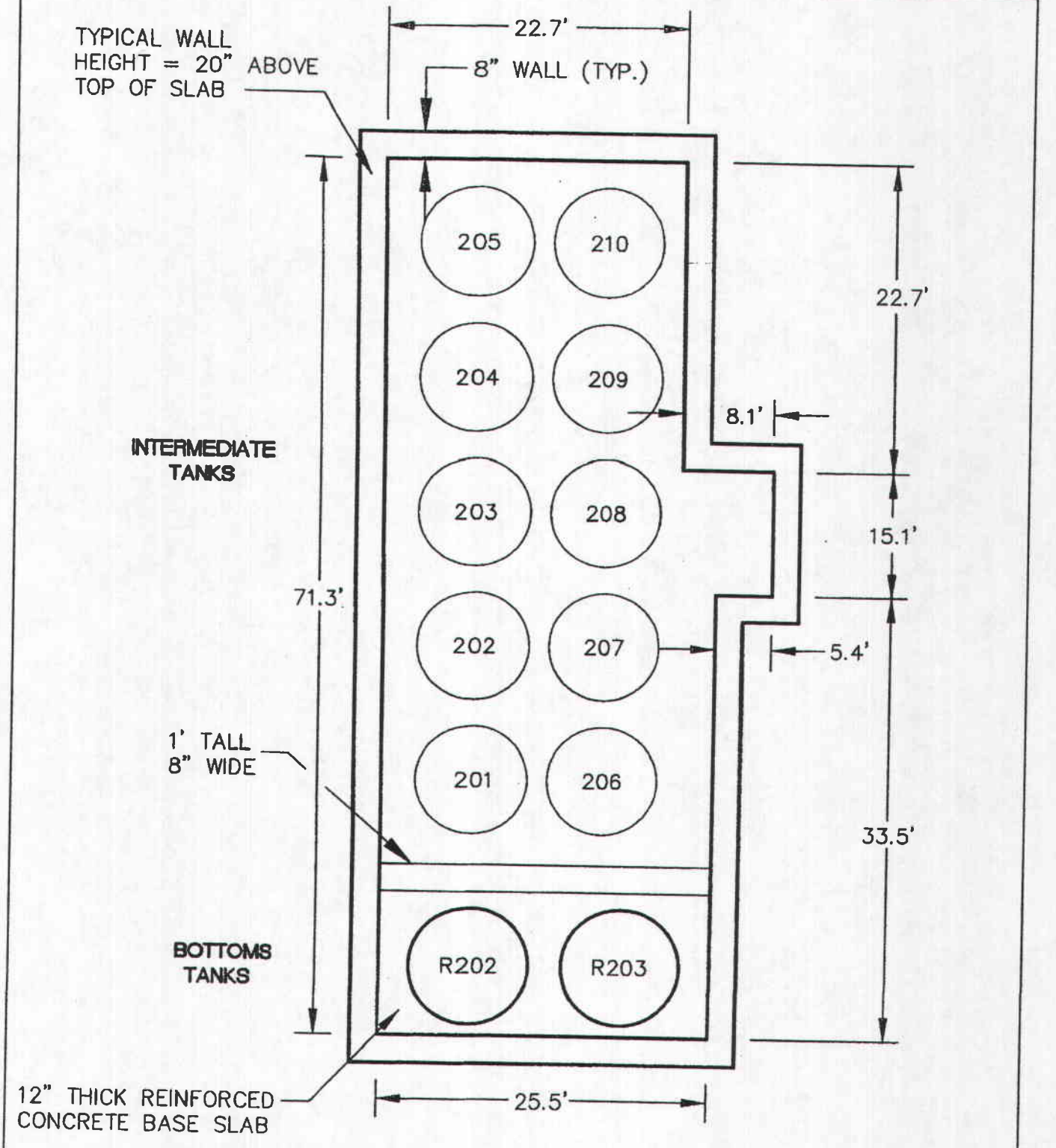
REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	

CleanHarbors BARTOW

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
CRUDE STORAGE TANKS LAYOUT

DRAWN	CHECKED	SCALE	DATE
JKM	MJD	NTS	01/31/06

DRAWING NO. FIGURE 12.4 REV. A



REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/08	

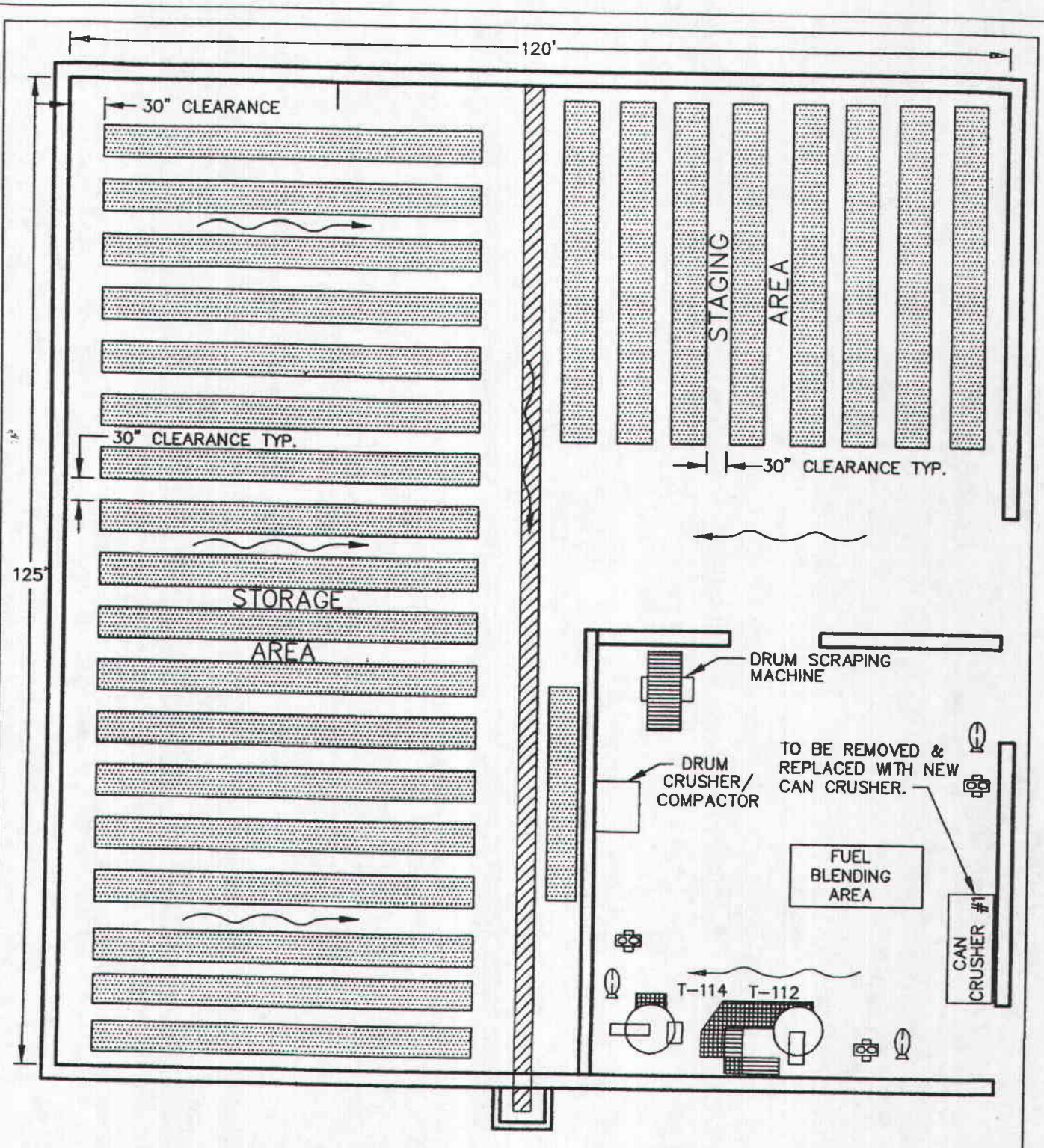
CleanHarbors

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
INTERMEDIATE AND BOTTOM
STORAGE TANKS LAYOUT

DRAWN	CHECKED	SCALE	DATE
JKM	MJG	NTS	01/31/08

FIGURE 12.5

REV. A



LEGEND

- PALLET ROW
- FLUID COLLECTION TRENCH
- ELEVATED WALKWAY
- STAIRWAY
- SLOPE OF BUILDING FLOOR
- K-# BASKET FILTER
- P-# PUMPS
- T-# FUEL BLENDING TANK
- G-# GRINDER

N

Not to Scale

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/09	

CleanHarbors BARTOW

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLENDING TANKS LAYOUT

DRAWN	CHECKED	SCALE	DATE	DRAWING NO.	REV.
JKM	MJG	NTS	01/31/09	FIGURE 12.6	A

ATTACHMENT 12.1

NOTE 1: CLHB maintains the original certification on file which has the required PE seal on it. However, the seal does not show on the photocopied pages included in this application.

NOTE 2: Tank T-111 is no longer in use and has been removed from service.

R.O. COVINGTON & ASSOCIATES

CONSULTING ENGINEERS
Bartow Industrial Park
225-A Bartow Municipal Airport
Bartow, Florida 33830-9504
Phone: (813) 533-6282
Fax: (813) 534-1723

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SEP 0 2 1994

September 1, 1994

Keith Moore
Laidlaw Environmental Services
of Bartow, Inc.
170 Bartow Municipal Airport
Bartow, Florida 33830

Subject: T111, T112, T114

Dear Mr. Moore: Ref:2Y011

This letter is my certification of the written assessment covering the subject tanks.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Yours truly,

Robert O Covington

Robert O. Covington, P.E.

ROC/wc
Enclosures

TANK ASSESSMENT REPORT

Three vessels: Tanks T111, T112, and T114 are used for on site management and blending of hazardous waste. All wastes are mutually compatible with each other in this category. The compatibility is confirmed as described in the Waste Analysis Plan of the RCRA application.

* The vessels are supported on a 6" sealed reinforced concrete foundation that sets on compacted soils. The soils supporting the foundation bear the load above with a 93% safety factor.

* The vessels are supported with steel legs that have a wide flange shape. The load imparted to these is a fraction of the allowable load. The legs flanges are welded to the sides of the individual tanks and to pads that are anchored to the floor.

* The tanks are nominal ¼ inch steel. They are of welded construction from plate, nozzles and a dished head. The tanks are partially covered with a steel plate to prevent splash over during the blending process. The wall thickness is confirmed by metal thickness testing (C/P Utilities Service Company, dated 05/23/94). The test result show a thickness range from 192 mils to 312 mils.

* The blend process is carried out in the vessels by circulating fuels and solvents through nozzles on the tank. The added materials are also agitated and broken up mechanically in the tanks by a mixer. All fuels, solvents and materials are compatible with the steel tanks.

* The tanks are open to atmosphere through the opening used to introduce material to be blended. Dedicated ten inch nozzles in the top provide safety release.

* The tanks are adequately designed and the tank system has sufficient structural strength, comparability with the wastes to be treated, and corrosion protection. The vessels physical properties ensure that they will not collapse, rupture or fail under normal use.

Design Standard according to which tanks are constructed is

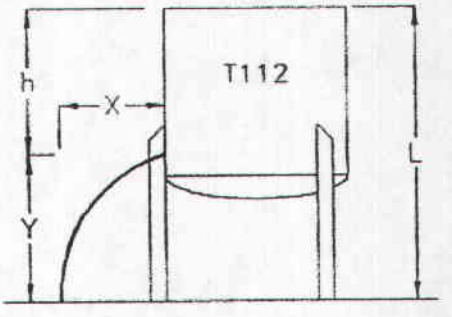
discussed in the following paragraphs. Tanks T111, T112, and T114 were designed constructed and put into service with out historical documentation. A review and visual inspection of the welds, metal thickness, size, supports nozzles and materials of construction show fabrication compliance for an open tank with API Standard 12F-82. The standard is used here even though the vessels are less than 90 barrels. Testing was hydrostatic (performed per optional design bases API 650-80 Section 5.3.9) demonstrated by actual use for period of more than 4 years. Supports (legs) are columnar members that transfer vessel weight to pads which in turn impart load to the concrete floor. The allowable column load on each leg is 81,000 pounds which is less than the design dead load of 1880 pounds for T111 and 2721 pounds for T112 and T114. The pads are anchored to the floor to resist vessel movements such as overturn and rotation.

Tank vent is a 10 inch nozzle opening in the cover. It exceeds the UL142 Table 9.2 vent size of 1¼ inch.

Secondary containment structure is reinforced concrete. It has sufficient strength and thickness to withstand design loadings. The calculations included in Attachment 12.6 demonstrate the structural integrity. The existing containment covers the surrounding earth. It prevents contact with a waste, if a waste were released or spilled from a tank.

The tanks placement in the containment area keeps any likely leakage away from the edge. The following verifies the placement.

Assume a square edge hole 1/16" diameter with flow coefficient of 0.6 (Ref: "Calculation & Short Cut Desk Book") McGraw-Hill Inc., N.Y. 1978 Also Assume T112 which is larger than T111.



Calculation

$Q = 19.65\ (d)^2 * C * (h)^{1/2}$ Ref: Crane Co. "Flow of Fluids through valves, fittings and pipes.

Q = flow rate, gal/min
d = hole diameter = 1/16 inch
C = flow coefficient = 0.6
h = height of liquid (ft)

$Q = 19.65 * (1/16)^2 * 0.6 * (h)^{1/2}$
$Q = .046 * (h)^{1/2} = Q_t$

$Q = [(d)_2 * X * 2.56]/(Y)^{1/2}$

X = Maximum horizontal distance a leaked liquid will project
Y = Vertical distance above ground to hole

$Q = [(1/16)^2 * X * 2.56]/(Y)^{1/2} = Q_2$

Let $Q_2 = Q_1$

$.046(h)^{1/2} = .01 * X/(Y)^{1/2}$
$X = 4.6(h)^{1/2} * (Y)^{1/2}$ inches
$X^2 = 0.383(h)^{1/2}(Y)^{1/2}$ ft

$L = h + (Y/12)$ ft
$Y = 12(L-h)$
$X = 0.383(h)^{1/2}[12(L-h)]^{1/2}$
$X = 1.33(Lh-h^2)^{1/2}$

Take the first derivate with respect to h and set the result equal to zero, then solve for h.

$d(h) = 1.33d(Lh-h^2)^{1/2}$
$= .665(1h-h^2)^{-1/2} * (L-2h)dh = 0$
$L-2h = 0$
$L = 1/2$

Substitute and solve for X

$X = 1.33[L * L/2-(L/2)^2]^{1/2}$
$X = .665\ L$
$X = 5.6$ ft when $L = 8.5$ ft

All three tanks are at a distance greater than 6 ft from the edge of the containment. The containment area for the blend tanks contains more than 100% of the volume of the largest tank. The blend area is under roof which presents infiltration of precipitation that would result from a rainfall event.

The containment volume for the secondary containment structure in the blend area is calculated in Attachment 12.6 to be 795 cubic feet. The largest tank volume is calculated to be 131 cubic feet. Therefore the containment area exceeds Federal and State requirements for secondary containment.

The existing secondary containment is a contiguous structure placed on an earthen foundation that is capable of provideng support to the structure. There is a 93% safety factor for the soils supporting the containment structure as calculated in Attachment 12.6

Hazardous characteristics of waste(s) to be handled are listed in

Table 1.3 and designated in Table 11.1 of the RCRA Part B permit application. The associated hazards for each waste code are listed in 40 CFR 261.31.

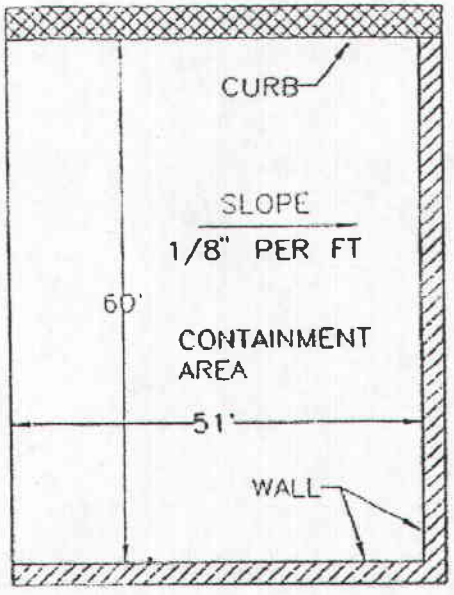
The steel tanks are painted on the exterior. The the paint protects the steel and prevent corrosion.

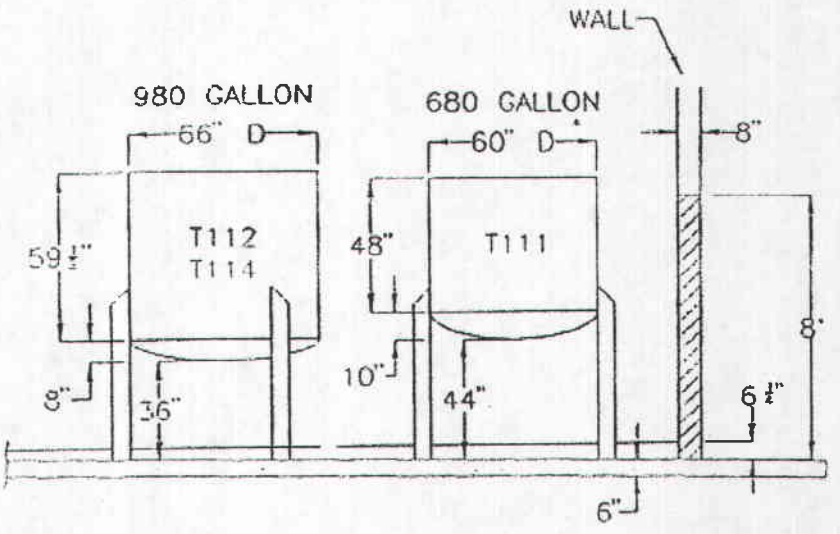
The tanks are in a climate zone (Central Florida) that is not subject to frost heave of the ground.

The ancillary equipment such as pumps, strainers, grinders, valves and mixers that serves to supply, blend, and/or remove wastes from the tanks is located in the containment area, and are anchored to the floor. The permanent piping that joins the ancillary equipment and tanks is schedule 40, ASTM A53 with welded joints. Fittings are standard weight ANSI B36.10 and flanges are in accordance with ANSI B16.5 for steel. The installation procedures followed ANSI B31.3 as the standard of practice.

ATTACHMENT 12.6

Calculations Documenting Support of
Secondary Containment Systems
Fuel Blending Area
T111, T112 & T114





BLEND FACILITY

A_C = Containment area

$A_C = (A_{CS})-(A_{LG})-(A_{MS})$

A_{CS} = Total area with in containment
A_{LG} = Total area of legs
A_{MS} = Total area of pumps, pipes & ramp
N = Quantity of item calculated

$A_{CS} = 60*51.2 = 3072$ sq ft

$A_{LG} = [6(3)*5/16]*N/144$
$= 5.625*31 = 1.2$ sq ft

$A_{MS} = [3*11*23+36*42+\pi(2)^2*39+(98*20)]/144$
$= 19$ sq ft

$A_C = 3072 - 1.2 - 19 = 3052$ sq ft

MINIMUM CONTAINMENT WALL HEIGHT

H = Height of containment
$H = (V_{LT}/A_C)*2$
V_{LT} = Volume of largest tank
V_{LT} = 980 gallons
V_{LT} = 980/7.48 gal/cu ft = 131 cu ft

$H = (131/3052)* 2 = .086$ ft

TOTAL VOLUME WITHIN CONTAINMENT AREA

$V = A_{cs} * H^0$ $\quad H^0$ = half of containment height or average height = .26 ft .

V = 3052 * .26 = 795 cubic feet

CONTAINMENT

131/795 * 100 = 16.5% of available is required.

SOIL LOADING

$SL = W_{TO}/A_{cs}$
$W_{TO} = W_{TT} + W_{cs}$
$W_{TT} = \sum W_T$
W_{cs} = Weight of Containment

W_T = Weight of empty tank, liquid & legs.
$= W_{TE} + W_{LQ} + W_{LG}$
$W_{TE} = (V_H + V_s + V_c)*ds$ ds = 492 lbs/cu ft(steel)
$V_H = t*\pi* r^2$ (head) r=tank radius
$V_s = t*\pi*d*h$ (side) h=tank height
$V_c = t*\pi*r^2$ (cover) t=shell thickness=.25"
$W_{LQ} = V_{LT} * dw$ d = tank diameter
$W_{LG} = V_{LG} * ds$ dw = 8.33 lbs/gal (water)

T111

h = 58½"
r = 30"
$V_H = .25*\pi*(30)^2 = 706$ cu-in
$V_s = .25*\pi*60*58.25 = 2745$ cu-in
$V_c = .25*\pi*(30)^2 = 706$ cu-in
W_{LQ} = 680 gal*8.33 lb/gal = 5664 lb
W_{LG} = 4 legs*3 ft*15 lb/ft = 180 lb

W_T = 1184+5664+180 = 7028. lb

T112

h = 67½"
r = 33"
$V_H = .25*\pi*(33)^2 = 855$ cu in
$V_s = .25*\pi*66*67.50 = 3499$ cu in
$V_c = .25*\pi*(33)^2 = 855$ cu in
$W_{TE} = (5209/1728)*492 = 1483$ lb
$W_{LQ} = 980*8.33 = 8163$ lb
W_{LG} = 3 legs*4ft*15 lb/ft = 180 lb

W_T = 1483+8163+180 = 9826 lb

T114

Same as T112
W_T = 9826 lb

W_{TT} = 7028+9826+9826 = 26680 lb

$W_{CS} = W_{BASE} + W_{WALLS} + W_{MISC}$

$W_{BASE} = A_{CS} * T * dc$ dc=150 lb/cu ft (concrete)

W_{BASE} = (3072 * .5')*150
W_{BASE} = 231400 lb T = Thickness

$W_{WALLS} = W_{CONC} + W_{STUD} + W_{BLDG} + W_{BLK}$

W_{CONC} = 8"*(½*6.25)*51.2/144*150 = 1333 lb
W_{STUD} = L*H*dd/dd=4.5 Lb/sq ft(dry wall)
= (60+512)*11*45 = 5504. lb
W_{BLDG} = (Roof + Wall)* do do=1.01b/sq ft(bldg)
= (60*51.2+17+51.2)*1.0 = 3942.lb
W_{BLK} = L*H*db db=361b/sq ft(block)
= (60+51.2)*836 =32026 lb
W_{WALLS} = 1333+5504+3942+32026 = 42805 lb

$W_{MISC} = W_{PIPE} + W_{MIX} + W_{EQP}$

Assume 500 ft of pipe at 5 lb/ft
W_{PIPE} = 2500 lb
Assume 3 mixers @ 1100 lb ea.
W_{MIX} = 3300 lb
Assume Misc Platforms and Equipment @ 5000 lb
W_{EQP} = 5000 lb
W_{MISC} = 2500 + 3300 + 5000 = 10800 lb

W_{CS} = 231400 + 42805 + 10800 = 284005 lb

$W_{TO} = W_{TT} + W_{CS}$
= 26680 + 284005 = 310685 lb
SL = Soil Load
= W_{TO}/A_{CS}
SL = 310685/3072 = 101 lb/sq ft

There are no bearing test on the soil under the blend area. Physical inspection and consultation with the Polk County Soils Survey indicates a Tavares Series Classification. The texture is sand with up to 4% clay.

The "Civil Engineering handbook" (L.C. Urquahart) lists the bearing capacity of compacted sand/clay soils as 6,000 lb/sq ft.

The "Uniform Building Code" states that unless higher pressures

are substantiated, the maximum allowable pressure in sand or clayey sand is 1,500 lb/sq ft.

Using the UBC allowable pressure the safety factor is

$$SF = \frac{1500-10.1}{1500} * 100 = 93\%$$

ATTACHMENT 12.2

CALCULATIONS OF SECONDARY CONTAINMENT VOLUMES

CRUDE STORAGE TANKS - SOUTH TANK FARM

South Tank Farm: ten 6,000-gallon tanks

$V_C = V_T - V_{LEGS} - V_{TANK}$

V_C = Volume of containment

V_T = Total volume

V_{LEGS} = Volume of tank legs

V_{TANK} = Volume of secondary containment that tank occupies

$V_T = L \times W \times H$

$V_T = 55.33' \times 22.67' \times 1.33'$

$V_T = 1668.26\ ft^3$

$V_{LEG} = (W)(W)(H)$ Each tank is supported by 3 square 11" legs

$V_{LEG} = (11")(11")(1.33')$

$V_{LEG} = 1.12\ ft^3$

$V_{LEGS} = 1.12\ ft^3 \times 30$ legs 30 legs in containment

$V_{LEGS} = 33.5\ ft^3$

V_{TANK} The bottom of the tank is 4' from the floor of the secondary containment. The height of the wall is 1'4". Therefore, the volume of the tank in the secondary containment is zero.

$V_{TANK} = 0$

$$V_C = V_T - V_{LEGS} - V_{TANK}$$

$$V_C = 1668.26 \text{ ft}^3 - 33.5 \text{ ft}^3 - 0$$

$$V_C = 1634.76 \text{ ft}^3$$

Secondary containment must contain 100% of the volume of the largest tank contained and the volume of precipitation generated by a 25-year, 24-hour rainfall event.

$$\text{Surplus containment} = V_C - V_{LTANK} - V_{RAIN}$$

V_{LTANK} = Volume of largest tank

V_{RAIN} = Volume of rainfall from 25-year, 24-hour rainfall event

Largest tank contained: 6,000 gallons

$V_{LTANK} = 6000 \text{ gallons} \times (1 \text{ ft}^3/7.48 \text{ gallons}) = 802.12 \text{ ft}^3$

From the *Permit Information Manual Management and Storage of Surface Waters* (Southwest Florida Water Management District, Volume I, January 1994, p. C7), 7 inches of precipitation would accumulate in a 25-year, 24-hour rainfall event.

$V_{RAIN} = 0.58' \times 55.33' \times 22.67' = 727.51 \text{ ft}^3$

$$\text{Surplus containment} = 1634.79 \text{ ft}^3 - 802.12 \text{ ft}^3 - 727.51 \text{ ft}^3$$

$$\text{Surplus containment} = 105.16 \text{ ft}^3$$

$\therefore$ Secondary containment volume for crude storage tanks is sufficient.

BOTTOM TANKS - WEST TANK FARM

West Tank Farm: two 7,000-gallon tanks
ten 6,000-gallon tanks

$V_C = V_T - V_{PADS} - V_{TANK} - V_{PIPE} - V_{LEGS} - V_{WALL}$

V_C = Volume of containment

V_T = Total volume

V_{PADS} = Volume of tank pads

V_{TANKS} = Volume of secondary containment that tanks occupy

V_{PIPE} = Volume occupied by the piping in containment area

V_{LEGS} = Volume occupied by the legs supporting the bottoms tanks

V_{WALL} = Volume occupied by the small divider wall between the two bottoms tanks and the 10 non-RCRA tanks.

V_T = containment area x H

contianment area = (71.3' x 22.7') + (5.4' x 15.1') + ((33.5' + 15.1') x (8.1' - 5.4'))

containment area = 1618.51 ft^2 + 81.54 ft^2 + 131.22 ft^2

containment area = 1831.27 ft^2

V_T = 1831.27 ft^2 x 1.67' = 3052.12 ft^3

$V_{PAD} = \Pi(d/2)^2 (H)$

6,000-gallon tanks supported by tank pads approximately 9' in diameter and 10" thick.

$V_{PAD} = \Pi(9'/2)^2 (10")$

V_{PAD} = 53.01 ft^3

V_{PADS} = 53.01 ft^3 x 10 10 tank pads in containment

V_{PADS} = 530.1 ft^3

V_{TANK} The tank pad is 10" thick. The height of the containment wall is 20". Therefore, the volume displaced by the 10 non-RCRA tanks is given below (**Note: The bottoms tanks are more than 20" from** the continment sytem bottom, therefore they will not occupy any containment capacity).

$V_{TANK} = \Pi(8'/2)^2 (H)$

$V_{TANK} = 41.89 \text{ ft}^3$

$V_{TANKS} = 418.9 \text{ ft}^3$ 10 non-RCRA tanks

V_{PIPE} There is approximately 600 feet of 3" piping in the containment area. For calculation estimates, **assume the O.D. of the piping is 4".**

$V_{PIPE} = \Pi(0.33'/2)^2 (L)$

$V_{PIPE} = 51.32 \text{ ft}^3$

V_{LEGS} **There are 8 support legs for the two bottoms tanks** which are one foot in diamter.

$V_{LEG} = \Pi(1'/2)^2 (H)$

$V_{LEG} = 1.31 \text{ ft}^3$

$V_{LEGS} = 10.49 \text{ ft}^3$ 8 legs

$V_{WALL} = L \times W \times H$

$= 25.5' \times 0.67' \times 1'$

$= 17.09 \text{ ft}^3$

$V_C = V_T - V_{PADS} - V_{TANKS} - V_{PIPE} - V_{LEGS} - V_{WALL}$

$V_C = 3052.12 \text{ ft}^3 - 530.1 \text{ ft}^3 - 418.9 \text{ ft}^3 - 51.32 \text{ ft}^3 - 10.49 \text{ ft}^3 - 17.09 \text{ ft}^3$

$V_C = 2024.22 \text{ ft}^3$

Secondary containment must contain 100% of the volume of the **largest tank contained and the volume of precipitation generated** by a 25-year, 24-hour rainfall event.

Surplus containment = $V_C - V_{LTANK} - V_{RAIN}$

V_{LTANK} = Volume of largest tank

V_{RAIN} = Volume of rainfall from 25-year, 24-hour rainfall event

Largest tank contained: 7,000 gallons

V_{LTANK} = 7000 gallons x (1 ft^3/7.48 gallons) = 935.83 ft^3

From the *Permit Information Manual Management and Storage of Surface Waters* (Southwest Florida Water Management District, Volume I, January 1994, p. C7), 7 inches of precipitation would accumulate in a 25-year, 24-hour rainfall event.

V_R = 0.58' x 1831.27 ft^2

V_R = 1062.14 ft^3

Surplus containment = 2024.22 ft^3 - 935.83 ft^3 - 1062.14 ft^3

Surplus containment = 26.25 ft^3

∴ Secondary containment is sufficient.

FUEL BLENDING TANKS - CONTAINER STORAGE BUILDING

Secondary containment calculations for the Container Storage Building are contained in Chapter 11.

SECTION K

CLOSURE PLAN

9.1 Closure Performance Standard

This plan identifies the steps necessary to completely close CLHB at the end of the useful facility life. This plan describes how the facility will be closed in accordance with 40 CFR 264.178 and 40 CFR 264.197.

Closure of CLHB will involve removing of all wastes from the site, cleaning and decontaminating structures and equipment that held waste, and sampling to demonstrate that decontamination has been effective. This closure plan is designed to eliminate post-closure escape of hazardous waste, constituents, leachate, or hazardous waste decomposition products to groundwater, surface water, or the atmosphere. This will eliminate need for post-closure monitoring or maintenance and eliminates potential release of hazardous wastes, constituents, or contaminated rainfall after closure.

Partial closure is not planned during the operation of the CLHB facility. The entire facility as described in Chapter One, will remain open and not be closed during the active life of the facility. A post-closure plan is not required since CLHB is not a disposal facility and no hazardous wastes or residues will remain at the site upon closure.

Because of the construction of the secondary containment system throughout the facility, the introduction of hazardous waste into the soil is precluded. Consequently, the landfill closure and post-closure requirements do not apply to this facility.

9.2 Amendment of the Closure Plan

Until final closure is completed and certified in accordance with 40 CFR 264.115, a copy of the approved plan and all approved revisions will be furnished to the Florida Department of Environmental Protection (FDEP) or the EPA Regional Administrator upon request. Partial closure is not anticipated, however, any single unit of the facility or piece of equipment may be closed independently for maintenance, repairs, or other reasons.

9.3 Maximum Waste Inventory at Closure

The maximum inventory of wastes that could be potentially stored in the Container Storage Buildings is 243,320 gallons. The maximum inventory of waste that could be potentially stored in storage tanks is 72,600 gallons. (The fuels blending tanks are treatment tanks only and not permitted storage tanks, therefore no waste volume is assumed to be stored in them.) Four roll-offs could contain the equivalent of 32,320 gallons.

These volumes are used to calculate the maximum RCRA inventory on-site for closure calculations. CLHB may have RCRA waste in any combination of containers, including up to four rolloffs. The maximum RCRA waste on-site is 348,240 gallons. The calculation of these volumes is shown in Figure 9.1.

9.4 Schedule for Final Closure

Final closure is anticipated during the year 2045 or thereafter. Complete closure is expected to take 180 days. If an extension of time for closure is necessary, the extension request will be in the form of a petition made to the FDEP. The petition will demonstrate that all reasonable steps will be taken to prevent threats to human health and the environment during the requested closure extension.

9.5 Closure Methods - South Container Storage Building

9.5.1 Container storage, staging and loading ramp areas

1. The FDEP will be notified at least 180 days prior to the date closure is to begin.

2. A review of the closure plan by appropriate CLHB personnel will be conducted prior to closure commencement activities.

3. Acceptance of non-bulk containerized waste will be stopped on or before the date closure activities begin.

4. A physical inventory of containerized waste will be conducted and a check for proper labeling and marking will be conducted.

5. For liquid wastes, pre-bulking compatibility evaluation and/or testing will be conducted, and containerized wastes will be bulked to compatible storage tanks on-site, or directly onto tankers, if available. Solid wastes will be bulked into roll-offs.

6. Wastes which cannot be bulked must be shipped off-site in separate containers. An assessment of the appropriate off-site treatment, storage, or disposal technology will be performed, and an appropriate off-site TSD facility will be selected. The closure cost estimate identifies the current proposed method for off-site management of these waste; however, at the time of closure improved methods of off-site management may be available.

7. Empty containers may be shipped to container re-conditioners, or off-site as scrap metal. Removal of containers and waste is expected to be completed within 60 days after closure activities begin.

8. After all containers are removed from the building, it will be examined for visual evidence of contamination. Contamination is expected to be minimal because all wastes will be stored in sound shipping containers, inspected regularly, and any spills or leaks will be cleaned up promptly.

9. A power washer will be used to pressure clean the floor of the container storage, staging, and ramp areas and the walls to a height of six feet above the floor (which corresponds roughly to the height of two 55-gallon drums stacked on pallets. Wash water will be directed into the containment trench and handled as a hazardous waste. Wash water will be pumped into suitable containers (i.e. tanker trucks or equivalent) and transported off-site to a RCRA-permitted facility for treatment.

10. After the floors, walls and ramp areas and containment trench are dry, a detergent solution (Reax or equivalent) will be applied to the floor and containment trench to remove remaining waste residues. The detergent solution will also be applied to the walls and ramp areas as needed to remove any remaining visible contamination.

11. The floor, containment trench, and walls (as needed) will be rinsed three times with potable water to remove detergent solution residues. Rinsate fluids shall be directed into the containment trench and handled as a hazardous waste. Rinsate fluids will be pumped into suitable containers (i.e., tanker trucks or equivalent) and transported offsite to a RCRA-permitted facility for treatment.

12. During the third rinse of various surfaces, a total of twelve samples of rinsate fluid and one sample of the potable water will be collected. One sample from the dock area, one sample from the ramp area, two samples from the staging area and two samples from each quadrant of the storage area will be collected and analyzed for the following parameter groups by the listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)

13. In addition, quality control (QC) samples will be collected in accordance with frequencies specified in an FDEP-approved Comprehensive Quality Assurance Plan (CompQAP). Similarly, laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

14. Laboratory results will be compared to the groundwater clean-up target levels presented in Chapter 62-777 Florida Administrative Code (FAC). Decontamination will be considered complete if concentrations of contaminants are below these target levels or the practical quantification limit (PQL). In the event that decontamination is considered incomplete for a particular sample location, these decontamination procedures will be repeated in the immediate area of the sample and the rinsate will be re-sampled using the procedures described above until the concentrations meet the specified criteria.

15. As required by 40 CFR 264.112(b)(4), the soils beneath the container storage, staging, ramp areas, and the area surrounding the containment trench sump will be sampled and checked for possible contamination as outlined in steps 16-26 below.

16. These areas will be divided into a 10' x 10' grid and sampling locations selected at the line intersections.

17. Eight samples within the container storage area, four samples within the staging area and two from the ramp area will be obtained. The 14 locations will be chosen randomly from the intersection points on the grid lines. Each sample location will entail drilling through the concrete floor of

the building and ramp area.

18. One additional soil sample will be taken from the area around the sump at the east end of the containment trench.

19. If cracks are present in the floor (other than surficial cracks) the soil beneath them will be sampled as well.

20. Initially samples will be taken at the soil surface, immediately beneath the concrete containment and analyzed for the following parameter groups by the listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)

21. In addition, QC samples will be collected in accordance with frequencies specified in an FDEP-approved CompQAP. Similarly, all laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

22. While soil contamination is not expected, the procedures outlined in steps 23-26 will be followed in the event soil contamination is determined to exist.

23. Laboratory results will be compared to the soil cleanup target levels presented in 62-777 FAC. Additional soil sampling will not be required provided concentrations of contaminants are below these target levels or the PQL.

24. In the event surface soils at particular locations contain contaminants in concentrations above thresholds, those locations will be re-sampled at a depth of six to twelve inches. Additional soil sampling will not be required provided concentrations of contaminants are below target levels or the PQL.

25. In the event soil sample locations at the six-inch depth contain contaminants in concentrations above thresholds, soil sampling at those locations will continue at six-inch intervals until no contaminants exist in concentrations above thresholds or until CLHB determines that excavation

and removal of contaminants cannot be done or is not practical. If such a determination is made, a post closure plan will be submitted to the Department.

26. If concentrations of contaminants are detected above thresholds in soil, and the extent is such that removal is deemed impractical, the soil will be excavated to a depth of six inches below the depth of detected contamination. Excavated soil will be disposed of at a RCRA-permitted TSDF. The excavated area will then be backfilled with clean, compacted soil and restored to the original condition. Confirmatory samples will be taken and analyzed for the contaminants of concern to demonstrate the contaminants of concern have been removed.

27. Facility personnel and an independent, Florida registered, professional engineer will inspect the container storage area, staging area and ramp area. A certification will be submitted to the FDEP indicating these areas have been decontaminated and closed in accordance with this closure plan.

9.5.2 Fuels Blending Area

1. The FDEP will be notified as least 180 days prior to closure commencement activities.

2. A review of the closure plan by appropriate CLHB personnel will be conducted prior to closure commencement activities.

3. Treatment of waste in the fuels blending equipment will be stopped on or before the date closure activities begin.

4. Waste residues present, if any, will be removed and placed in DOT approved containers for management at an off-site RCRA-permitted TSD facility.

5. A power washer will be used to pressure clean the interior surfaces of the tanks. Wash water will be collected and handled as a hazardous waste. Wash water will be pumped into suitable containers (i.e., tanker trucks or equivalent) and transported offsite to a RCRA permitted facility for treatment.

6. Tanks T-112 and T-114 will be removed from the Fuels Blending Area and cut into pieces suitable for transport to a steel recycling facility. The carbon steel will be melted

and reprocessed as scrap metal. Due to the method of disposal of these tanks, the scrap steel resulting from tank closure will not be handled as a hazardous waste pursuant to the solid waste exemption criteria set forth in 40 CFR 261.4 (a)(13).

7. A power washer will be used to pressure clean the floor, walls, and ceiling of the Fuels Blending Area. Wash water will be collected and handled as hazardous waste. Wash water will be pumped into suitable containers (i.e., tanker trucks or equivalent) and transported off-site to a RCRA-permitted facility for treatment.
8. After the floors and walls are dry, a detergent solution (Reax or equivalent) will be applied to these surfaces, as needed, to remove remaining waste residues.

9. The floors and walls will be rinsed three times with potable water to remove detergent solution residues. Rinsate fluids will be collected and handled as a hazardous waste. Rinsate fluids will be pumped into suitable containers (i.e., tanker trucks or equivalent) and transported off-site to a RCRA-permitted facility for treatment.

10. During the third rinse of the floors and walls, a total of five samples (one from each quadrant of the floor and one from the center of the floor) of rinsate fluid and one sample of potable water will be collected and analyzed for the following parameter groups by the listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)

11. In addition, quality control (QC) samples will be collected in accordance with frequencies specified in an FDEP-approved Comprehensive Quality Assurance Plan (CompQAP). Similarly, laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

12. Laboratory results will be compared to the groundwater clean-up target levels presented in Chapter 62-777 FAC. Decontamination will be considered complete if concentrations of contaminants are below these target levels or the PQL. In the event that decontamination is considered

incomplete for a particular sample location, these decontamination procedures will be repeated in the immediate area of the sample and the rinsate will be re-sampled using the procedures described above until the concentrations meet the specified criteria.

13. As required by 40 CFR 264.112(b)(4), the soils beneath the fuels blending area will be sampled and checked for possible contamination as outlined in steps 14-23 below.

14. This area will be divided into a 10' x 10' grid and sampling locations selected at the line intersections.

15. Four samples within the fuels blending area will be obtained. The four locations will be chosen randomly from the intersection points on the grid lines. Each sample location will entail drilling through the concrete floor of the building.

16. If cracks are present in the floor (other than surficial cracks) the soil beneath them will be sampled as well.

17. Initially, samples will be taken at the soil surface, immediately beneath the concrete containment and analyzed for the following parameter groups by the listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)

18. In addition, QC samples will be collected in accordance with frequencies specified in an FDEP-approved CompQAP. Similarly, all laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

19. While soil contamination is not expected, the procedures outlined in steps 20-23 will be followed in the event soil contamination is determined to exist.

20. Laboratory results will be compared to the soil cleanup target levels presented in 62-777 FAC. Additional soil sampling will not be required provided concentrations of

contaminants are below these target levels or the PQL.

21. In the event surface soils at particular locations contain contaminants in concentrations above thresholds, those locations will be re-sampled at a depth of six to twelve inches. Additional soil sampling will not be required provided concentrations of contaminants are below target levels or the PQL.
22. In the event soil sample locations at the six-inch depth contain contaminants in concentrations above thresholds, soil sampling at those locations will continue at six-inch intervals until no contaminants exist in concentrations above thresholds or until CLHB determines that excavation and removal of contaminants cannot be done or is not practical. If such a determination is made, a post closure plan will be submitted to the Department.

23. If concentrations of contaminants are detected above thresholds in soil, and the extent is such that removal is deemed practical, the soil will be excavated to a depth of six inches below the depth of detected contamination. Excavated soil will be disposed of at a RCRA-permitted TSDF. The excavated area will then be backfilled with clean, compacted soil and restored to the original condition. Confirmatory samples will be taken and analyzed for the contaminants of concern to demonstrate the contaminants of concern have been removed.

24. Facility personnel and an independent, registered, professional engineer will inspect the fuels blending area. A certification will be submitted to the FDEP indicating the area has been decontaminated and closed in accordance with this closure plan.

9.6 Closure Methods - North Container Storage Building

1. The FDEP will be notified at least 180 days prior to the date closure is to begin.

2. A review of the closure plan by appropriate CLHB personnel will be conducted prior to closure commencement activities.

3. Acceptance of non-bulk containerized waste will be stopped on or before the date closure activities begin.

4. A physical inventory of containerized waste will be conducted and a check for proper labeling and marking will be conducted.

5. For liquid wastes, pre-bulking compatibility evaluation and/or testing will be conducted, and containerized wastes will be bulked to compatible storage tanks on-site, or directly onto tankers, if available. Solid wastes will be bulked into roll-offs.

6. Wastes which cannot be bulked must be shipped off-site in separate containers. An assessment of the appropriate off-site treatment, storage, or disposal technology will be performed, and an appropriate off-site TSDF will be selected. The closure cost estimate identifies the current proposed method for off-site management of these waste; however, at the time of closure improved methods of off-site management may be available.

7. The polychlorinated biphenol (PCB) storage area will be closed in accordance with the TSCA permit, *Approval to Commercially Store Polychlorinated Biphenols (PCBs)*, issued by the EPA on May 21, 1998. A description of the closure activities as approved, is enclosed as Attachment 1 of this Chapter.

8. Empty containers may be shipped to container re-conditioners, or off-site as scrap metal. Removal of containers and waste is expected to be completed within 60 days after closure activities begin.

9. After all containers are removed from the building, it will be examined for visual evidence of contamination. Contamination is expected to be minimal because all wastes will be stored in sound shipping containers, inspected regularly, and any spills or leaks will be cleaned up promptly.

10. A power washer will be used to pressure clean the floor of the container storage, staging, ramp, and loading dock areas and the walls to a height of six feet above the floor (which corresponds roughly to the height of two 55-gallon drums stacked on pallets. Wash water will be directed into the containment trench and handled as a hazardous waste. Wash water will be pumped into suitable containers (i.e. tanker trucks or equivalent) and transported off-site to a RCRA-permitted facility for treatment.

11. After the floor, walls, staging area ramp area and loading dock are dry, a detergent solution (Reax or equivalent) will be applied to the floor, staging area, and cell curbs to

remove remaining waste residues. The detergent solution will also be applied to the walls, ramp areas, and loading docks as needed to remove any remaining visible contamination.

12. The floor, staging area, and cell curbs will be rinsed three times with potable water to remove detergent solution residues. Walls, ramp areas, and loading docks also will be rinsed three times with potable water, as needed. Rinsate fluids will be pumped into suitable containers (i.e. tanker trucks or equivalent) and transported offsite to a RCRA-permitted facility for treatment.

13. During the third rinse of the various surfaces, a total of 21 samples will be collected. One sample will be collected from each cell storage area (16 samples, one from each ramp area (two samples), one from each dock area (two samples), and one from the potable water used (one sample). Each sample will be analyzed for the following parameter groups by listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)
    - PCBs (EPA Method 8082; arachlors only)
    - Total cyanide (EPA Method 335.3)

14. In addition, quality control (QC) samples will be collected in accordance with frequencies specified in an FDEP-approved Comprehensive Quality Assurance Plan (CompQAP). Similarly, laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

15. Laboratory results will be compared to the groundwater clean-up target levels presented in Chapter 62-777 Florida Administrative Code (FAC). Decontamination will be considered complete if concentrations of contaminants are below these target levels or the PQL. In the event that decontamination is considered incomplete for a particular sample location, these decontamination procedures will be repeated in the immediate area of the sample and the rinsate will be re-sampled using the procedures described above until the concentrations meet the specified criteria.

16. As required by 40 CFR 264.112(b)(4), the soils beneath the container storage, dock areas, and ramp areas, will be sampled and checked for possible contamination as outlined in steps 17-26 below.

17. These areas will be divided into a 10' x 10' grid and sampling locations selected at the line intersections.

18. Eight samples within the container storage area, two samples within each dock area and two from each ramp area will be obtained. The 16 locations will be chosen randomly from the intersection points on the grid lines. Each sample location will entail drilling through the concrete floor of the building and ramp area.

19. If cracks are present in the floor (other than surficial cracks) the soil beneath them will be sampled as well.

20. Initially samples will be taken at the soil surface, immediately beneath the concrete containment and analyzed for the following parameter groups by the listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)
    - PCBs (EPA method 8082; arachlors only)
    - Total cyanide (EPA Method 335.3)

21. In addition, QC samples will be collected in accordance with frequencies specified in an FDEP-approved CompQAP. Similarly, all laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

22. While soil contamination is not expected, the procedures outlined in steps 23-26 will be followed in the event soil contamination is determined to exist.

23. Laboratory results will be compared to the soil cleanup target levels presented in 62-777 FAC. Additional soil sampling will not be required provided concentrations of contaminants are below these target levels or the PQL.

24. In the event surface soils at particular locations contain

contaminants in concentrations above thresholds, those locations will be re-sampled at a depth of six to twelve inches. Additional soil sampling will not be required provided concentrations of contaminants are below target levels or the PQL.

25. In the event soil sample locations at the six-inch depth contain contaminants in concentrations above thresholds, soil sampling at those locations will continue at six-inch intervals until no contaminants exist in concentrations above thresholds or until CLHB determines that excavation and removal of contaminants cannot be done or is not practical. If such a determination is made, a post closure plan will be submitted to the Department.
26. If concentrations of contaminants are detected above thresholds in soil, and the extent is such that removal is deemed impractical, the soil will be excavated to a depth of six inches below the depth of detected contamination. Excavated soil will be disposed of at a RCRA-permitted TSDF. The excavated area will then be backfilled with clean, compacted soil and restored to the original condition. Confirmatory samples will be taken and analyzed for the contaminants of concern to demonstrate the contaminants of concern have been removed.

27. Facility personnel and an independent, registered, professional engineer will inspect the container storage area, dock areas and ramp areas. A certification will be submitted to the FDEP indicating these areas have been decontaminated and closed in accordance with this closure plan.

9.7 Closure Methods - Tanks

1. The FDEP will be notified as least 180 days prior to closure commencement activities.

2. A review of the closure plan by appropriate CLHB personnel will be conducted prior to closure commencement activities.

3. Acceptance of bulk waste will be stopped on or before the date closure activities begin.

4. A physical inventory of bulk waste will be conducted to confirm that the Daily Inventory Sheet matches actual inventory.

5. Waste in the tanks will be loaded into tankers and these

waste shipments will be transferred off-site to a RCRA-permitted TSD facility.

6. Any waste residues present in the tanks will be removed and placed in DOT approved containers for management at an off-site RCRA-permitted TSD facility.

7. A power washer will be used to pressure clean the interior surfaces of the tanks. Wash water will be collected and handled as a hazardous waste. Wash water will be pumped into suitable containers (i.e., tanker trucks or equivalent) and transported offsite to a RCRA permitted facility for treatment.

8. The tanks in the Crude Storage Tank Area and in the Bottoms Tanks Area will be removed and cut into pieces suitable for transport to a steel recycling facility. The carbon steel will be melted and reprocessed as scrap metal. Due to the method of disposal of these tanks, the scrap steel resulting from tank closure will not be handled as a hazardous waste pursuant to the solid waste exemption criteria set forth in 40 CFR 261.4 (a)(13).

9. A power washer will be used to pressure clean the floor and walls of the containment area surrounding each group of tanks. Wash water will be directed to the sump within each containment area and handled as a hazardous waste. Wash water will be pumped into suitable containers (i.e., tanker trucks or equivalent) and transported off-site to a RCRA-permitted facility for treatment.

10. After the floors and walls are dry, a detergent solution (Reax or equivalent) will be applied to these surfaces, as needed, to remove remaining waste residues.

11. The floor and walls of each containment area will be rinsed three times with potable water to remove detergent solution residues. Rinsate fluids will be directed to the sump in each containment area and handled as a hazardous waste. Rinsate fluids will be pumped into suitable containers (i.e., tanker truck or equivalent) and transported off-site to a RCRA-permitted facility for treatment.

12. During the third rinse of the containment area floors and walls, a total of four samples (two from each containment area floor) of rinsate fluid and one sample of potable water will be collected and analyzed for the following parameter

groups by the listed methods:

- Volatile organics (EPA Method 8260)
- Semivolatile organics (EPA Method 8270)
- RCRA metals, plus nickel (EPA Method 6010)
- Pesticides (EPA Method 8081)
- Total organic carbon (EPA Method 415.2
- Total organic halides (EPA Method 9252)

13. In addition, quality control (QC) samples will be collected in accordance with frequencies specified in an FDEP-approved Comprehensive Quality Assurance Plan (CompQAP). Similarly, laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

14. Laboratory results will be compared to the groundwater clean-up target levels presented in Chapter 62-777 FAC. Decontamination will be considered complete if concentrations of contaminants are below these target levels or the PQL. In the event that decontamination is considered incomplete for a particular sample location, these decontamination procedures will be repeated in the immediate area of the sample and the rinsate will be re-sampled using the procedures described above until the concentrations meet specified criteria.

15. As required by 40 CFR 264.112(b)(4), the soils beneath the containment areas, and the area surrounding the south tank farm will be sampled and checked for possible contamination as outlined in steps 16-25 below.

16. Each containment area will be divided into a 10' x 10' grid and sampling locations selected at the line intersections.

17. One sample at the center of each tank farm containment area (two samples) will be obtained. Four additional samples will be taken from the area surrounding the south tank farm; one sample from each side (i.e. east, west, south and north) for a total of 6 samples. Each sample location will entail drilling through the concrete floor of the containment area or concrete perimeter road.

18. If cracks are present in the floor areas (other than surficial cracks) the soil beneath them will be sampled as well.

19. Initially, samples will be taken at the soil surface,

immediately beneath the concrete containment and analyzed for the following parameter groups by the listed methods:

- Volatile organics (EPA Method 8260)
- Semivolatile organics (EPA Method 8270)
- RCRA metals, plus nickel (EPA Method 6010)
- Pesticides (EPA Method 8081)
- Total organic carbon (EPA Method 415.2)
- Total organic halides (EPA Method 9252)

20. In addition, QC samples will be collected in accordance with frequencies specified in an FDEP-approved CompQAP. Similarly, all laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

21. While soil contamination is not expected, the procedures outlined in steps 22-25 will be followed in the event soil contamination is determined to exist.

22. Laboratory results will be compared to the soil cleanup target levels presented in 62-77 FAC. Additional soil sampling will not be required provided concentrations of contaminants are below these target levels or the PQL.

23. In the event surface soils at particular locations contain contaminants in concentrations above thresholds, those locations will be re-sampled at a depth of six to twelve inches. Additional soil sampling will not be required provided concentrations of contaminants are below target levels or the PQL.

24. In the event soil sample locations at the six-inch depth contain contaminants in concentrations above thresholds, soil sampling at those locations will continue at six-inch intervals until no contaminants exist in concentrations above thresholds or until CLHB determines that excavation and removal of contaminants cannot be done or is not practical. If such a determination is made, a post closure plan will be submitted to the Department.

25. If concentrations of contaminants are detected above thresholds in soil, and the extent is such that removal is deemed impractical, the soil will be excavated to a depth of six inches below the depth of detected contamination. Excavated soil will be disposed of at a RCRA-permitted TSDF. The excavated area will then be backfilled with clean,

compacted soil and restored to the original condition. Confirmatory samples will be taken and analyzed for the contaminants of concern to demonstrate the contaminants of concern have been removed.

26. Facility personnel and an independent, registered, professional engineer will inspect the tanks and submit to the FDEP certification that the tanks have been decontaminated and closed in accordance with this closure plan within 180 days of commencement of closure activities.

9.8 Perimeter Road

Contamination in the perimeter road is expected to be minimal because this area is inspected regularly, and any spills or leaks are cleaned up promptly. For the purpose of this Closure Plan, the perimeter road is divided into two separate areas.

One area is the portion to the north of the South Container Storage Building. This area is used for mixbox processing, staging before processing and/or loading/unloading activities and the potential for contamination is greater here than the remaining perimeter road area. The size of the area is the same as the length of the Container Storage Building (125') and extending 50 feet to the north of the South Container Storage Building. The closure of this staging area of the perimeter road is given in Section 9.8.1.

9.8.1 Perimeter Road (Staging Area)

1. The FDEP will be notified at least 180 days prior to the date closure is to begin.

2. A review of the closure plan by appropriate CLHB personnel will be conducted prior to closure commencement activities.

3. A power washer will be used to pressure clean the surface of the staging area within the perimeter road. Wash water will be handled as a hazardous waste and directed to the perimeter road sump. Wash water will be collected and pumped into suitable containers (i.e., tanker trucks or equivalent) and transported offsite to a RCRA-permitted facility for treatment.

4. After the surface in this area is dry, a detergent solution (Reax or equivalent) will be applied to the Staging Area to remove remaining waste residues.

5. The staging area surface will be rinsed three times with potable water to remove detergent solution residues. Rinsate fluids will be directed into the sump and handled as a hazardous waste. Rinsate fluids will be pumped into suitable containers (i.e., tanker truck or equivalent) and transported offsite to a RCRA-permitted facility for treatment.

6. During the third rinse of the staging area surface a total of four samples (one from each quadrant of the staging area) of rinsate and one sample of potable will be collected and analyzed for the following parameter groups by the listed methods:

   - Volatile organics (EPA Method 8260)
   - Semivolatile organics (EPA Method 8270)
   - RCRA metals, plus nickel (EPA Method 6010)
   - Pesticides (EPA Method 8081)
   - Total organic carbon (EPA Method 415.2)
   - Total organic halides (EPA Method 9252)

7. In addition, quality control (QC) samples will be collected in accordance with frequencies specified in an FDEP-approved Comprehensive Quality Assurance Plan (CompQAP). Similarly, laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

8. Laboratory results will be compared to the groundwater clean-up target levels presented in Chapter 62-777 FAC. Decontamination will be considered complete if concentrations of contaminants are below these target levels or the PQL. In the event that decontamination is considered incomplete for a particular sample location, these decontamination procedures will be repeated in the immediate area of the sample and the rinsate will be re-sampled using the procedures described above until the concentrations meet the specified criteria.

9. The soils beneath the Perimeter Road Staging Area will be sampled and checked for possible contamination as outlined in steps 10-19 below.

10. The area will be divided into a 10' x 10' grid and sampling locations selected at the line intersections.

11. Four samples within the Perimeter Road Staging Area will be

chosen randomly from the intersection points on the grid lines. Each sample location will entail drilling through the concrete floor of the containment area.

12. If cracks are present in the area (other than surficial cracks) the soil beneath them will be sampled as well.

13. Initially samples will be taken at the soil surface, immediately beneath the concrete containment and analyzed for the following parameter groups by the listed methods:

    - Volatile organics (EPA Method 8260)
    - Semivolatile organics (EPA Method 8270)
    - RCRA metals, plus nickel (EPA Method 6010)
    - Pesticides (EPA Method 8081)
    - Total organic carbon (EPA Method 415.2)
    - Total organic halides (EPA Method 9252)

14. In addition, QC samples will be collected in accordance with frequencies specified in an FDEP-approved CompQAP. Similarly, all laboratory analyses will be performed by a laboratory with an FDEP-approved CompQAP.

15. While soil contamination is not expected, the procedures outlined in steps 16-19 will be followed in the event soil contamination is determined to exist.

16. Laboratory results will be compared to the soil cleanup target levels presented in 62-77 FAC. Additional soil sampling will not be required provided concentrations of contaminants are below these target levels or the PQL.

17. In the event surface soils at particular locations contain contaminants in concentrations above thresholds, those locations will be re-sampled at a depth of six to twelve inches. Additional soil sampling will not be required provided concentrations of contaminants are below target levels or the PQL.

18. In the event soil sample locations at the six-inch depth contain contaminants in concentrations above thresholds, soil sampling at those locations will continue at six-inch intervals until no contaminants exist in concentrations above thresholds or until CLHB determines that excavation and removal of contaminants cannot be done or is not practical. If such a determination is made, a post closure plan will be submitted to the Department.

19. If concentrations of contaminants are detected above thresholds in soil, and the extent is such that removal is deemed impractical, the soil will be excavated to a depth of six inches below the depth of detected contamination. Excavated soil will be disposed of at a RCRA-permitted TSDF. The excavated area will then be backfilled with clean, compacted soil and restored to the original condition. Confirmatory samples will be taken and analyzed for the contaminants of concern to demonstrate the contaminants of concern have been removed.

20. Facility personnel and an independent, registered, professional engineer will inspect the container storage area, staging area and ramp area. A certification will be submitted to the FDEP indicating these areas have been decontaminated and closed in accordance with this closure plan.

9.8.2 Perimeter Road (Non-Staging Area)

Hazardous waste contamination in the perimeter road, non-staging area, is expected to be minimal as hazardous waste containers and drums are not handled or stored in these areas.

The non-staging area portion of the perimeter road will be visually inspected for signs of potential contamination. Areas of possible contamination will be pressure washed. Wash water will be handled as a hazardous waste and collected and pumped into suitable containers (i.e., tanker trucks or equivalent) and transported off-site to a RCRA-permitted facility for treatment. The area will be rinsed with potable water. One sample of rinsate fluid from the center of the washed area and one sample of potable water will be collected and analyzed for the following parameter groups by the listed methods:

- Volatile organics (EPA Method 8260)
- Semivolatile organics (EPA Method 8270)
- RCRA metals, plus nickel (EPA Method 6010)
- Pesticides (EPA Method 8081)
- Total organic carbon (EPA Method 415.2)
- Total organic halides (EPA Method 9252)

In addition, quality control (QC) samples will be collected in accordance with frequencies specified in an FDEP-approved Comprehensive Quality Assurance Plan (CompQAP). Similarly, laboratory analyses will be performed by a laboratory with an

FDEP-approved CompQAP.

Laboratory results will be compared to the groundwater clean-up target levels presented in Chapter 62-777 FAC. Decontamination will be considered complete if concentrations of contaminants are below these target levels or the PQL. In the event that decontamination is considered incomplete for the rinsate fluid sample collected, the area will be rinsed a second time and the rinsate will be re-sampled using the procedures described above.

9.9 Miscellaneous Equipment

Expendable equipment such as personal protective equipment, shovels, brooms, buckets, hoses, pipes, etc. will be handled as hazardous waste and collected, contained, and shipped off-site to a RCRA-permitted TSD facility, as appropriate. Non-expendable equipment such as pumps, valves, control devices, can crushers, drum scraper, compactor/drum crusher etc. will be decontaminated by washing and wiping with appropriate cleaning agents. This also includes the filtering equipment used for the solids filtering process. Decontaminated equipment (including the tanks, and fuels blend equipment) may be left in place for subsequent use by a successor owner, transferred to another facility or taken to a scrap metal facility.

9.10 Run-on and Run-off Control During Closure Operations

The operating facility is designed to contain run-off and to prevent the movement of run-on onto the active portions of the facility. This is accomplished by the secondary containment systems surrounding each tank farm and the paved, curbed roadway which encompasses the facility. Both of these systems will remain intact during closure operations to control the movement of run-on and run-off at the facility.

9.11 Groundwater Monitoring

Because CLHB does not operate a surface impoundment, waste pile, land treatment unit or landfill, the requirements of 40 CFR 264 Subpart F do not apply. Consequently, CLHB will not conduct groundwater monitoring except as may be required for any corrective action program initiated on-site.

9.12 Certification of Closure

At the completion of closure activities, an independent,

registered, professional engineer, licensed in the state of Florida, will inspect the entire facility and certify that closure was performed in accordance with the specifications in the approved Closure Plan. CLHB will submit a certification of proper closure to the FDEP.

9.13 Survey Plat

Because CLHB does not operate a landfill or other hazardous waste disposal unit, the requirements of 40 CFR 264.116 are not applicable.

9.14 Post Closure

Post closure is not required because CLHB will not operate any hazardous waste disposal units on-site. However, should soil and/or groundwater contamination requiring post-closure care be found to exist, a post-closure care plan will be submitted as appropriate.

LIST OF FIGURES

Figure 9.1 MAXIMUM WASTE INVENTORY AT CLOSURE

CONTAINER STORAGE BUILDINGS

South Container Storage Building

1,944 drums x 55 gallons/drum (or equivalent) = 106,920 gallons

North Container Storage Building

2,480 drums x 55 gallons/drum (or equivalent) = 136,400 gallons

STORAGE TANKS

South Tank Farm

Tanks T-101 through T-110 ..... 60,000 gallons

West Tank Farm

Tanks R-202 and R-203 ..... 12,600 gallons

Fuel Blending Tanks

Tanks T-112 & T-114 ..... 0 gallons

Subtotal - Tanks storage ..... 72,600 gallons

ROLL-OFFS/MIXBOX

Four 40 yd^3 roll-off boxes ..... 32,320 gallons

MAXIMUM STORAGE CAPACITY OF WASTE AT CLHB = 348,240 gallons

ATTACHMENT 1

Closure Plan for PCB Area

8.0 PCB CLOSURE PLAN

8.1 Facility Description

8.1.1 Site Description

CLHB is located at 170 Bartow Municipal Airport in the city of Bartow, Polk County, Florida. Figures 8.1 and 8.2 are the Site Location Map and Facility Site Plan, respectively. The Site Location Map and Facility Site Plan provide information on the property boundary, location of buildings, PCB and hazardous waste storage areas, surrounding property use and other major topographical and structural features.

The facility is not located within the 100-year Floodplain (see Figure 8.3).

A gate at the main entrance controls traffic within the facility. Vehicles proceed through the gate to a loading/unloading dock and then back to the same gate for exit.

The site is located within an existing industrial park and is zoned Industrial. The surrounding property is used for commercial and light industrial purposes.

The facility currently has a RCRA Part B hazardous waste operating permit, which was issued by the Florida Department of Environmental Protection (FDEP). The Part B Permit authorizes the facility for treatment in tanks (fuels blending), storage in tanks and containers, miscellaneous units, and to act as a transfer facility. RCRA hazardous waste codes that can be managed at the facility include D-, F-, K-, P- and U- listed wastes.

8.1.2 Environmental Conditions

The site is located in a commercially developed portion of Polk County. There are no drinking water withdrawal wells located within at least 1/4 mile of the facility. The nearest major environmental receptor (surface) are unnamed

tributaries that lead to the Peace River which is located approximately 2 miles from the site.

All operating portions (including vehicular traffic) are located on concrete surfaces equipped with eight-inch berms thereby minimizing the potential for a release to soil and/or groundwater.

8.1.3 PCB Waste Storage Facility Design

PCB staging, unloading, loading and storage is located entirely within a building. Walls and roof protect the loading/unloading docks and bays, and the truck bays are sloped to collect any spills that may occur when transferring material from the trucks.

The PCB storage area is likewise located within the building. All PCBs stored at the facility will be stored in DOT specification and/or OSHA approved containers on pallets within the designated storage cell.

The storage cell is 15.75 feet by 27.1 feet with a six-inch high berm surrounding the cell on all sides. These dimensions provide an immediate containment of 1,468 gallons (see Section 6.2.3 for details). The containment required under TSCA is 25% of the maximum PCB volume stored. Therefore, the required volume is 64 drums x 55 gallons/drums x 25% equals 880 gallons. Details of the storage cell are provided in Figure 8.4.

The secondary containment system in the storage cell consists of containment berms of at least six inches in height on all four sides of the cell. All expansion joints are sealed. The joints as well as the floor, and berms of the cell are coated with an epoxy coating (polyurethane or equivalent).

All containers are stored on pallets with 30-inch wide aisles between the rows of pallets to grant easy access for leaks spill detection.

8.2 DISPOSAL OF PCB WASTE INVENTORY

8.2.1 Maximum Inventory

CLHB intends to store a maximum PCB inventory of 3520 gallons. At any given time, the facility may have in storage PCB articles, PCB article containers, PCB containers, PCB capacities, PCB transformers, PCB contaminated electrical equipment, other PCBs and PCB waste. The respective quantities of any of these items in storage may vary in range from zero percent to one hundred percent of the permitted storage volume (3520 gallons or (64) 55-gallon drum equivalents). The concentrations of PCBs in any of these items will be greater than 50 PPM.

At no time will the actual inventory of PCB wastes exceed the rated capacity of the facility.

8.2.2 Disposal of Inventory

Within 90 days from receipt of the final shipment of PCB waste, the facility will dispose of the entire inventory of PCB waste. Clean Harbors Florida, LLC, at that point, will assume the role of "generator" and as such will comply with the regulations covering generators. Specifically, the facility will prepare manifests, perform the necessary recordkeeping and track the delivery and disposal of all PCB waste shipments.

For estimating purposes, it has been assumed that at closure, the entire PCB inventory (3520 gallons) plus decontamination wastes will be shipped off site for treatment and disposal.

All PCB-containing materials will be manifested to properly approved and permitted facilities. Only DOT and/or OSHA approved containers will be accepted on site, and any material transferred to any other container will only be transferred to DOT and/or OSHA approved containers. Removal and transportation of the stored materials will not present any extraordinary activities. All wastes received at the facility will have the necessary permits obtained prior to removal off site. Only approved sites will be used. Incinerators must meet the requirements set by 40 CFR 761.70(a), chemical waste landfills must meet the

requirements established in 40 CFR 761.75(a) and storage facilities must meet the requirements of 40 CFR 761.65.

Disposal of PCB contaminated materials (inventory) will be managed in the following manner:

- Solids with PCB concentrations in excess of 50 PPM will be disposed of through incineration, other approved thermal treatment, and/or chemical landfill;

- Liquids with PCB concentrations of 50 PPM or greater will be disposed of through incineration, other approved treatment technology.

Clean Harbors Florida, LLC reserves the right to utilize other off site treatment technologies for the disposal of PCBs as they are developed and subsequently approved by the Regional Administrator.

Facilities such as Chemical Waste Management in Emelle, Alabama are examples of the types of facilities that may be used for final disposal. The types of materials that may be sent to these facilities include, but are not necessarily limited to, the final inventory of PCBs onsite, by-products from decontamination (rinse waters, solvent, rags, and other contaminated decontamination equipment) and pallets used for storage of PCBs. All materials shipped off-site at closure will be by permitted commercial carriers.

The closure schedule is provided in Section 8.5.

8.3 CLOSURE PLAN SAMPLING DECONTAMINATION AND COMPLIANCE WITH THE SPILL CLEANUP POLICY

8.3.1 Equipment and Area Classification

To ensure a thorough cleanup of the PCB storage area and associated operations and structures, the following is an itemization of the various components that will require decontamination during closure activities and confirmatory sampling. The basis for the sampling grid was

taken from the respective classification as outlined in the Spill Cleanup Policy.

The PCB storage area is classified as an "Impervious Solid Surface" since the area is constructed with a concrete floor and berm, free of cracks, gaps, and inlet/outlet structures. Additionally, the storage area is coated and sealed by a polyurethane coating (or equivalent) to provide an impervious barrier between the containers of PCBs and the concrete floor. The types of epoxies used are resistant to degradation by PCB containing materials and are designed to withstand the abrasive activities associated with industrial operations. The specifications shown in Attachment 8-1 are typical of minimum requirements for the epoxy coating that will be used at the facility.

8.3.2 Numerical Standard

As previously mentioned, the area to be closed is classified as "Impervious Solid Surface". Closure of the PCB storage area will in all likelihood occur concurrently with overall facility closure as specified in the facility's RCRA Part B closure plan, in the year 2045. For the purpose of closure and decontamination, it has been assumed that the property may be made available for general use to the subsequent tenant and therefore, clean up will be performed to meet decontamination requirements for "non-restricted access areas". This standard requires that impervious solid surfaces be decontaminated to a PCB concentration of 10 micrograms/100 cm2 (as measured by the standard wipe test specified in EPA Guidance "Verification of PCB Spill Cleanup by Sampling and Analysis", 1985).

8.3.3 QA/QC

The PCB storage area will be decontaminated as outlined below in Section 8.4. The decontamination will be confirmed by taking random wipe samples.

The Health and Safety Plan is provided as Attachment 8-2 and will be followed during the closure process.

QA/QC - CLHB uses a number of contract labs to perform various analyses. As a matter of practice, only qualified and certified labs are used. As part of Clean Harbors Florida, LLC 's certification/qualification requirements, these labs must maintain strict adherence to a number of protocols and certifications including a comprehensive QA/QC plan.

Prior to initiating closure, the facility will transmit the selected laboratory's QA/QC Plan to the EPA regional QA officer for review and approval. At a minimum, the laboratory QA/QC plan will contain the following information:

1. Protocols
2. Certification and Performance
3. Checks
4. Procedural QC
5. Sample QC
6. Sample Custody

Table 8-1 is a sample Table of Contents from one of the laboratory's "Quality Assurance Plan" and exemplifies the level of detail that will be incorporated into the QA/QC Plan developed for closure of the PCB storage area.

TABLE 8-1 SAMPLE TABLE OF CONTENTS QA/QC PLAN

Section

1 Title and Signature Page
2 Table of Contents
  Introduction
  List of Figures
  List of Tables
3 Statement of Policy
4 Project Organization and Responsibility
5 QA Objective for Measurement Date in Terms of
  Precision, Accuracy, Completeness, being
  Representative and Comparability
6 Sampling Procedures
7 Sample Custody
8 Calibration Procedures and Frequency
9 Analytical Procedures
10 Data Reduction, Validation and Reporting

11 Laboratory Quality Control Checks
12 Performance and System Audits
13 Preventive Maintenance
14 Special Routine Procedures used to Assess Data Precision, Accuracy and Completeness
15 Corrective Action
16 Quality Assurance Reports to Management
17 Personnel Qualifications, Resumes

8.3.4 Decontamination Procedures

All disposable items used in PCB closure and/or decontamination operations, such as gloves, clothing, respirators, and hand tools will be placed in appropriate shipping containers for disposal as PCB waste. All containers will be manifested, sealed and labeled as required by state, EPA and DOT guidelines for transport to an EPA permitted T/S/D facility (or one with interim status) for final disposition (i.e., secure landfill, incineration, etc.). Disposal of PCB contaminated materials will be managed in the following manner:

- Solids with PCB concentrations in excess of 50 PPM will be disposed of through incineration, other approved thermal treatment, and/or chemical landfill;

- Liquids with PCB concentrations of 50 PPM or greater will be disposed of through incineration, other approved treatment technology

CLHB reserves the right to implement other treatment technologies for the disposal of PCBs as they are developed and subsequently approved by the Regional Administrator.

As previously indicated, only those incinerators that meet the requirements of 40 CFR 761.70(a), chemical waste landfills that meet the requirements established in 40 CFR 761.75(a), or storage facilities meeting the requirements stated in 40 CFR 761.65 will be used.

8.3.4.1 Decontamination of Structures

Upon commencement of closure activities, the floors, and berms of the storage location area will be decontaminated as outlined below:

- Swept thoroughly.
- Appropriate solvent (preferably water based) will be used to clean the floors and dikes to remove remaining particulates and PCB waste residues.
- After surfaces dry, they will be cleaned with soapy water to remove solvent residues and remaining waste residues.
- Surfaces will be cleaned twice with clear water to remove soap residues. Liquids will be shipped to appropriately approved disposal sites.
- All liquid and solid waste residues generated during decontamination activities will be containerized, properly characterized (as PCB contaminated or not). If these materials are free of PCBs they will be managed as such, otherwise they will be shipped to a PCB permitted disposal or storage facility. (Note: the wash water to be discharged to the local POTW if it is not prohibited by TSCA or the POTW.)
- The structure will be allowed to dry and air for one week. Decontamination will be confirmed by:

  A. Walk around air monitoring with a portable organic vapor monitor.
  B. Hexane swabs taken at random locations. Two blanks, one labeled and one unlabeled will also be analyzed.

8.3.4.2 Decontamination of Equipment

All equipment used in the PCB closure operations will be decontaminated in a manner similar to that used for structures. Non-expendable equipment will be decontaminated and transferred to other Clean Harbors Florida, LLC facilities. Used expendable equipment such as protective clothing and cleaning gear will be disposed of in accordance with the appropriate procedures and regulations.

8.3.5 Post-Cleanup Verification Procedures

Post-cleanup sampling will be a random sampling protocol, which will demonstrate whether or not PCBs have been removed to an acceptable level (<10 micrograms/100 cm2).

8.3.5.1 Random Sampling

Random wipe samples will be taken from the PCB storage area floor and berms to verify proper decontamination has been achieved. The sampling locations are shown in figure 8.5. These locations were determined using a grid system. The grid system was derived using the guidelines from document entitled "Verification of PCB spill Cleanup By Sampling and Analysis". The area is greater than 400
square feet, so the grid is set up so the distance between gridlines is no more than 0.3r (NOTE: to determine "r", the smallest cell dimension of 15.75 feet was used to be conservative; i.e. (15.75'/2) x 0.3 = 2.36'). The point at which each grid line intersects is called a node and is numbered. Ten nodes have been selected for random sampling using a random number generator and will be sampled using hexane swabs to collect standard wipe samples. The samples will then be analyzed for SW-846 (latest edition) Method 8082 (or EPA approved equivalent) constituents (PCBs).

8.3.5.2 Disposal

All disposable items used in PCB closure and/or decontamination operations, such as gloves, clothing, respirators, and hand tools will be placed in appropriate shipping containers for disposal as PCB waste. All containers will be manifested, sealed and labeled per state, EPA and DOT guidelines for transport to an EPA permitted T/S/D facility (or one with interim status) for final disposition (i.e., secure landfill, incineration, etc.). Disposal of PCB contaminated materials will be managed in the following manner:

- Solids with PCB concentrations in excess of 50 PPM will be disposed of through incineration, other

approved thermal treatment, and/or chemical landfill;

- Liquids with PCB concentrations of 50 PPM or greater will be disposed of through incineration, other approved thermal treatment.

CLHB reserves the right to implement other treatment technologies for the disposal of PCBs as they are developed and subsequently approved by the Regional Administrator.

As previously indicated, only those incinerators that meet the requirements of 40 CFR 761.70(a), and chemical waste landfills that meet the requirements established in 40 CFR 761.75(a), will be used.

8.3.5.3 Estimated Quantities of Materials to be Disposed During Decontamination

It can be anticipated that during closure and decontamination activities, wastes will be generated that will likely have to be managed as PCB wastes and/or RCRA type wastes. These waste types may include, but are not necessarily limited to, spent solvent, rags, gloves, coveralls, boots, shovels, brooms, other tools, samples, and debris. The liquid wastes (solvent, water) will be drummed and likewise the solid waste will be placed in drums for subsequent disposal. It has been estimated that the closure/decontamination activities will generate approximately six drums of waste material. Costs associated with the disposal are included in the closure cost estimate.

8.4 OTHER CLOSURE ACTIVITIES

As shown on the facility site plan, the entire storage area, including loading and unloading facilities, is located within a building completely roofed, walled and floored. The storage unit (bay) used to store PCBs is located in the interior of the building and surrounded by concrete aisles and buffer zones. Please refer to figure 8.4 for details of the secondary

containment system.

However, in the unlikely event that PCB waste contacts and contaminates surrounding soil, the following procedure will be followed:

The area of the known or suspected contact will be identified and delineated. As soon as possible all soil, which is believed to be contaminated, will be removed and disposed of as PCB waste (as described in Section 8.3.5.2, for example). A sample point location grid will then be developed for the area in accordance with EPA's "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup". Soil samples will be collected using appropriate means from each applicable sample point to a depth of six inches and analyzed according to EPA SW-846 (latest edition), Method 8082, 8250 or 8270 (or EPA approved equivalent) in that order or preference. During and following sample collection, all standard operating procedures will be followed including strict chain of custody during sample transfer. If analytical findings indicate contamination, an additional six inches of soil will be removed and disposed of as PCB waste. Another round of samples will then be collected and analyzed. This process will continue until analytical results verify that all PCB-contaminated soil has been removed. All equipment used in removal of contaminated soil will be decontaminated as described in Section 8.3.4.3. The area excavated will then be backfilled with clean fill material.

8.4.1 Security

A chain-link fence topped with barbed wire surrounds the entire facility. A gate through which all traffic must flow controls access to the operating portion. It is intended during closure, that nonauthorized personnel will use this same type of security device to prevent access.

8.5 SCHEDULE OF CLOSURE

If the facility is to be closed, a period of 180 days will be required to properly close the site. The schedule of closure events and time necessary

for completion of these events is as follows:

CLOSURE SCHEDULE

Days Container Storage Closure Milestones

0 Stop accepting wastes. Begin physical inventory and preparation of shipping documents and approval requests to disposal facilities. Continue removing wastes already scheduled for disposal.

60 Complete preparation of all manifests and approval requests.

90 Complete removal of all wastes from site. Begin physical cleanup and decontamination of facility.

120 Complete disposal information to original generators.

150 Complete physical cleanup and decontamination of facility no later than this date. Perform sampling for confirmation no later than this date. Begin removing equipment when cleanup is complete.

180 Complete removing equipment from facility. Independent engineer inspects facility, reviews sample results, certifies closure plan.

NOTES:

1. Labor costs include two laborers for two days to perform loading, unloading, sampling, decontamination, drumming waste materials and other activities as required.

2. Includes pumps, compressors and any other piece of equipment deemed necessary by management to achieve the closure performance standard.

3. Includes wash/rinse water, rags, spent solvent and coveralls, etc. Costs incinerating the disposable items such as gloves, reflect "worst-case scenario" of drummed material.

4. The cost also reflects the "worse case scenario" of having to incinerate the entire inventory.

The owner or operator will adjust the closure cost estimate for inflation within 30 days after the close of the company's fiscal year or within 60 days prior to the anniversary date of the establishment of the financial instrument used to comply with 40 CFR 765.65(f) (2), whichever is later. The inflation factor utilized will be derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business.

During the active life of the facility, the owner or operator will revise the closure cost estimate within 30 days after the Regional Administrator approves a request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised cost estimate will be adjusted for inflation, as specified in 40 CFR 765.61(f)(2).

P. Information Requirements Regarding Potential Releases From Solid Waste Management Units

Facility Name Clean Harbors Florida LLC

EPA/DEP I.D. No. FLD 980 729 610

Facility location Bartow (city) FL (state)

1. Are there any of the following solid waste management units (existing or closed) at your facility? A solid waste management unit (SWMU) is a discernable unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous wastes. Such units include all areas at a facility where solid wastes have been routinely and systematically released, as described in the July 27, 1990 Federal Register (55 FR 30798).

DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION.

landfill	☐ Yes	☐ No
surface impoundment	☐ Yes	☐ No
land farm	☐ Yes	☐ No
waste pile	☐ Yes	☐ No
incinerator	☐ Yes	☐ No
storage tank	☐ Yes	☐ No
container storage area	☐ Yes	☐ No
injection wells	☐ Yes	☐ No
wastewater treatment units	☐ Yes	☐ No
transfer station	☐ Yes	☐ No
waste recycling operations	☐ Yes	☐ No
land treatment facility	☐ Yes	☐ No
boiler/industrial furnace	☐ Yes	☐ No
other units not listed above)	☐ Yes	☐ No

(Note: All SWMU's are in the Part B)

2. If there is a "yes" answer to any of the items in 1. above, on separate sheet(s) of paper, provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, focus on whether or not the wastes would be considered hazardous wastes or hazardous constituents under RCRA. (Hazardous wastes are those identified in 40 CFR Part 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.) Include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Provide a description of each unit and include capacity, dimensions, and location at the facility. Provide a site plan, if available, and the dates of operation of the unit [40 CFR 270.14(d)(1)].

3. On separate sheet(s) of paper, describe all data available on all prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring, for each unit noted in 1. above and also for each hazardous waste unit in your Part B application [40 CFR 270.14(d)(1)].

   Provide the following information for each SWMU:

   a. Date of release.
   b. Specifications of all wastes managed at the unit, to the extent available.
   c. Quantity or volume of waste released.
   d. Describe the nature of the release (i.e., spill, overflow, ruptured pipe or tank, etc.) e. Location of the unit on the topographic map provided under 40 CFR 270.14(b)(19). f. Designate the type of unit.
   g. General dimensions and structural description (supply any available drawings).
   h. Dates of operation.

   (See Section Q)

4. On separate sheet(s) of paper, provide for each unit all analytical data that may be available which would describe the nature and extent of the environmental contamination that exists as a result of the prior releases described in 3. above. Focus on the concentrations of hazardous wastes or constituents present in contaminated soil or groundwater [40 CFR 270. 14(d)(3)].

   (See Section Q)

SECTION Q

SOLID WASTE MANAGEMENT UNITS

18.1 Facility Process Description

Clean Harbors Florida, LLC (CLHB) is a hazardous waste treatment, storage, and disposal facility located in Bartow, Florida. The objective for this facility is to reclaim hazardous waste to the extent that the recycled product will meet the use specifications of the industries from which the waste materials are received. Solvents and other wastes that cannot be reclaimed will be blended into hazardous waste fuel, treated to minimize the danger posed by the waste, and/or stored on-site before being shipped off-site to a permitted hazardous waste disposal facility.

18.2 Facility Solid Waste Manage Units and Areas of Concern

Handling these hazardous wastes at locations throughout the facility creates the potential for exposure of these wastes to the environment. Areas of the facility where such exposure may occur are identified as either solid waste management units (SWMUs) or areas of concern (AOCs). A SWMU is defined as any unit which has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. An AOC includes any area having a probable release of a hazardous waste or hazardous constituent which is not from a SWMU and which has been determined to pose a current or potential threat to human health or the environment.

The USEPA conducted a RCRA Facility Assessment (RFA) for this facility in July 1991. SWMUs identified at the CLHB Bartow facility as a result of the RFA include the following units:

- SWMU #1: Hazardous Waste Fuel Blending Area
- SWMU #2: Drum Staging/Storage Area
- SWMU #3: Stormwater Collection Tanks
- SWMU #4: Stormwater Retention Ponds
- SWMU #5: Crude Storage Area (South Tank Farm)
- SWMU #6: Intermediate Storage Area
- SWMU #7: Process Area
- SWMU #8: Amnesty Days dumpster
- SWMU #9: Fume Hood Collection tank
- SWMU #10: Laboratory Satellite Accumulation Areas

- SWMU #11: Boot Cover Disposal Drums
- SWMU #12: Former Lab Trailer Drain Containment Pad

As a result of the RFA completed in July 1991, the Freon Wash Water Storage Tank was identified as the only AOC at the CLHB Bartow facility (AOC A). These SWMUs and AOC are described in the following sections, along with their respective status under the current HSWA permit issued by EPA. Figure 18-1 shows the location of these SWMUs and AOC.

18.3 Description and Status of Solid Waste Management Units

A description and regulatory status of each SWMU is provided in the following.

18.3.1 Hazardous Waste Fuel Blending Area (SWMU #1)

The hazardous waste fuel blending area (SWMU #1) is located in the northeast portion of the South Container Storage Building on the south side of the facility. Fuel blending tanks (T-112 and T-114), a can crusher, a drum crusher, a drum scraper, and a drum pumping station currently are located within SWMU #1.

Activities conducted in SWMU #1 include the blending of hazardous wastes that cannot be reclaimed due to high viscosity, high concentrations of contaminants, or low recyclable value. Fuel grade wastes are determined by waste analysis. Containers of mostly liquid wastes are dumped or pumped into tanks T-112 or T-114, blended, and transferred to one of the hazardous waste storage tanks or directly to tanker trucks. Other activities conducted in SWMU #1 include drum and can crushing, drum scraping, and pumping drums directly to the crude storage tanks (T-100's). These activities are conducted within an enclosed building over concrete secondary containment.

Currently, SWMU #1 requires no further action.

18.3.2 Drum Staging Storage Area (SWMU #2)

The drum staging storage area (SWMU #2)is the South Container Storage Building located on the south side of the facility. SWMU #2 consists of a staging area where samples are collected from incoming drums and a storage area where drums are stacked on pallets. The concrete floor provides secondary containment and is tied to a trench drain that runs the length of the building. The permitted container storage area is designed to store a maximum volume of 106,920 gallons (equivalent to 1,944, 55-gallon drums).
Hazardous waste to be stored in SWMU #2 is unloaded at the dock

and placed in the staging area for sampling, labeling, bar coding, and other requested QC functions. After identification the hazardous materials are classified and moved into the storage area.

Currently, SWMU #2 requires no further action.

18.3.3 Stormwater Collection Tanks (SWMU #3)

The stormwater collection tanks (SWMU #3) are located in the southeast corner of the facility near the main entrance/exit gate. Tank T-604 has a capacity of 5,800 gallons and T-605 has a capacity of 16,000 gallons. These tanks are used for temporary storage of stormwater collected and pumped from the low point of the perimeter road containment area. Stormwater collected in these tanks is tested prior to discharge off-site for treatment and disposal.

Currently, SWMU #3 requires no further action.

18.3.4 Stormwater Retention Pond (SWMU #4)

Stormwater retention ponds (SWMU#4) are located on the south side of the facility east of the South Container Storage Building and east of the office and laboratory building on the east side of the facility. SWMU #4 ponds normally are dry grassy areas that function as stormwater overflow structures for the perimeter road area and east area of the facility. Stormwater collected in these areas percolates and evaporates from these structures.

Initially, SWMU #4 was identified as requiring no further action. However, CLHB conducts routine monitoring of groundwater at the facility outside of any regulatory involvement for internal risk management purposes. Monitoring results (see discussion below) from 1986 to the present showed potential groundwater impacts in the vicinity of the south retention pond and CLHB subsequently notified EPA of the monitoring results. This notification triggered the corrective action requirements of the HSWA permit issued by EPA. A RCRA Facility Investigation (RFI) Work Plan was prepared in 1992 and updated in 1995 to identify the investigative activities proposed by CLHB to determine the nature and extent of the groundwater impacts around the south retention pond.

In January 2002 the Florida Department of Environmental Protection (FDEP) determined that no further corrective action was required. This determination was reached after FDEP reviewed the facility's RCRA/HSWA permit renewal application that contained sampling data results (1986 - 2000) from the facility's

groundwater monitoring network. The findings are incorporated into the facility RCRA/HSWA permit (64247-HO-007) issued by FDEP on January 18, 2002.

SMU # 4 requires no further action

18.3.5 Crude Storage Area (South Tank Farm) (SWMU #5)

The crude storage area or the South Tank Farm (SWMU #5) is located in the south portion of the facility, north of the South Container Storage Building. SWMU #5 consists of ten steel storage tanks, T-101 through T-110, each with the capacity to hold 6,000 gallons of crude hazardous waste. A reinforced concrete pad and wall around the perimeter of the tanks provides secondary containment volume of 12,258 gallons. Other activities conducted in this area include three tanker truck loading and unloading stations used for crude hazardous waste handling and blended fuel waste handling.

Currently, SWMU #5 requires no further action.

18.3.6 Intermediate Storage Area (SWMU #6)

The intermediate storage area (SWMU #6) is located near the center of the facility, east of the Boiler Building and perimeter road and west of the Process Area. SWMU #6 consists of ten steel storage tanks, T-201 through T-210, each with the capacity to hold 6,000 gallons of partially processed product. A reinforced concrete pad and wall around the perimeter of these tanks provides secondary containment for this SWMU. Incoming materials containing recoverable solvents are processed in the process area. Depending on the concentration of containments in the material, several passes through the process equipment may be required to fully recover solvents to product. SWMU #6 are the storage tanks used for holding the partially processed product prior to further processing.

Currently, SWMU #6 requires no further action.

18.3.7 Process Area (SWMU #7)

The process area (SWMU #7) is located in the center of the facility, south of the Product Storage Area, north of the Crude Storage Area, and east of the intermediate storage area. SWMU #7 consists of a vacuum still, thin-film evaporator, solvent, solvent wash tank, a hydrochlorofluorcarbon (HCFC) still, and distillation column. This process equipment is used to remove contaminants from waste solvents and is placed within curbed concrete secondary containment.

Currently SWMU #7 requires no further action.

18.3.8 Amnesty Days Dumpster (SWMU #8)

The amnesty days dumpster (SWMU #8) is located within the Perimeter Road Area. SWMU #8 is a lined and covered 40 cubic yard roll-off box that holds various types of solid or hazardous waste.

Currently SWMU #8 requires no further action.

18.3.9 Fume Hood Collection Tank (SWMU #9)

The fume hood collection tank (SWMU #9) is located on the north side of the Office and Laboratory Building on the east side of the facility. SWMU #9 was used to collect fluids from fume hoods located in the laboratory areas.

In February 1992, the EPA identified SWMU #9 as requiring confirmatory sampling to address concerns of potential contamination in this area. Confirmatory sampling at SWMU #9 was completed in April 1992. Sampling results were sent to the EPA and subsequently, CLHB received notice from the EPA on June 24, 1992 stating that no further action was needed for SWMU #9.

18.3.10 Laboratory Satellite Accumulation Areas SWMU #10

Laboratory satellite accumulation areas (SWMU #10) are located in the Office and Laboratory Building on the east side of the facility, north of the visitor parking area. Hazardous waste materials are accumulated in these area inside the building.

Currently, SWMU #10 requires no further action.

18.3.11 Boot Cover Disposal Drums (SWMU #11)

The boot cover disposal drums (SWMU #11) were located in the Maintenance Building on the north side of the facility, east of the North Container Storage Building. These drums were used for collection of used personal protective equipment boot covers. Once these drums are filled, they are shipped off-site to a permitted TSD facility for disposal. These drums are no longer used to support facility operation and have been removed.

Currently, SWMU #11 requires no further action.

18.3.12 Former Lab Trailer Drain Containment Pad (SWMU #12)

The former lab trailer drain containment pad (SWMU #12) is located on the north side of the facility between the North Container Storage Building and the Maintenance Building. SWMU #12 previously was used as a containment pad area for laboratory drain collection tanks. SWMU #12 is no longer in use and requires no further action.

18.4 Description And Status Of Areas Of Concern

CLHB has only one AOC, the Freon Wash Water Storage Tank. The AOC is located close to the southeast corner of Process Area. This AOC is a 3,500 gallon tank used to store freon wash water. A reinforced concrete pad and wall around the perimeter of the process area provides a secondary containment volume of at least 110% of the volume of this tank.

Currently, this AOC requires no further action.

18.5 Identification of New SWMUs

CLHB had identified one new SWMU at the Bartow facility, the North Container Storage Building (NCSB). This new SWMU is located on the north side of the facility west of the Maintenance Building. The NCSB consists of a staging area, dock loading and unloading area where samples are obtained from incoming drums, and a storage area where drums are stacked on pallets. The staging and storage areas are divided into 17 holding cells for waste. This new SMWU also has a containment area for reactive wastes and containment area for polychlorinated biphenol (PCB) wastes. The concrete floor and cell curbs provide 10-percent secondary containment for the hazardous waste and/or 100% of the largest container stored in each cell.

The permitted container storage area is designed to store a maximum volume of 136,400 gallons (equivalent to 2,480, 55-gallon drums).

Hazardous waste to be stored in the NCSB is unloaded at the dock and placed in the staging area for sampling, labeling, bar coding, and other requested QC functions. After identification, the hazardous waste materials are classified and moved into the appropriate storage cell.

This new SWMU will be covered under the facility RCRA permit and CLHB believes no further action is necessary.

18.5.1 CLHB has identified two new SMU's:

- Petroleum Wastewater tanks
- Rolloff storage in the perimeter road

18.5.2 Petroleum Wastewater Tanks

The two petroleum wastewater tanks are constructed of carbon steel, have a capacity of 5800 gallons with an eight (8) foot diameter and fifteen (15) feet six (6) inch height. The two tanks are in a reinforced concrete containment berm with containment volume of 7200 gallons. The concrete is sealed with an epoxy coating. The tanks are only used for non-RCRA petroleum materials.

Currently this SMU requires no further action.

18.5.3 Rolloff Storage

Up to four (4) bulk storage containers (rolloffs, intermodals, etc.) may be stored on the perimeter road. These containers will be kept covered while not in use.

The perimeter road is constructed of reinforced concrete and is diked on all sides, creating containment of 26,098 gallons. The road drains to a blind sump capable of containing 300 gallons.

Currently this SMU requires no further action.

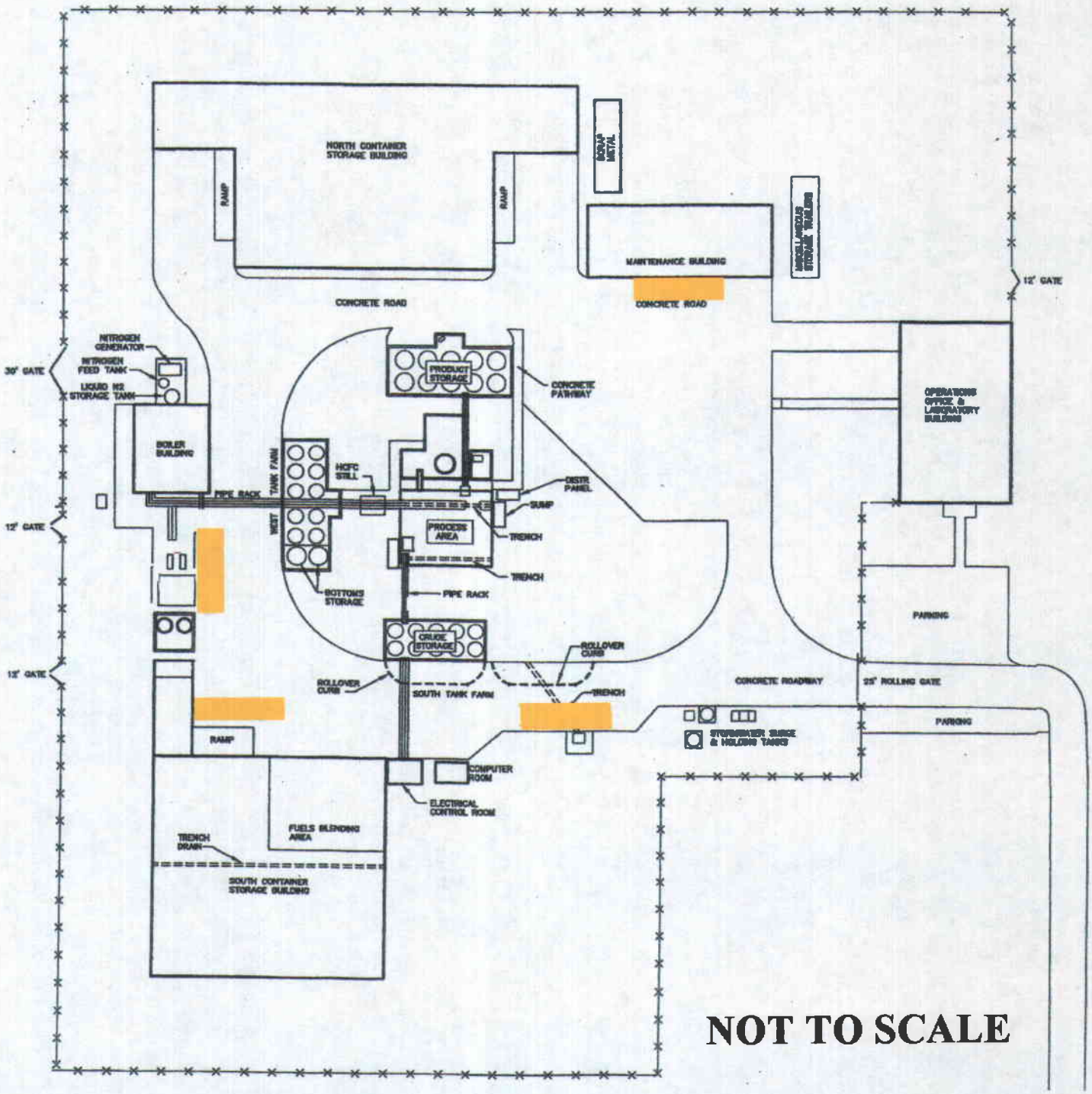


FIGURE 18.5.3
DESIGNATED ROLLOFF AREAS

REFERENCE DRAWINGS	REV.	DESCRIPTION
	A	FOR APPROVAL

SECTION R

AIR EMISSION STANDARDS FOR PROCESS VENTS

13.1 Applicability

CLHB has five recycling units at the facility, they are; a distillation column (DC), a thin film evaporator (TFE), a vacuum still (VS), a solvent-solvent wash tank (SSWT) and a hydrochlorofluorocarbon still (HCFC still). These units are exempt from the RCRA regulations except for the process vents (covered by 40 CFR Part 264, Subpart AA) and the specific pieces of equipment covered by 40 CFR Part 264, Subpart BB. The Subpart BB requirements are referenced in Chapter 14 of this application.

All hazardous waste processed through the CLHB recycling equipment is expected to have organic concentrations in excess of 10 ppmw.

13.2 Compliance

Compliance with the requirements of 40 CFR Part 264, Subpart AA will be achieved by maintaining the following:

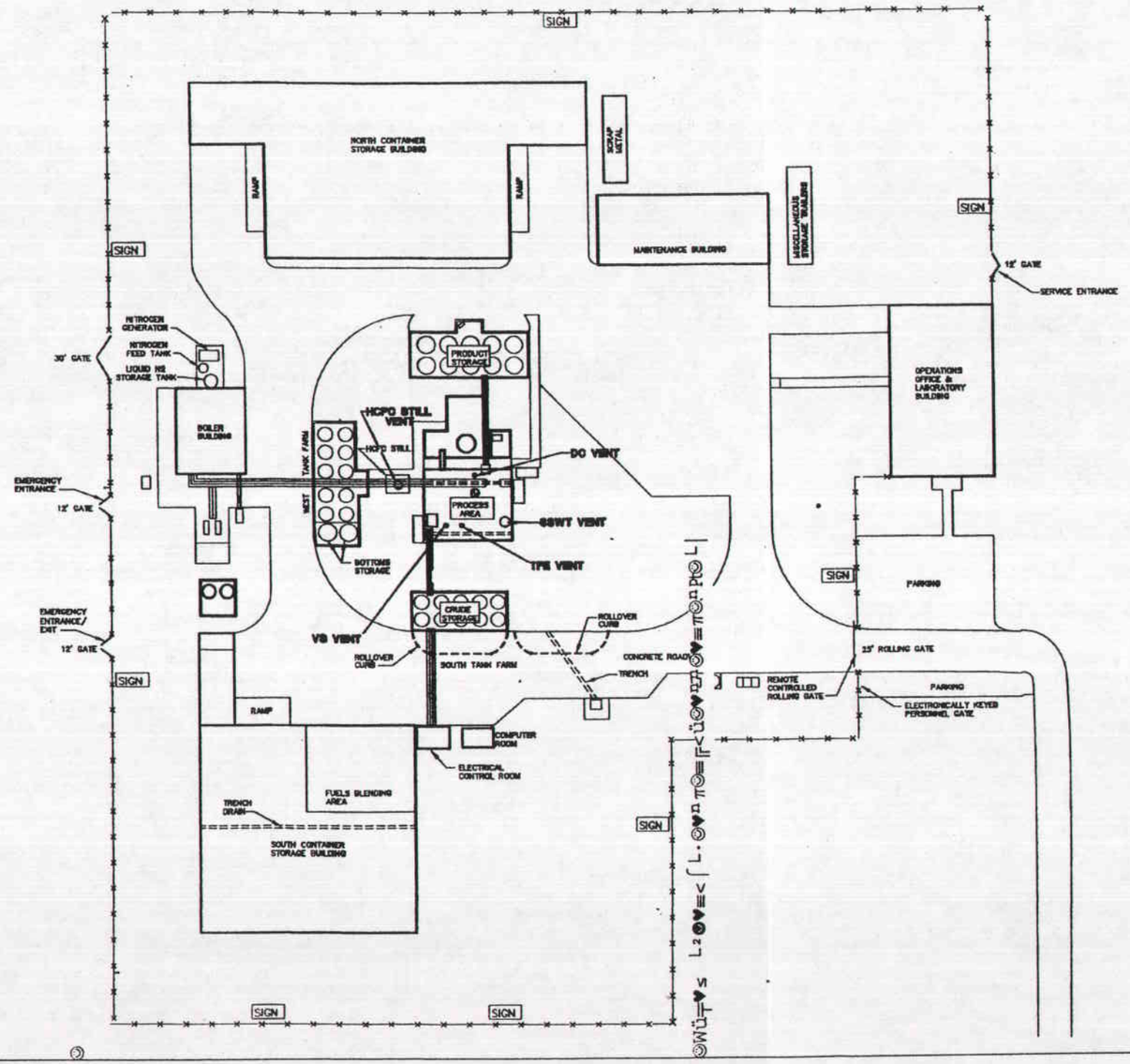
1. Identification and approximate location for each process vent on a Plot Plan. Shown on Figure 13.1.

2. Records showing the operating hours, annual throughput for each unit, and an estimate of total annual emissions. (example form shown in Figure 13.2)

Calculations of air emissions from current operations have shown the totals to be below the maximum allowable limits of 3.0 lbs/hr and 3.1 tons/year. Additionally, the most recent stack test for the DC, TFE & VS also show the emissions from these units to be well below the maximum allowable limits (the SSWT and HCFC still were not tested). Should operating conditions change such that the emissions exceed the maximum allowable limits of 3 lbs/hr and 3.1 tons/year, CLHB will implement control measures as described in 40 CFR 264.1032.

The HCFC still actually does not have an emissions vent open to the atmosphere. It is equipped with a closed vent system subject to 40 CFR Part 264.1033(k).

LIST OF FIGURES



LEGEND

- = AIR EMISSIONS STACK
- = CHAINLINK FENCE
- = PIPE RACK
- = ROOF LINE
- = CONTAINMENT AREA
- = TRENCH
- = ROLLOVER CURB
- SIGN = "DANGER–UNAUTHORIZED PERSONNEL KEEP OUT" SIGNS

N

0 APPROXIMATE SCALE 70

FEET

GENERAL NOTES

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/08	MJG

CleanHarbors BARTOW

TITLE Figure 13.1

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
LOCATIONS OF PROCESS VENTS

DRAWN	CHECKED	SCALE	DATE
JKM	MJG	NTS	01/31/08

DRAWING NO. Figure 13.1

REV. A

FIGURE 13.2 SUBPART AA TRACKING LOG

Date	Unit	Hours Run	Material Processed	Waste in (gal)	Product Out (gal)	Emissions (lbs)	Emissions (lbs/hr)	Emissions (tons)

Annual throughput (gal): DC _____; TFE _____; VS _____;

SSWT _____; HCFC Still

SECTION S

AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

14.1 Applicability

All hazardous wastes processed through facility recycling equipment are expected to have organic concentrations in excess of 10%.

14.2 Compliance

Compliance with the requirements of 40 CFR 264, Subpart BB will be attained by the measures described in this chapter. This section of the regulations requires facilities to find and remedy leaks in certain pieces of equipment. A leak is detected when: there are indications of liquids dripping form the pump seals or valves, or an instrument reading of 10,000 ppm or greater is measured. For pressure relief devices, an instrument reading of 500 ppm or greater defines a leak.

14.3 Pumps in Light Liquid Service

14.3.1 Inspections

Each pump will be inspected visually each calendar week for indications of liquids dripping from the pump seal, and monitored monthly to detect leaks, by the method(s) specified in section 14.10.

14.3.2 Leak Repair

If a leak is detected, it will be repaired as soon as practical, but not later than 15 calendar days after it is detected, unless repairs must be delayed until the unit is shut down, or the pump is isolated from the unit and does not contain or contact hazardous waste.

A first attempt at repair will be made within 5 calendar days after a leak is detected.

14.3.3 No Detectable Emissions

A pump may be designated for no detectable emissions if the following requirements are met:

1. It has no externally actuated shaft penetrating the pump housing.

2. It operates with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in 264.1063(c).

3. It is tested initially upon designation, annually, and as requested by the Director.

14.4 Compressors

14.4.1 General

Each compressor will be equipped with a seal system that includes a barrier fluid system that prevents leakage of total organic emissions to the atmosphere unless it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device or is designated for no detectable emissions.

The seal system will:

a. Be operated with the barrier fluid at a higher operating pressure than the compressor stuffing box pressure or
b. Be equipped with a barrier fluid system that is connected to a control device or
c. Be equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.
d. Have a sensor to detect failure of the seal or barrier fluid systems.
e. Each sensor required will be checked daily or be equipped with an audible alarm, which is checked monthly.

14.4.2 Leak Repair

When a leak is detected, it will be repaired as soon as practical, but not later than 15 calendar days after it is detected, unless repairs must be delayed until the unit is shut down, or the compressor is isolated from the unit and does not contain or contact hazardous waste.

A first attempt at repair will be made within 5 calendar days after a leak is detected.

14.4.3 No Detectable Emissions

A compressor may be designated for no detectable emissions if the following requirements are met:

1. It operates with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in 264.1063(c).

2. It is tested initially upon designation, annually, and as requested by the Director.

14.5 Pressure Relief Devices in Gas/Vapor Service

Except during pressure releases, each pressure relief device in gas/vapor service will be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 264.1063(c).

After each pressure release, the pressure relief device will be returned to a condition of no detectable emissions as soon as practical, but no later than 5 calendar days after each pressure release unless repairs must be delayed until the unit is shut down, or the device is isolated from the unit and does not contain or contact hazardous waste.

No later than 5 calendar days after a pressure release, the pressure relief device will be monitored to confirm the condition of no detectable emissions.

14.6 Sampling Connecting Systems

Each sampling connecting system will be equipped with a closed-purge system or closed-vent system. Each closed-purge system or closed-vent system will:

- Return the purged waste stream directly to the process line with no detectable emissions to the atmosphere, or
- Collect and recycle the purged waste stream with no detectable emissions to atmosphere, or
- Be designed and operated to capture and transport all the purged waste stream to a control device that complies with the requirements of 264.1060.

In situ (non-extractive or in-line) sampling systems are exempt from the requirements of this section.

14.7 Open-ended Valves or Lines

Each open-ended valve or line will be equipped with a cap, blind flange, plug, or second valve. The cap, blind flange, plug, or second valve will seal the open end at all times except during use. Each open-ended valve or line equipped with a second valve

will be operated in a manner such that the valve on the waste stream end is closed before the second valve is closed.

In double block and bleed systems, the bleed valve or line may remain open during venting of the line between block valves, but will be equipped with a cap, plug, or second valve at all other times.

14.8 Valves in Gas/Vapor Service or in Light Liquid Service

14.8.1 Leak Detection

Each valve in gas/vapor service or light liquid service will be monitored monthly to detect leaks by the method(s) specified in section 14.10, except that:

- Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter until a leak is detected.
- If a leak is detected, the valve will be monitored monthly until a leak is not detected for two successive months.

An alternative monitoring method described below may be chosen:

- The facility may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than two percent of the valves to leak, by: (264.1061).

  1. Notifying the Director of the decision to follow this standard and
  2. Monitoring all valves subject to this requirement within 1 week by the method(s) specified in section 14.10.

  The leak percentage will be determined by dividing the number of valves for which leaks are detected, by the total numbers of valves subject to this section within the hazardous waste unit. If it is decided to no longer use this method, the facility will notify the Director in writing.

- The facility may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows monitoring periods to be skipped by: [264.1062]

  1. Notifying the Director of the decision to follow this

standard.

2. After two consecutive quarterly leak detection periods with less than or equal to 2 percent of the valves leaking, one quarterly leak detection period may be skipped.
3. After five consecutive quarterly leak detection periods with less than or equal to 2 percent of the valves leaking, three quarterly leak detection periods may be skipped.
4. If greater than 2 percent of the valves are leaking, the facility will return to monthly monitoring, but may again elect to use this method after meeting the appropriate requirements.

14.8.2 Leak Repair

When a leak is detected, it will be repaired as soon as practical, but not later than 15 calendar days after it is detected, unless:

- Repairs must be delayed until the unit is shut down; the valve is isolated from the unit and does not contain or contact hazardous waste;
- It is determined that emissions of purged material resulting from immediate repair are greater than emissions likely to result from delay of the repair;
- When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device, or if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before supplies were depleted.

A first attempt at repair will be made no later than 5 calendar days after a leak is detected.

14.8.3 No Detectable Emissions

A valve may be designated for no detectable emissions if the following requirements are met:

1. It has no external actuating mechanism in contact with hazardous waste.
2. It is operated with emissions less than 500 ppm above background as determined by the method(s) specified in section 14.10.
3. It is tested initially upon designation, annually, and as requested by the Director.

14.8.4 Unsafe-To-Monitor

A valve may be designated as unsafe-to-monitor if:

1. It is determined to be unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of attempting to conduct monitoring as specified in 14.8.1.

2. The facility adheres to a written plan that requires monitoring of the valve as frequently as practical during safe-to-monitor times.

14.8.5 Difficult-To-Monitor

A valve may be designated as difficult-to-monitor if:

1. It is determined that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.
2. The facility follows a written plan that requires monitoring of the valve at least once per calendar year.

14.9 Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service and Flanges and Other Connectors.

Each pump or valve in heavy liquid service, each pressure relief device in light or heavy liquid services, and each flange or other connector will be monitored within 5 days by the method specified in 264.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

When a leak is detected, it will be repaired as soon as practical, but not later than 15 calendar days after it is detected, unless repairs must be delayed until the unit is shut down, or it is isolated from the unit and does not contain or contact hazardous waste.

A first attempt at repair will be made no later than 5 calendar days after a leak is detected.

14.10 Test Methods and Procedures

Monitoring procedures will comply with Reference Method 21 in 40 CFR Part 60, and detection instruments will meet the performance criteria of Reference Method 21. Monitoring instruments will be

calibrated before use on each day of use, using calibration gases of air with less than 10 ppm of hydrocarbon, and methane or n-hexane in air at a concentration of approximately (but less than) 10,000 ppm.

An alternative screening procedure (40 CFR 60, Appendix A, Reference Method 21,4.3.3) based on the formation of bubbles in a soap solution that is sprayed on a potential leak source may be used for those sources which do not have continuously moving parts, which 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, and that do not exhibit evidence of liquid leakage. A soap solution will be sprayed over potential leak sources. If no bubbles are formed, the source will be presumed to have no detectable leaks or emissions, as applicable. If any bubbles are observed, the instrument monitoring techniques will be used to determine if a leak exists, or if the source has detectable emissions, as applicable.

14.11 Recordkeeping

The facility operating record will identify each piece of equipment subject to this section by the hazardous waste unit it is associated with, the approximate location of the unit on a facility plot plan (see Figure 14.1), the equipment ID number, the type of equipment, the hazardous waste physical state at the equipment, and the method of compliance with Subpart BB of Part 264 (example, Figure 14.2). It is assumed that all hazardous waste streams at this facility, which contact these pieces of equipment, contain greater than 10% total organics.

When a leak is detected, a weatherproof tag will be attached to the equipment and marked with the equipment ID number, the date evidence of a potential leak was found, and the date the leak was detected. The tag will be removed only after repair has been successfully completed, except that a tag on a valve will be removed only after it has been monitored for two successive months with no leak being detected.

When a leak is detected the piece of equipment will be noted on a leak repair log (example: Figure 14.3). Also, an inspection log will be maintained as part of the facility operating record (example weekly and monthly inspection logs are located in Chapter 2, Section A, Appendix F). See examples of the logs which contain the following information; Figures 14.4, 14.5, 14.6, and 14.7.

1. Monitoring instrument identification and operator identification
2. Equipment identification number
3. The date evidence of a potential leak was found
4. The date the leak was detected
5. The date of each repair
6. Repair methods used in each repair attempt
7. "Above 10,000" if the maximum instrument reading after each repair attempt is equal to or greater than 10,000 ppm
8. "Repair delayed" and the reason for delay if a leak is not repaired within 15 calendar days after discovery
9. The signature of the person whose decision it was that repair could not be effected without a hazardous waste management unit shutdown, if applicable
10. The expected date of successful repair of the leak if not repaired within 15 calendar days
11. The date of successful repair of the leak

Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required by Subpart BB, if any, will be recorded and kept up-to-date in the facility operating record.

The Director will specify the appropriate recordkeeping requirements for control devices other than thermal vapor incinerators, catalytic vapor incinerators, flares, boilers, process heaters, condensers, or carbon absorption systems.

The following information pertaining to all equipment subject to the requirements of Subpart BB will be recorded in the facility operating record:

1. A list of equipment identification numbers (except welded fittings).
2. A list of identification numbers for equipment that is designated for no detectable emissions, with the designation signed by the facility manager.
3. A list of identification numbers for pressure relief devices.
4. The dates of each compliance test, the background level measured, and the maximum instrument reading recorded.
5. A list of identification numbers for equipment in vacuum service.
6. A list of identification numbers for valves designated as difficult to monitor, an explanation for each stating the reason for the designation, and the planned

schedule for monitoring each.

7. For valves designated for skip-period leak detection and repair, a schedule of monitoring and the percent of valves found leaking.
8. For pumps and compressors equipped with barrier fluid system sensors, criteria used to indicate failure of the fluid system or sensor, an explanation of system design criteria, and any changes to these criteria and the reasons for the changes.
9. For exemptions claimed, an up-to-date analysis and the supporting information and data used to determine that the equipment is not subject to the requirements of Subpart BB.

Records of equipment leak information and operating information will be kept a minimum of 3 years.

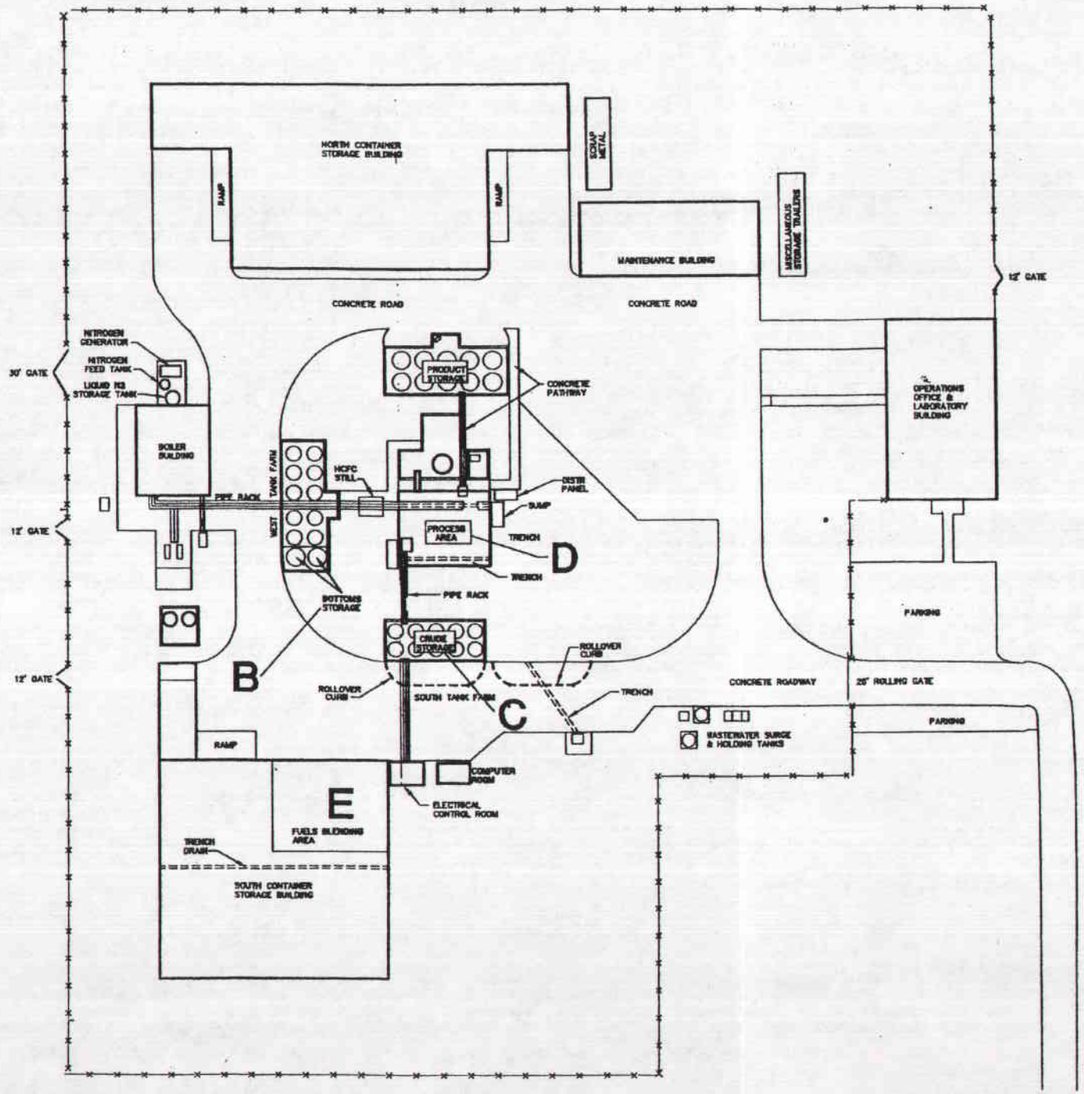
14.12 Reporting

If leaks from valves, pumps, and compressors are repaired as described in this chapter, and control devices do not exceed or operate outside of design specifications for more than 24 hours, a report to the Director is not required.

If required, a semiannual report will be sent to the Director, by the dates specified by the Director, which will include the following information:

1. The EPA ID number, name, and address of the facility.
2. For each month during the reporting period, the ID number of each valve, pump, or compressor for which a leak was not repaired as required by Subpart BB.
3. Dates of hazardous waste unit shutdowns that occurred within the reporting period.
4. For each month during the reporting period, the dates when control devices exceeded or operated outside of the design specifications and were not corrected within 24 hours, the duration and cause of each exceedance, and any corrective measures taken.

LIST OF FIGURES



IDENTIFICATION OF EXISTING HAZARDOUS WASTE UNI

MARK	DESCRIPTION
B	BOTTOMS STORAGE TANKS
C	CRUDE STORAGE TANKS
D	SOLVENT RECYCLING PROCESS AREA
E	FUEL BLENDING AREA

NOTE: UNIT "A" (AS DESIGNATED BY SKBI) IS THE PRODUCT STORAGE TANK FARM WHICH IS NOT A HAZARDOUS WASTE UNIT.

LEGEND

- = AIR EMISSIONS STACK
- = CHAINLINK FENCE
- = PIPE RACK
- = ROOF LINE
- = CONTAINMENT AREA
- = TRENCH
- = ROLLOVER CURB

N

0 APPROXIMATE SCALE 70

FEET

GENERAL NOTES

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	MJG

CleanHarbors BARTOW

DRAWN	CHECKED	SCALE	DATE
JKM	MJG	NTS	01/31/06

TITLE Figure 14.1

CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
LOCATIONS OF HAZARDOUS WASTE UNITS

DRAWING NO. Figure 14.1 REV. A

FIGURE 14.2 - EQUIPMENT IDENTIFICATION LOG

Equip. I.D. #	Equip. Class	Type	Size	Process Area	Location	Service Type	Organics Concn.	Comply Meth.	Inspection Freq.	Monitoring Frequency

FIGURE 14.3 - EQUIPMENT LEAK REPAIR LOG

Equipment I.D. #	Date Leak Detected	Date Repair 1st Attempt	Reason For Delay	Expected Date of Completion	Date Repair Completed	Repair Method	Maintenance Technician

. No delay
. Adjusted
. Rebuilt
. Replaced
. Temporarily removed from service

F. Permanently removed from Service
G. Parts out of stock
H. Shortage of manpower
I. Equipment in use
J. Other (specify)

quipment leak detection program: When a leak is detected, a first attempt at repair
ust be made within 5 days. Repair of a leak must be completed within 15 days.

FIGURE 14.4 - DELAY OF REPAIRS LOG

Equipment I.D. #	Date Leak Detected	Date Repair 1st Attempt	Reason For Delay	Signature	Expected Completion Date	Date Repair Completed

FIGURE 14.5 - DIFFICULT TO MONITOR LOG

Equipment I.D. #	Reason for Designation	Monitoring ppm	Background ppm	Date	Inspector	Schedule

FIGURE 14.6 - UNSAFE TO MONITOR LOG

Equipment I.D. #	Reason for Designation	Monitoring ppm	Background ppm	Date	Inspector	Schedule

FIGURE 14.7 EQUIPMENT WITH NO DETECTABLE EMISSIONS

acility Manager's Signature

Equipment I.D. #	Reason for Designation	Monitoring ppm	Background ppm	Date	Inspector	Schedule

SECTION V

AIR EMISSIONS STANDARDS (SUBPART CC)

15.1 Applicability

CLHB operations include tanks that treat and store hazardous waste, and storage operations that include waste in containers larger than 26 gallons. Therefore, the air emissions control requirements of 40 CFR Part 264, Subpart CC for tanks and containers apply to the facility.

15.2 General Standards

The vast majority of the waste managed by CLHB will have a volatile organic (VO) concentration of greater than 500 ppmw. In most cases, if the VO concentration is less than 500 ppmw it will be managed as if it does have a VO concentration of greater than 500 ppmw.

CLHB does not process waste in a manner in which a reduction of the VO concentration occurs. However, if waste generated by CLHB or waste received from customers has a VO concentration below 500 ppmw, CLHB may choose to manage it as such. The VO concentration will be determined using the procedures outlined in 40 CFR 264.1082(2) & 264.1083.

15.3 Tanks

CLHB has 14 hazardous waste management tanks (12 storage and 2 treatment tanks). The tanks at CLHB are of the fixed roof design. The 12 storage tanks are equipped with a vapor balance system with a common header. The header system is equipped with a conservation vent that serves all 12 tanks. Covers, vents, hatches, etc. will be kept closed and sealed except when necessary to add or remove waste from the tanks or sample tank contents, as described in 40 CFR 264.1084(c)(3).

Waste added to or removed from the 12 storage tanks will be done through a system of closed piping. Some wastes added to the two treatment tanks (T-112 and T-114) will be done by pouring or dumping from small containers such as 55-gallon drums and some waste will be added through piping. Wastes removed from the two treatment tanks will be done through the piping system. The only exceptions to waste being removed from the tanks through the piping, is the removal of waste from cleaning activities. Each tank is equipped with a pressure relief device for safety, which vents to the atmosphere in the event of a pressure build-up. The

hatch openings on the fuels blend tanks (T-112 and T-114) are equipped with a seal device on the lids to ensure proper seal when they are required to be in the closed position (see Figures 15.1-A through 15.1-E).

15.4 Containers

CLHB does not perform stabilization in containers, therefore level 3 controls are not required at CLHB. CLHB manages waste in three "Subpart CC categories".

One is in containers that have a capacity of less than 26 gallons. These containers are exempt from Subpart CC.

The second category is containers with a volume of greater than 26 gallons but less than 121 gallons and containers greater than 121 gallons that are not in light material service. These containers require level 1 controls. For these containers CLHB will comply with the level 1 controls and requirements listed in 40 CFR 264.1086(c).

The third category is containers of a capacity greater than 121 gallons but are in light material service. "In light material service" is defined in 40 CFR 265.1081 as material that is a liquid and has a vapor pressure of greater than 0.3 KPa. For these containers, CLHB will comply with the level 2 requirements listed in 40 CFR 264.1086(d).

15.5 Inspection and Monitoring Requirements

In some cases (i.e., tankers which have not been leak tested within 12 months, roll-offs, non-DOT approved containers, etc.), CLHB is required to monitor containers for leaks. To monitor them for detectable emissions, CLHB will use Method 21 of Appendix A of 40 CFR Part 60. Containers will be inspected for leaks and defective covers within 24 hours of being received at the facility.

If a defect is found in a cover or closure device of a container requiring level 1 or level 2 controls, the first attempt at repair will be made within 24 hours of discovery and the repair will be completed as soon as possible but no later that 5 calendar days after detection. If the defect cannot be repaired within 5 calendar days, the material will be transferred to another container. The defective container will not be used to manage hazardous waste until the defect has been repaired.

As required by 40 CFR 264.1084(c)(4), CLHB will inspect the tanks

annually. See an example inspection form in Figure 15.2.

When a defect is observed on a tank, it will be repaired as soon as practicable, but not later than 45 calendar days after it is detected, unless repairs must be delayed until the unit is shut down, and the tank is emptied.

A first attempt at repair will be made within 5 calendar days after a leak is detected.

For any tanks that are unsafe to monitor, a written plan will be developed and followed as specified in 40 CFR 264.1084(k).

15.7 Recordkeeping Requirements

The following records will be maintained in the operating record:

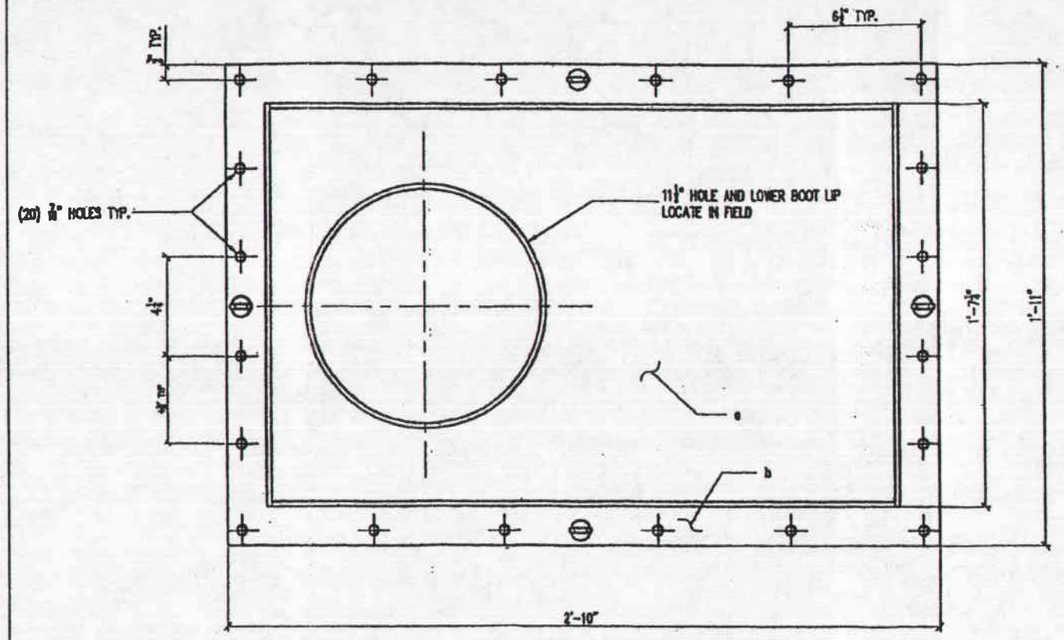
- Vapor pressure of materials stored in the tanks (the analysis CLHB uses documents the materials stored in the tanks and the vapor pressures are published for these materials
- Records of any containers tested in accordance with Method 27 of 40 CFR Part 60, Appendix A;
- Monitoring records for detectable organic emissions;
- Records of each detected leak and the dates the repairs were attempted and completed;
- Inspection records
- Records of unsafe to monitor and difficult to monitor designations

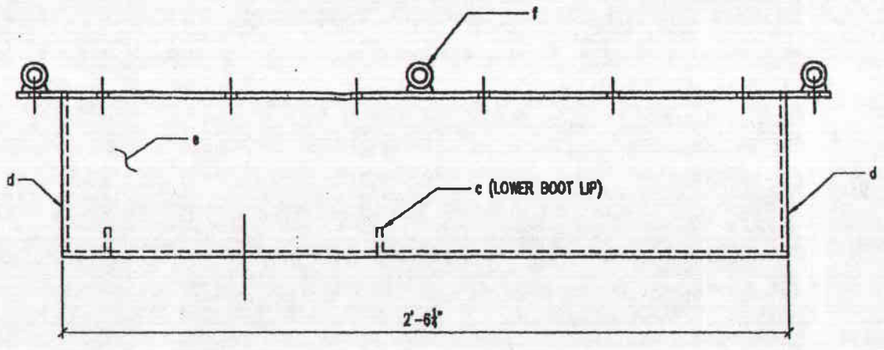
The records will be kept for at least three years.

15.8 Reporting Requirements

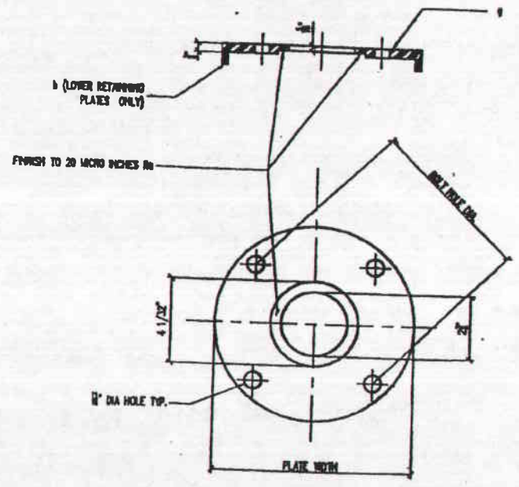
Since all 14 of CLHB's hazardous waste tanks use level 1 controls, the reporting requirements of 40 CFR 264.1090 are not applicable to CLHB.

LIST OF FIGURES





SHAFT-WAY COVER
(2 REQUIRED)



RETAINING PLATE DIMENSIONS			
QTY	DESCRIPTION	PLATE WIDTH	BOLT HOLE DIA.
1	UPPER RETAINING PLATE (TANK T-112)	9" DIA.	7 19/32" DIA.
1	LOWER RETAINING PLATE (TANK T-112)	12" DIA.	7 19/32" DIA.
1	UPPER RETAINING PLATE (TANK T-114)	9" DIA.	6 ⅞" DIA.
1	LOWER RETAINING PLATE (TANK T-114)	12" DIA.	6 ⅞" DIA.

NOTES:
1. TIR TO CUT PLATES TO CIR SHOWN.
2. TIR TO WELD BOOT LIP TO LOWER RETAINER PLATES PRIOR TO MACHINING.
3. MACHINE SHOP TO MACHINE ALL OTHER DIMENSIONS.

SEAL RETAINING
PLATES

GENERAL NOTES

REFERENCE DRAWINGS

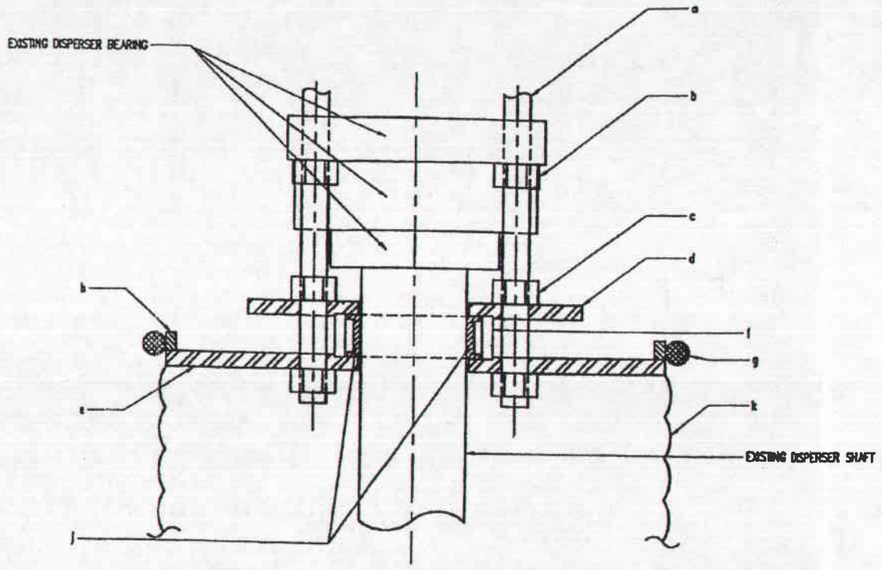
REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/08	MJG

CleanHarbors BARTOW

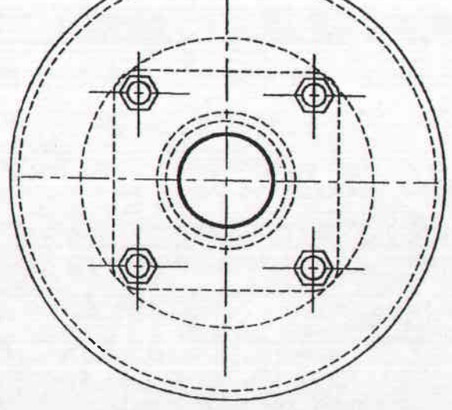
Figure 15.1.A

TITLE
CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLEND TANKS HATCH SEAL DESIGN
SHAFT-WAY AND SEAL RETAINER PLATES

DRAWN	CHECKED	SCALE	DATE	DRAWING NO.	REV.
JKM	MJG	NTS	01/31/08	Figure 15.1.A	A

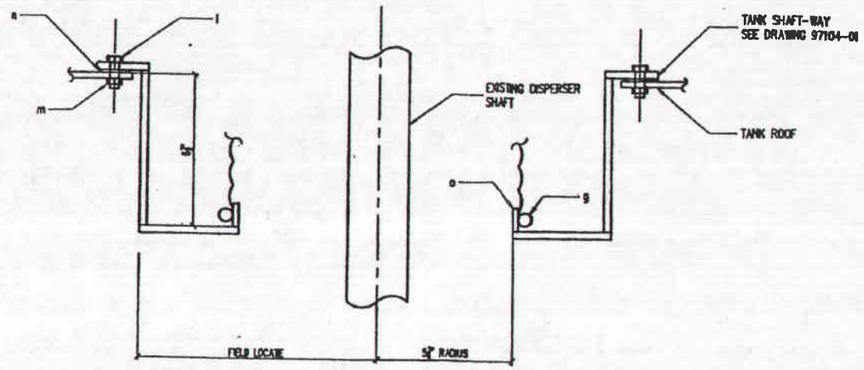


PLAN VIEW



BOTTOM VIEW FOR REFERENCE

SHAFT SEAL DETAIL



TANK ROOF
SHAFTWAY

GENERAL NOTES

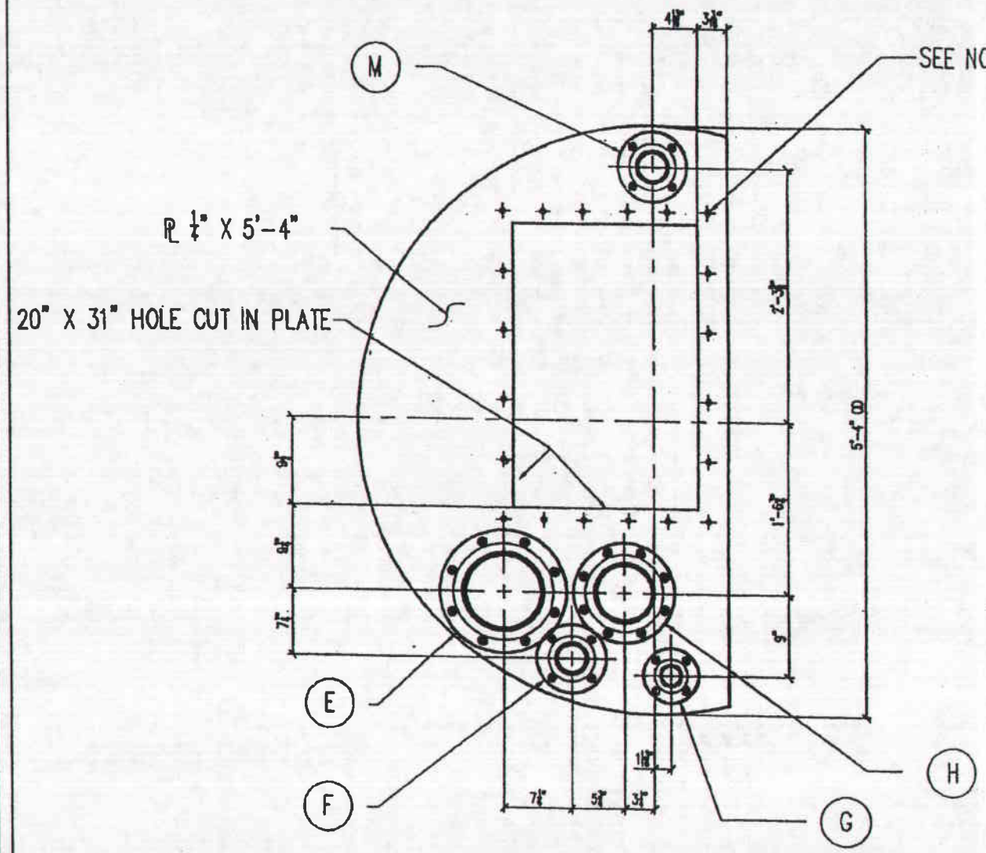
REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	MJG

CleanHarbors BARTOW

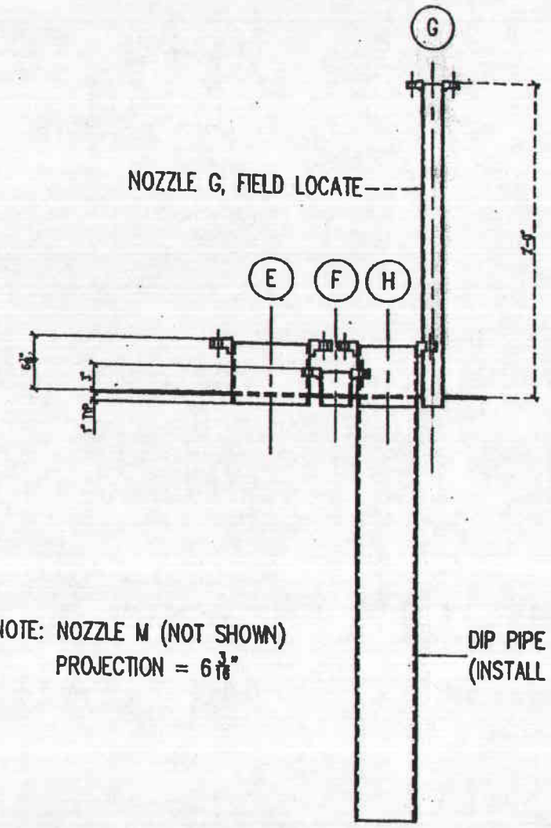
TITLE: Figure 15.1.B
CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLEND TANKS HATCH SEAL DESIGN
SHAFT SEAL ASSEMBLY DETAILS

DRAWN	CHECKED	SCALE	DATE	DRAWING NO.	REV.
JKM	MJG	NTS	01/31/06	Figure 15.1.B	A



NOTE: $\frac{7}{16}$" HOLES CUT THROUGH PLATE
SEE D-97104-01 FOR SPACING.
WELD $\frac{3}{8}$" HEX NUTS UNDER TOP

PLAN VIEW



NOTE: NOZZLE M (NOT SHOWN)
PROJECTION = 6 $\frac{3}{16}$"

ELEVATION VIEW

GENERAL NOTES

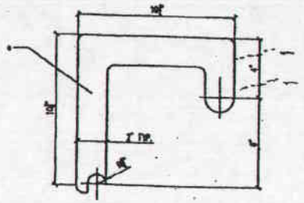
REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPD. BY
A	FOR APPROVAL	JKM	01/31/06	MJG

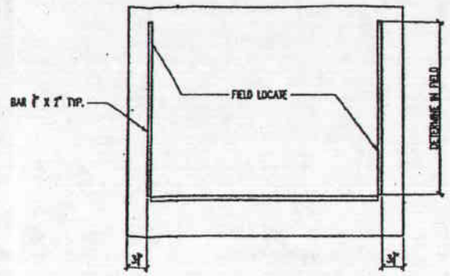
CleanHarbors BARTOW

TITLE: Figure 15.1.C
CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLEND TANKS HATCH SEAL DESIGN
TANK TOP AND NOZZLE ARRANGEMENT

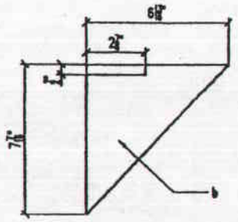
DRAWN	CHECKED	SCALE	DATE	DRAWING NO.	REV.
JKM	MJG	NTS	01/31/06	Figure 15.1.C	A



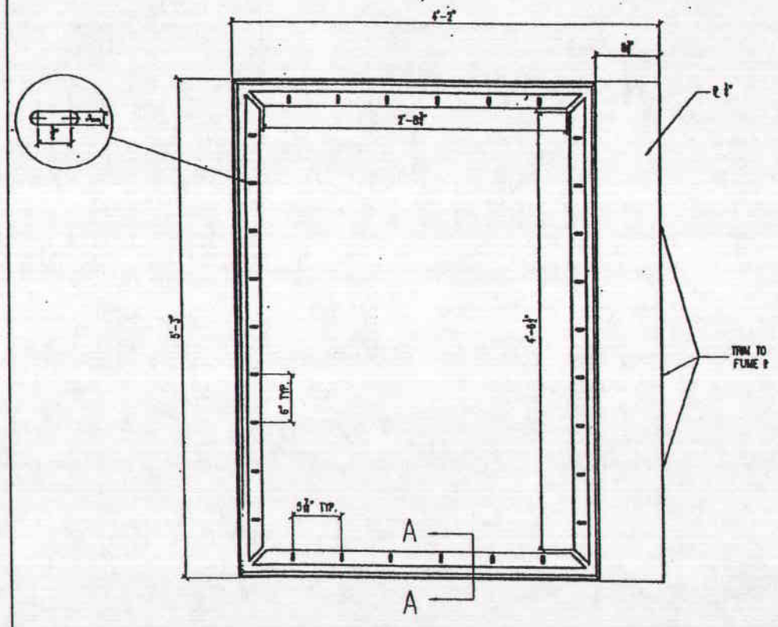
FUME CLAMP ARMS



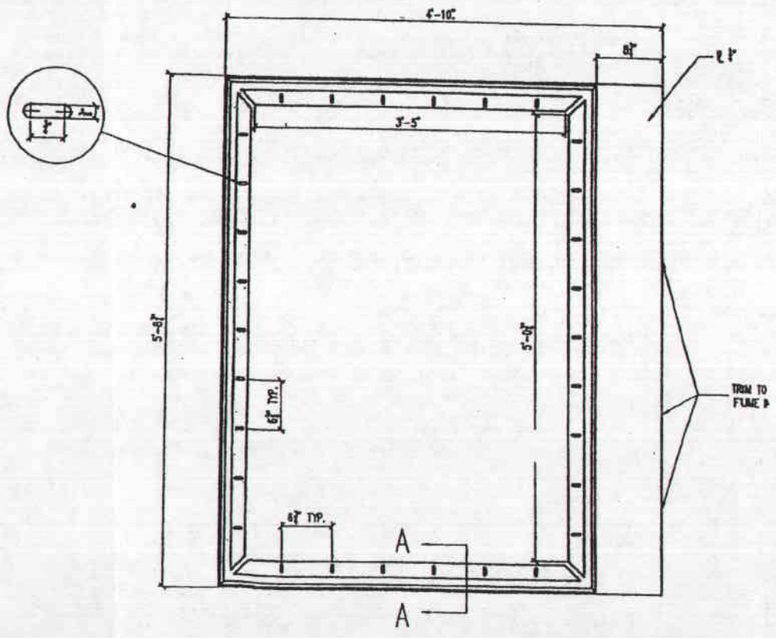
FUME LID REINFORCEMENT DETAIL



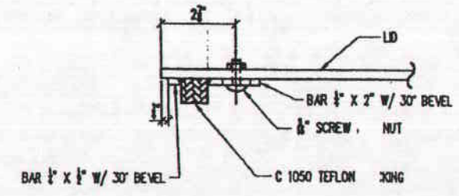
FUME BEARING GUSSET



FUME LID (T-114)



FUME LID (T-112)



SECTION A-A

GENERAL NOTES

REFERENCE DRAWINGS

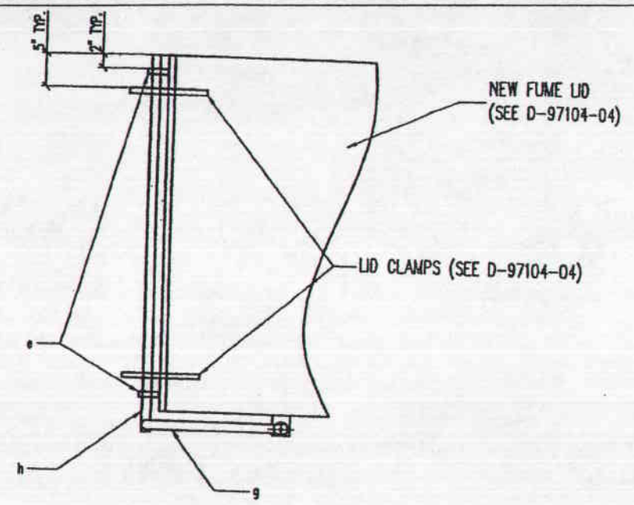
REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	MJG

CleanHarbors BARTOW

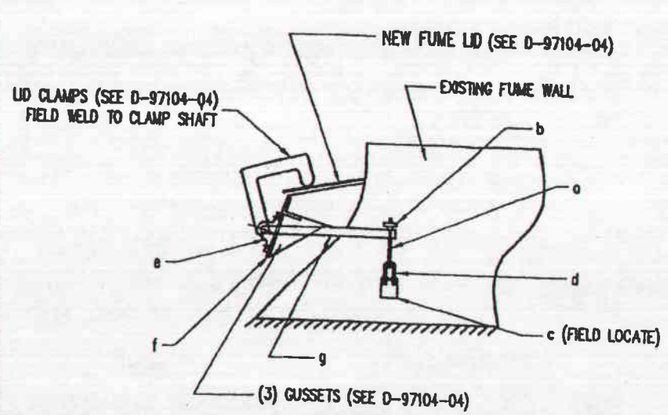
DRAWN	CHECKED	SCALE	DATE
JKM	MJG	NTS	01/31/06

TITLE: Figure 15.1.D
CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLEND TANKS HATCH SEAL DESIGN
FUME LID FABRICATION DETAILS

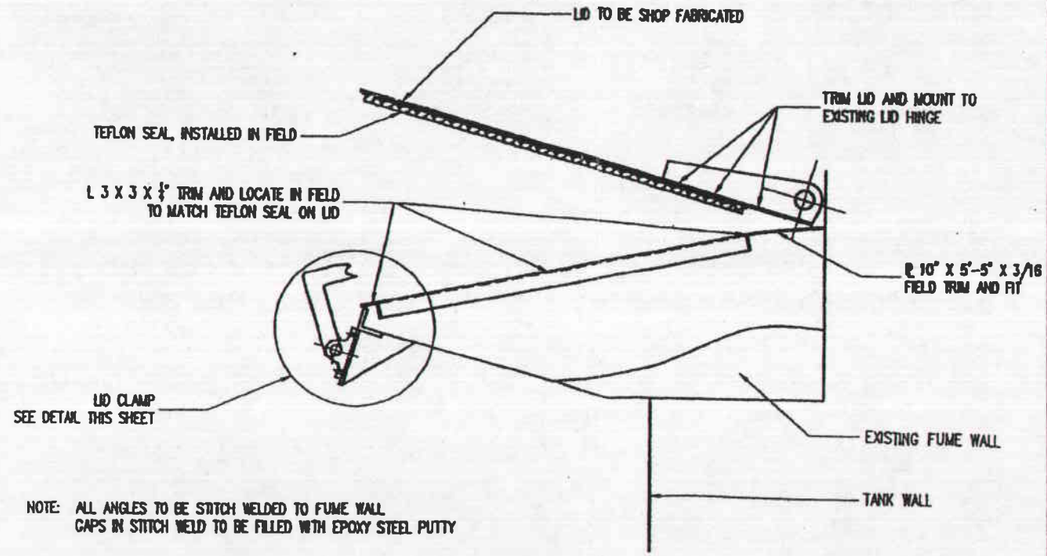
DRAWING NO.: Figure 15.1.D
REV.: A



LID CLAMP
TOP VIEW



LID CLAMP
SIDE VIEW



NOTE: ALL ANGLES TO BE STITCH WELDED TO FUME WALL
CAPS IN STITCH WELD TO BE FILLED WITH EPOXY STEEL PUTTY

FUME LID

GENERAL NOTES

REFERENCE DRAWINGS

REV.	DESCRIPTION	DRAWN BY	DATE	APPR. BY
A	FOR APPROVAL	JKM	01/31/06	MJC

CleanHarbors BARTOW

TITLE: Figure 15.1.E
CLEAN HARBORS BARTOW, INC.
BARTOW FACILITY
FUEL BLEND TANKS HATCH SEAL DESIGN
FUME LID FIELD ASSEMBLY DETAILS

DRAWN	CHECKED	SCALE	DATE	DRAWING NO.	REV.
JKM	MJC	NTS	01/31/06	Figure 15.1.E	A

FIGURE 15.2 SUBPART CC ANNUAL INSPECTION SHEET

Year

Date:			
Time:			
Inspector's Initials:			Comments
Tank Number	Acceptable	Not Acceptable Legend #	
T-101			
T-102			
T-103			
T-104			
T-105			
T-106			
T-107			
T-108			
T-109			
T-110			
T-112			
T-114			
R-202			
R-203			

Legend

H = hole G = gap
T = tear S = Split
VC = Visible Crack
O = Other
_ = No Problem

CHAPTER THREE
TRANSFER FACILITY

17.1 Applicability

CLHB operates a Transfer Facility as described in Chapter 62-730.171 of the Florida Administrative Code (FAC). Containers of hazardous wastes are stored at the facility for 10 days or less but more than 24 hours.

17.2 General Facility Standards

The general facility standards specified in Subpart B of 40 CFR Part 265 are discussed below:

- The facility EPA I.D. Number is FLD 980 729 610
- The required notices are not applicable to CLHB for waste in the Transfer Facility portion of the plant. This is because the waste is neither manifested to CLHB or from CLHB therefore, these notices and arrangements will be made by the generator and/or the designated TSDF.
- CLHB does not perform waste analysis on the waste in the Transfer Facility because it is always manifested from a third party generator to another third party TSDF and <u>not</u> to or from CLHB.
- The security measures spelled out in Chapter Two Appendix F will be implemented for the Transfer Facility.
- Inspection of the containers in the transfer facility will be performed weekly. An example checklist is provided in Chapter Two Appendix F.
- The personnel training measures spelled out in Chapter Two Appendix F will give adequate training to employees to properly manage containers of waste in the Transfer Facility.
- The general requirements for ignitable, reactive or incompatible wastes are spelled out in Chapter Two Appendix F.
- The location standards, which are applicable to the facility, are listed in Chapter Two Appendix F.

17.3 Preparedness and Prevention

The same procedures specified in the Preparedness and Prevention Plan of Chapter Two Appendix F, apply to the Transfer Facility.

17.4 Contingency Plan and Emergency Procedures

The contingency and emergency procedures which CLHB will use, in the event they are needed, are detailed in Chapter Two Appendix F.

17.5 Management of Containers

All transfer waste at the facility will be in DOT approved containers. Secondary containment will be provided as all containers are stored on manmade surfaces which are provided with curbing to prevent spills or releases to the ground. Unless the containers remain in the transport vehicle, there will adequate aisle space provided to inspect each drum for leaks and appropriate labeling and markings. If a container is found to be defective or leaking, remedial action will be promptly taken. Remedial action could be over packing, transfer the contents to another compatible container in good condition, etc.

17.6 Closure Plan

CLHB has prepared a written closure plan for the Transfer Facility. The plan was previously submitted to the FDEP.

17.7 Records

CLHB will maintain a written record of when all hazardous waste enters and leaves the Transfer Facility. The record will include the generator name, EPA I.D. number, manifest number, and date the waste entered and exited the Transfer Facility. For conditionally exempt small quantity generators that do not have an EPA I.D. number, the record will include the generator's name and address. These records will be kept at the facility for three years from the date the waste exited the Transfer Facility. An Example record sheet is shown in Figure 17.1.

17.8 Annual Notification

CLHB will submit an annual updated Transfer Facility Notification to the FDEP. The notification will be submitted each year with the Transporter Insurance update (typically by August 31 of each year).

FIGURE 17.1 - TRANSFER FACILITY LOG

GENERATOR NAME (and address if CESQG)	GENERATOR** EPA I.D. NUMBER	MANIFEST NUMBER	DATE ENTERED TRANSFER FACILITY	DATE EXITED## TRANSFER FACILITY

** If the waste is from a Conditionally Exempt Small Quantity Generator (CESQG) which does not have a EPA ID Number - The generator's name and address must be entered in the first column.

Not to exceed 10 days from the date the waste entered the Transfer Facility.