*** TRANSMISSION REPORT ***

APR-03-01 14:58 ID: US EPA REGION 5

JOB NUMBER	218		
INFORMATION CODE	OK		
TELEPHONE NUMBER	917082258180		
NAME(ID NUMBER)	708 225 8180		
START TIME	APR-03-01 14:58		
PAGES TRANSMITTED	003	TRANSMISSION MODE	EMMR
RESOLUTION	STD	REDIALING TIMES	00
SECURITY	OFF	MAILBOX	OFF
MACHINE ENGAGED	00'46		

THIS TRANSMISSION IS COMPLETED.

LAST SUCCESSFUL PAGE 003

- 35 I.A.C. 725.957 [40 C.F.R. § 265.1057] - Failure to do monthly monitoring of valves in gas/vapor service. Because the detection instrument was not calibrated, the instrument could not properly detect emissions, and therefore there was effectually no monitoring.

- 40 C.F.R. § 265.1085(c)(2)(iii)(A) - Failure to equip Level 1 tanks with a proper closure device. The closure devices on the Level 1 tanks are not secured and had gaps and open spaces between the devices and the tanks. In Safety Kleen Recycle Center's August 17, 2000 letter of response to the Section 3007 Information request dated July 17, 2000, Safety Kleen Recycle Center stated the closure devices in question are adequate because they are used as "safety devices and pressure relief devices during loading and during diurnal ambient temperature fluctuations." 40 C.F.R. 265.1081 states safety devices are not to be used for routine venting of gases during filling of the unit or to adjust pressure during diurnal ambient temperature fluctuations. Furthermore, it states that a pressure relief device will have some type of electronic sensor that will trigger the pressure relief device once a critical pressure is reached.

According to Section 3008(a) of the Resource Conservation and Recovery Act (RCRA), U.S. EPA may issue an order assessing a civil penalty for any past or current violation requiring compliance immediately or within a specified time period. Although this letter is not such an order, we request that you submit a written response to the violations cited above within 30 days of receipt of this letter. The response should document the actions, if any, which you have taken since the inspection to comply with the above requirements. For example, your response should include documentation that you are properly calibrating the detection instrument before each use and photographs of new closure devices on the Level 1 tanks. You should submit your response to Jena Sleboda, United States Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, DE-9J, Chicago, Illinois 60604.

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APR-03-01 15:01 ID: US EPA REGION 5

JOB NUMBER	219		
INFORMATION CODE	OK		
TELEPHONE NUMBER	917082258180		
NAME(ID NUMBER)	708 225 8180		
START TIME	APR-03-01 14:59		
PAGES TRANSMITTED	003	TRANSMISSION MODE	EMMR
RESOLUTION	STD	REDIALING TIMES	00
SECURITY	OFF	MAILBOX	OFF
MACHINE ENGAGED	01'29		

THIS TRANSMISSION IS COMPLETED.

LAST SUCCESSFUL PAGE 003

I. Facility Description and Regulatory Status:

Safety Kleen's Chicago Recycle Center (Chicago RC) is a solvent recycling facility that treats and stores hazardous waste. The plant employs about 44 people and operates 7 days a week, 24-hours a day. The hazardous wastes accepted by Chicago RC include organic chemicals and solvent wastes from industrial and commercial facilities. The processes used in the reclamation and recycling of solvent wastes include distillation, fractionation, neutralization, liquid-liquid extraction and drying.

The facility has two lines of business:
a) the toll processing line - the toll customer (generally industrial accounts) sends waste or off-specification material to Chicago RC for treatment. The facility reclaims the material to the customer's specifications and returns the material to the generator.
b) the recycling process consists of industrial solvents which come to Chicago RC from Safety-Kleen's sales network. These waste materials are reclaimed and or recycled and then the processed material is sold as product on the market.

The Chicago RC currently manages and stores hazardous waste in storage tanks located in three of five permitted tank farms and an outdoor permitted container storage area. Hazardous waste codes includes both characteristic and listed wastes such as still bottoms (F001, F002, D001), spent solvents (D001, D006, D008, D018, D035, D040), hazardous waste solids (F001, F002, D001), and waste flammable liquid (F001), among others.

II. Inspection Findings:

The RCRA inspection of the Safety Kleen Plant included a visual site inspection of the different processes, tank farms, container storage area, and flare. The process vents in the recycling equipment that vents to the flare are subject to Subpart AA regulations, there are 75,000 points subject to Subpart BB standards, the storage tanks in the tank farms are subject to Subpart CC - level 1 controls. Also, the 55-gallon hazardous waste storage drums are subject to Subpart CC requirements. The following Subpart AA, BB and CC records were reviewed at the time of the inspection: checklists for valves, flanges, leaks, hazardous waste tanks, hazardous waste drums, flare maintenance, and the methods, parameters and check logs used to determine VOC emissions (i.e., AIM 3350 calibration equipment).

Chicago RC conducts quarterly BB inspections for valves and flanges and annual CC inspections for Tanks. The 55-gallon drums subject to Subpart CC were closed, labeled and maintained in good

*** TRANSMISSION REPORT ***

APR-03-01 15:02 ID: US EPA REGION 5

JOB NUMBER			220
INFORMATION CODE			OK
TELEPHONE NUMBER	917082258180		
NAME(ID NUMBER)	708 225 8180		
START TIME	APR-03-01 15:01		
PAGES TRANSMITTED	002	TRANSMISSION MODE	EMMR
RESOLUTION	STD	REDIALING TIMES	00
SECURITY	OFF	MAILBOX	OFF
MACHINE ENGAGED	00'59		

THIS TRANSMISSION IS COMPLETED.

LAST SUCCESSFUL PAGE 002

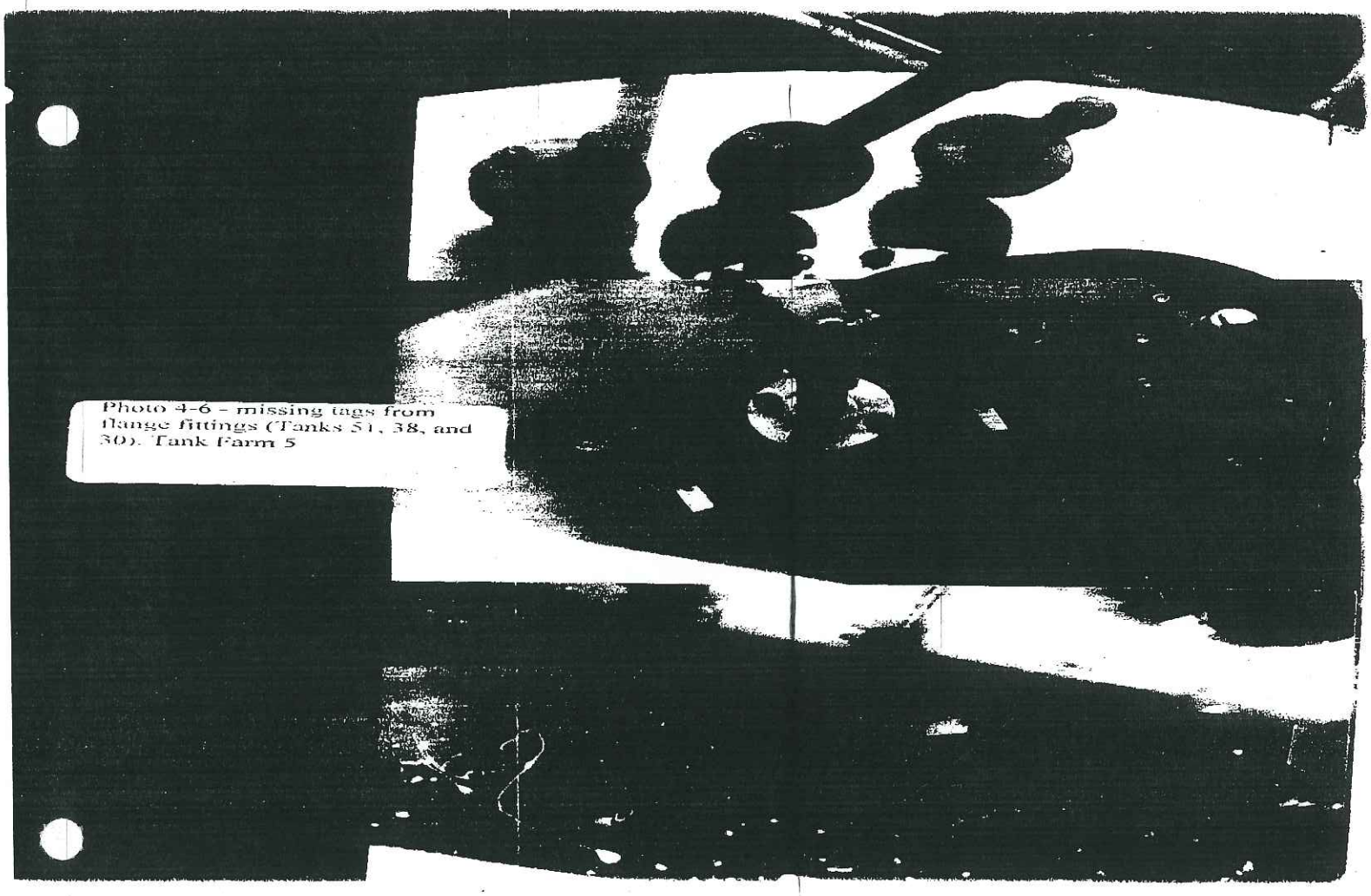

Photo 4-6 - missing tags from flange fittings (Tanks 51, 38, and 30). Tank Farm 5

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APR-03-01 15:08 ID: US EPA REGION 5

JOB NUMBER	221		
INFORMATION CODE	OK		
TELEPHONE NUMBER	917082258180		
NAME(ID NUMBER)	708 225 8180		
START TIME	APR-03-01 15:08		
PAGES TRANSMITTED	001	TRANSMISSION MODE	EMMR
RESOLUTION	STD	REDIALING TIMES	00
SECURITY	OFF	MAILBOX	OFF
MACHINE ENGAGED	00'36		

THIS TRANSMISSION IS COMPLETED.

LAST SUCCESSFUL PAGE 001

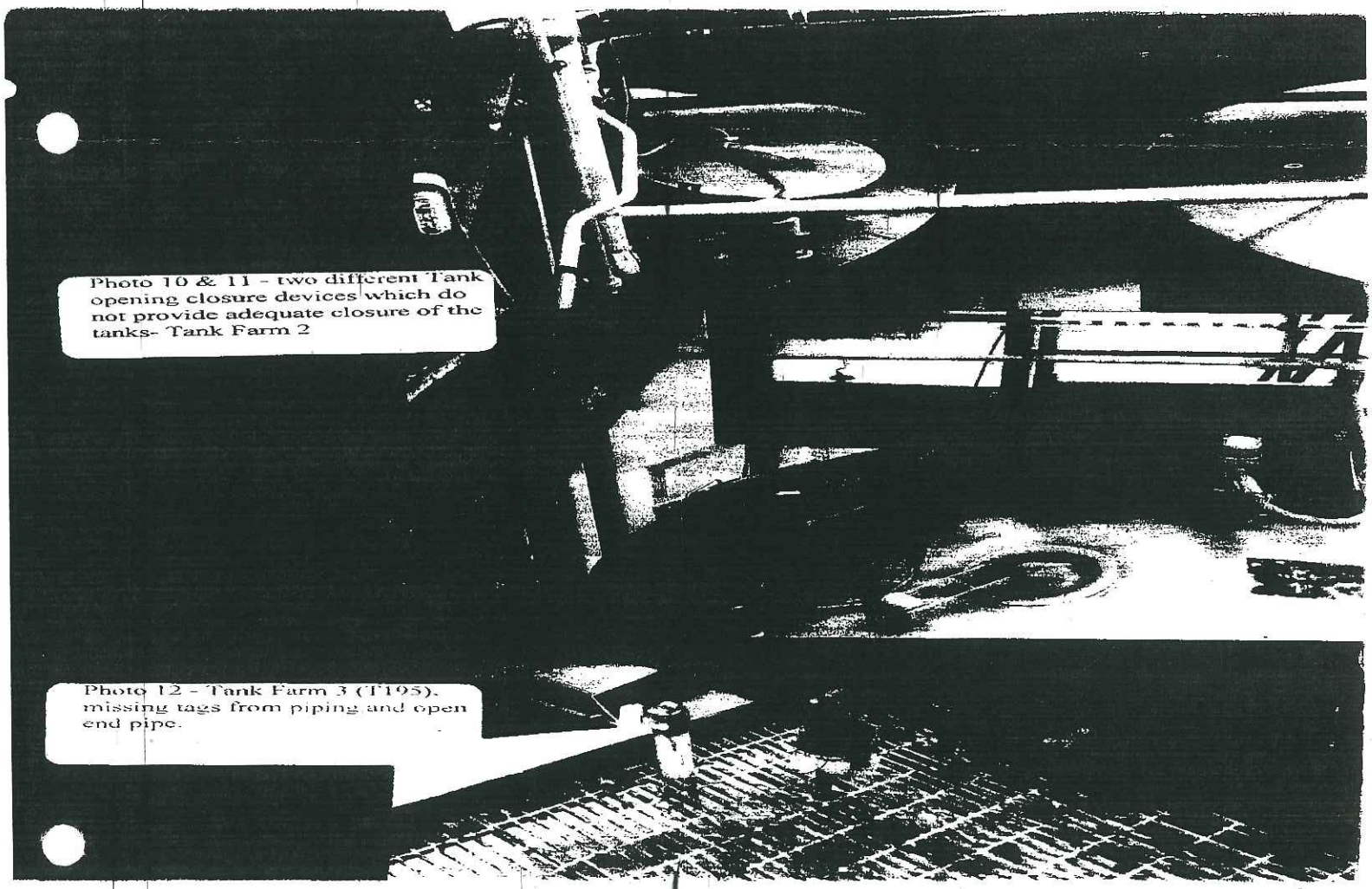

Photo 10 & 11 - two different Tank opening closure devices which do not provide adequate closure of the tanks- Tank Farm 2

Photo 12 - Tank Farm 3 (T195), missing tags from piping and open end pipe.

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APR-03-01 15:10 ID: US EPA REGION 5

JOB NUMBER	222		
INFORMATION CODE	OK		
TELEPHONE NUMBER	917082258180		
NAME(ID NUMBER)	708 225 8180		
START TIME	APR-03-01 15:09		
PAGES TRANSMITTED	001	TRANSMISSION MODE	EMMR
RESOLUTION	STD	REDIALING TIMES	00
SECURITY	OFF	MAILBOX	OFF
MACHINE ENGAGED	00'37		

THIS TRANSMISSION IS COMPLETED.

LAST SUCCESSFUL PAGE 001

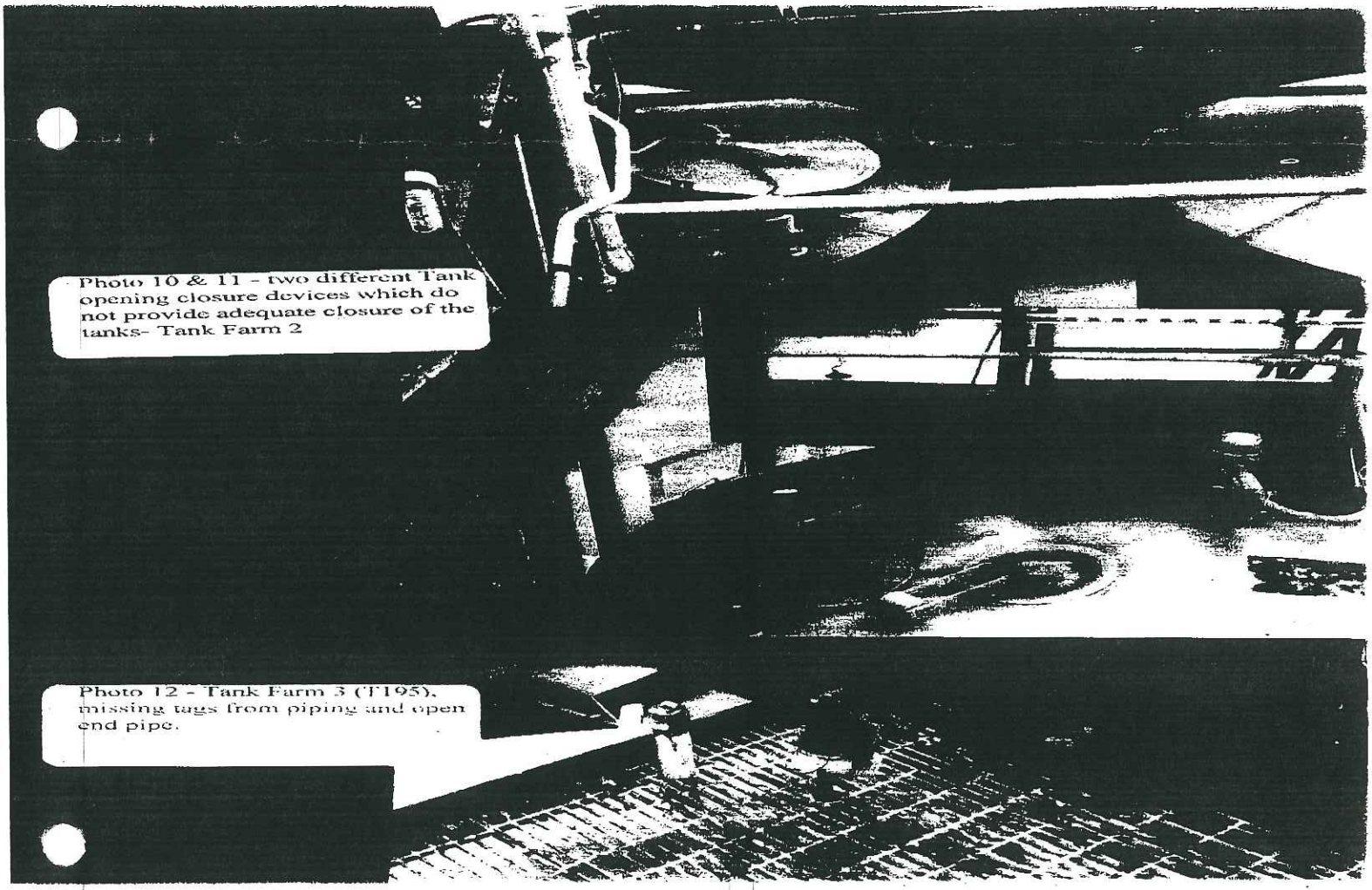

Photo 10 & 11 - two different Tank opening closure devices which do not provide adequate closure of the tanks- Tank Farm 2

Photo 12 - Tank Farm 3 (T195), missing tags from piping and open end pipe.

USEPA

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

217/782-6762

RECEIVED
MAR 12 1992
OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V.

March 9, 1992

Safety Kleen
Attn: Scott Davies
777 Big Timber Road
Elgin, Illinois 60123

Re: 0316000053 -- Cook county
Safety-Kleen/Chicago
ILD005450697
RCRA Closure Log No. C-541-M-2

Dear Mr. Davies:

The closure plan modification request for the hazardous waste tank storage units (S02) (T-190 through T-193) at the above referenced facility, submitted by Safety Kleen and prepared by Cannonie Environmental has been reviewed by this Agency. This request consisted of a the following documents entitled:

- "Closure Progress Report," dated November 1991 and received December 4, 1991;
- "Remedial Action Plan," dated December 1991 and received December 9, 1991;
- "Supplemental Investigation Report," dated December 1991 and received December 9, 1991;
- "Part A -- Groundwater Quality Assessment Program," dated December 1991 and received December 9, 1991; and
- "Part B -- Groundwater Sampling and Analysis Plan," dated December 1991 and received December 9, 1991.

Due to the following deficiencies, the closure plan modification request has been disapproved:

1. The placement and treatment of excavated soil contaminated with a listed hazardous waste into the aboveground soil vapor extraction system as described in the "Remedial Action Plan" constitutes operation of a hazardous waste

4/2

pile. Safety Kleen must modify their Part B permit application to include this unit, if they desire to manage the waste in this manor. The unit must meet all the applicable requirements of 35 IAC 724, including Subpart F (groundwater monitoring), Subpart G (closure and post-closure), Subpart H (financial assurance), and Subpart L (operating requirements).

In addition, a waste pile meets the definition of a land disposal unit in 35 IAC 728.102. The Land Disposal Restrictions of 728 Subpart C prohibit the placement of F-listed solvent into a land disposal unit, unless the waste meets the treatment standards of 728 Subpart D.

2. Comments and deficiencies pertaining to the review of the "Groundwater Quality Assessment Program," the "Groundwater Sampling and Analysis Plan," and the portions of the "Supplemental Investigation Report" pertaining to groundwater are presented in Attachment 1 of this letter. Should you have any questions regarding these comments, please contact Heather Young of the Agency's Groundwater Unit at 217/782-6762.

3. The Illinois Pollution Control Board recently enacted groundwater protection standards in 35 IAC 620. As such the Agency will establish cleanup objectives based upon protection of Class I groundwater unless specific information is provided which indicates Class I groundwater will not be impacted by any residual soil contamination. Guidance on this subject is attached.

4. Safety Kleen must provide a detailed description of the field screening techniques, including a discussion of the limitations of the techniques used, and sample preservation/handling procedures used during the soil sampling performed during the supplemental investigation.

5. The horizontal and vertical extent of the soil contamination related to the operation of the subject tanks has not been defined. As such the proposed remedial effort is not sufficient to achieve clean closure of the tanks.

6. Page 3 of the "Remedial Action Plan" indicates that no soil remediation will occur beyond the containment cells associated with the tanks. All soil contaminated as a result of the operations of the subject tanks must be remediated as part of their closure.

7. Page 3 of the "Remedial Action Plan" states "... it is not clear that the soil impacts beyond the containment cell are related to the closure units." Information must be provided to support this statement if Safety Kleen desires

to achieve clean closure of the subject tanks with out remediating soil contamination outside of the containment cells.

8. SIGNATORY REQUIREMENTS - Documents, applications, certification, or reports submitted to the Agency must be signed by persons meeting the requirement specified in 35 IAC 702.126. These documents must also be accompanied by a certification statement containing the wording specified in 702.126(d). The closure plan certification statement, Attachment 2 of this letter, must be completed in accordance with 702.126 and submitted with each of the four copies of the revised closure plan. At least one of the four copies must have original signatures.

Pursuant to 35 IAC 725.212(d)(4), you must submit a complete, revised closure plan (i.e., not just revised or additional pages) (one original and 3 copies) within thirty (30) days which adequately responds to the above noted comments. Failure to submit a revised plan within thirty (30) days of the date of your receipt of this letter will be considered non-compliance with the interim standards of 35 IAC, Part 725, Subpart G -- Closure and Post-closure and Subpart H -- Financial Requirements.

Should you have any questions regarding this matter, please contact Kevin D. Lesko at 217/782-6762.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:KDL:skc

Attachments:
1. Agency comments on proposed groundwater system
2. Closure Plan Certification Statement

Enclosures:
1. 35 IAC Part 620
2. Guidance for Establishing the Basis for Clean-up Objectives

cc: USEPA Region V -- George Hamper

bcc: Division File
Maywood Region
Planning & Reporting Section
Kenn Liss, GAU
Jim Moore, RCRA
Kevin Lesko, RCRA
Heather Young, GAU

Attachment 1

The following comments pertain to the Groundwater Quality Assessment Report, Groundwater Sampling and Analysis Plan and portions of the Supplemental Investigation Report pertaining to groundwater. These plans were prepared as required in part by Conditions 29, 32 and 33 of the Agency's modified partial closure plan approval letter dated August 23, 1990 and revised August 30, 1991 and is part of the continuing closure activities related to the former aboveground tanks T-190 through T-193. Comments and noted deficiencies follow separated accordingly:

Supplemental Investigation Report

Condition 29, which requires that a complete characterization of the subsurface geology and hydrogeology must be provided upon completion of monitoring wells including all pertinent aquifer characteristics, of the aforementioned approval letter dated August 23, 1990 and revised August 30, 1991 has not been met.

1. No cross-sections were included in the report. At least two cross-sections with a scale of one (1) inch equals two hundred (200) feet must be submitted within thirty days after the installation of MW-4. These cross-sections must be approximately perpendicular to each other to present a three dimensional representation of the site.

2. Permeability of the clay unit encountered in boring B-4 at approximately 9 feet was estimated to range between 4.5×10^{-7} and 4.5×10^{-10} cm/sec based on typical grain size and lithologic descriptions according to the report on page 12 under 3.1, entitled "Stratigraphy". It should not be presumed that the clay represents an impermeable barrier based on an estimate of the permeability alone. Documentation supporting such a statement must be submitted to the Agency for review, such as field and laboratory testing. Continuity of the clay must be supported with adequate field investigation and testing.

3. Slug tests must be performed to determine the hydraulic conductivity after monitoring well installation. Though Safety-Kleen does propose to perform hydraulic conductivity testing in the Groundwater Quality Assessment Plan for MW-2 and MW-3, hydraulic conductivity is a pertinent aquifer characteristic and must be part of this investigation. All monitoring wells, both present and future, shall be tested for

hydraulic conductivity after proper development procedures. All documentation including any calculations must be submitted for Agency review.

4. Under 2.3.2, "Monitoring Well Installation" on page 9, MW-1 was designated as the background well; yet, under 4.0, "Conclusions" on page 15, it is reported that groundwater flow appears to be east toward a groundwater low near MW-1. If this indeed is the case, well MW-1 would not yield groundwater samples representative of background quality. Therefore, a new background well location must be chosen and plans submitted for Agency review prior to installation.

5. No chain-of-custody forms or field sampling forms/sample logs recording field parameters such as pH, specific conductance, the actual volumes of water purged, etc. were included with this report. Since groundwater samples were taken, the aforementioned forms should have accompanied the report.

Groundwater Quality Assessment Plan

This plan was submitted in accordance with Condition 32 of the previously referenced approval letter.

1. The proposed Target Compound List includes all compounds detected in one or more of the wells. Two compounds, acetone and methylene chloride, were omitted without explanation. Though they are well-known and common lab contaminants, this alone is not a reason to simply dismiss their presence, especially since these compounds were not flagged "B" indicating blank contamination. Acetone and methylene chloride must be added to the Target Compound List and tested for accordingly using Test Methods for Evaluating Solid Waste, Third Edition, including Final Update I, (SW-846) method 8240.

2. The Agency feels that the present groundwater monitoring system is not adequate to define the rate and extent of the contamination which is present in the groundwater below Tank Farm #4. As mentioned in Item 4 above related to the Supplemental Investigation Report, the upgradient (background) well established is now in actuality downgradient. An upgradient (background) well unaffected by the facility must be established. Safety-Kleen must either designate an existing well as the upgradient (background) well which meets the criteria or propose installation of a new upgradient (background) well and submit such a proposal for Agency review.

Since groundwater contamination does exist, definition of the contamination, both rate and extent, must be addressed. Appropriate downgradient monitoring points must be selected and plans submitted to the Agency for review.

3. Safety-Kleen intends to obtain soil samples from MW-4 for determining grain-size distribution of the silty clay. This data must be submitted to the Agency for review within thirty days of the installation of MW-4.

4. Safety-Kleen proposes to perform slug tests on MW-2 and MW-3 to determine lateral hydraulic conductivity of the silty clay unit. Safety-Kleen shall perform slug tests on all new and existing monitor wells to determine any variations of lateral hydraulic conductivity.

5. No chain-of-custody forms or field sampling forms/sample logs were included with this report. Those forms corresponding to the November 7, 1991 sampling event must be submitted to the Agency for review. In future submissions, chain-of-custody and field sampling forms/sampling logs shall be submitted along with the quarterly groundwater monitoring reports.

6. No documentation of pH, specific conductance and turbidity readings was submitted with this report. These parameters are to be included in the field sampling report which must accompany quarterly groundwater monitoring reports as mentioned. These parameters are to be monitored and the readings recorded for each well volume being purged until these parameters stabilize. All water level elevations are to be recorded on the field sampling report as well. After which, groundwater samples may be taken from the monitor wells.

Ground Water Sampling and Analysis Plan

This plan was submitted in accordance with Condition 33 of the previously referenced approval letter. This plan is not acceptable in its present form. The content and detail of the sampling and analysis plan is inadequate and an improved plan must be submitted by May 1, 1992. The new sampling and analysis plan must be developed in accordance with the USEPA Technical Enforcement Guidance Document dated

September 1986 and SW-846. The following deficiencies are noted:

1. It is not clear whether a permanent reference point or temporary benchmarks have been established by a licensed surveyor in relation to mean sea level, (MSL), or whether well location coordinates have been determined.

2. The total depth of the well to the bottom of the intake screen was not included in field measurements.

3. Field parameters such as pH, Specific Conductance, temperature and turbidity were not used to determine when wells are stabilized prior to sampling.

4. Sampling equipment constructed of polyethylene is not acceptable. Equipment must be constructed of inert material such as teflon or stainless steel.

5. No order of sample collection was provided.

6. Detailed procedures for the detection of immiscible layers which must be undertaken before well is evacuated for conventional sampling were not included.

7. Sample containers were not specified.

8. It is not indicated whether field parameters are taken before and after sample collection.

9. No specific details were provided regarding the transfer of volatile samples from the sample collection device to the sample container.

10. The temperature of the "iced cooler" to be used for storage/shipping was not addressed, nor was any information provided relating to maintaining 4 degrees C in the cooler, placement of max-min thermometers into the shipping chest or maintaining a record of this on the chain-of-custody forms.

11. The plan does not specify the sample preservation methods from SW-846 that will be used.

12. No explanation of the data quality objectives mentioned on page 10 is given.

13. The proposed laboratory QA/QC is not detailed enough. For example, lab blanks or spiked samples were not addressed. QA/QC procedures must be carried out in accordance with those set forth in SW-846.

14. Possible deviations from PQLs were not addressed.

15. Page 14, "Data Reporting", outlines the contents of a report that is to be submitted to the Agency after receipt of the analytical data. Deficiencies of the proposed report follow:

    a. No background water quality is currently available as no acceptable upgradient monitor well currently exists.

    b. No method was proposed for comparison of data.

    c. Compounds must be compared to the new 35 IAC Part 620 (Class I or Class II) applicable groundwater quality standards.

    d. Pursuant to 35 IAC Part 620, the facility must determine what class of groundwater is applicable and submit their determination for Agency approval.

    e. Actual lab analyses must be submitted including all QA/QC.

    f. All chain-of-custody forms and sample logs/fields sampling reports must be submitted.

16. For QA/QC, required precision, accuracy, detection limits and percent recovery (if applicable) specifications are not clearly identified in the plan.

KDL:skcatt1

C 541-1

safety-kleen

October 17, 1991
91-185

Mr. Lawrence Eastep, P.E.
Manager - Permit Section
Division of Land Pollution Control
Illinois Environmental Protection Agency
P. O. Box 19276
Springfield, IL 62794-9276

RE: Safety-Kleen Corp., Chicago Recycle Center
ILD005450697
RCRA Closure/Log Number C-541-1

Dear Mr. Eastep:

Safety-Kleen Corp. (Safety-Kleen) has received your conditional approval of the Modified Closure Plan for the above-referenced facility. Safety-Kleen subsequently requested that a representative of Canonie Environmental Services Corp. (Canonie) call Mr. Mark Schollenberger of the Illinois Environmental Protection Agency (IEPA) for clarification of a number of the conditions in your letter.

Terence Ashworth of Canonie called Mark Schollenberger on September 20, 1991 and discussed certain items in the IEPA August 30, 1991 approval letter. Safety-Kleen still has significant concerns regarding several items in the IEPA approval letter. Attachment A details Safety-Kleen's understanding/position on special conditions 16 through 35.

It is Safety-Kleen's understanding that the October 1, 1991 date for completion of closure activities established in the original IEPA approval letter has been superceded by the additional time provided for in conditions 16 through 35 of the August 30th approval letter. Safety-Kleen is in the process of finalizing a closure progress report which will summarize all closure activities completed to date. This report will be submitted in the near future. Further, S-K is currently working within the applicable time frames set forth in the IEPA's August 30, 1991 letter.

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OCT 18 1991
IEPA-DLPC

33

777 BIG TIMBER ROAD ELGIN, ILLINOIS 60123 PHONE 708/697-8460 FAX 708/697-4295

Field work for the extent of contamination study is scheduled to begin October 21, 1991. It is Safety-Kleen's intent to achieve clean closure for tanks T-190 through T-193 at the Chicago Recycle Center.

Unless we hear from you to the contrary, we will proceed with the understanding that this letter accurately reflects both IEPA and Safety-Kleen's understanding regarding implementation of and compliance with special conditions 16 through 35. Please note there are a few items that still require some clarification which are described in detail in Attachment A. We will contact the Agency within the next 14 days to obtain further guidance on these items.

If you have any questions regarding this letter please feel free to contact me at (708) 468-2216.

Very truly yours,

Scott E. Davies
Senior Project Manager - Remediation

SED/njs

Enclosures

cc: P. Lambert - Canonie
G. Long
A. Aghaiepour
D. Chari
M. Schollenburger - IEPA

ATTACHMENT A

Condition 16

By November 1, 1991, Safety-Kleen shall determine the vertical and lateral extent of contamination. All soil sampling locations used to define the boundaries of the contamination shall be determined using the Agency's "Instructions for the Preparataion of Closure Plans for Interim Status RCRA Hazardous Waste Facilities." The spacing/location of the sampling sites may be altered so that "hot spots" identified by previous sampling episodes are entrained within this new sampling program.

Response:

Safety-Kleen intends to complete the field work necessary to determine the extent of soil impacts related to tanks T-190 through T-193 before November 1, 1991 in accordance with Comment 16. The results of the new soil sampling program will be submitted in a report to the IEPA by December 1, 1991 in accordance with IEPA comment 17.

Condition 17

The results of the previous soil gas survey and the new soil sampling program shall be submitted to the Agency by December 1, 1991. The location of sampling points shall be clearly indicated on a site map.

Response:

The results of the previous soil gas survey and well point data are contained in Attachment B of this letter. The results of the new soil sampling program will be submitted to the IEPA by December 1, 1991. Field work is scheduled for the week of October 21, 1991.

Condition 18

Soil sampling shall be conducted for the following parameters by the indicated method:

Method 8240

Methylene chloride	acetone
1,1,1 trichloroethane	trichloroethene
tetrachloroethene	toluene
trichlorofluoroethane	tetrahydrofuran

Method 8270

N,N dimethylacetamide	B-picoline
pyridine	1 methyl 2-pyrolidone

When analyzing the soil samples for organics, all organics detected in the library scan for the sampling method must be reported, not just the parameters identified under the test method.

Response:

The parameter list was developed based on historical use of the former aboveground tanks. Further, the analytical data from the soil, soil gas, and groundwater samples collected to date have already identified the constituents of concern. In addition to the above-referenced parameter list, Safety-Kleen will report the analytical results for all volatile organic compounds listed in the 8240 method and all semi-volatile compounds listed in the 8270 method. Safety-Kleen believes this approach will fully address constituents related to the closure units.

Condition 19

The Agency will be establishing cleanup objectives for the parameters identified above. These objectives will be mailed to you under separate cover. To demonstrate a parameter is not present in a sample, analytical results must show a detection limit at least as low as the PQL for that parameter in the latest edition of SW-846. Values reported as less than but above the PQL value are considered to be contaminated by that organic. Sampling and analytical procedures shall be conducted in accordance with the latest edition of SW-846 and the enclosed attachment.

Response:

Safety-Kleen requests that clarification be provided on when cleanup objectives will be established for the Chicago Recycle Center. In correspondence to IEPA dated April 3, 1991, Safety-Kleen requested that the establishment of cleanup objectives be deferred until the site specific data from the extent of contamination investigation can be fully evaluated. The Chicago Recycle Center is located in an industrial area. Site specific data could be essential in setting realistic cleanup objectives. This data will be provided to the Agency by December 1, 1991. Safety-Kleen requests the opportunity to submit to the Agency's COT/COPRA committee, within 90 days of the December 1, 1990 deadline, proposed cleanup objectives together with appropriate justification which incorporates the site specific data. The Company will contact you regarding this request within the next 14 days.

Safety-Kleen strongly disagrees with the statement that "values reported as less than but above the PQL value are considered to be contaminated by that organic". The target paramenters for this project have been well established based on the historical use of the tanks, the analytical results of soil samples collected at the time of closure, the subsequent soil gas analysis, and the analytical results for groundwater samples collected from well points P-1 through P-4. Therefore, the focus should be on these compounds. Soil samples may be subject to matrix interferences which raise detection limits. Safety-Kleen believes it is unwarranted under this scenario to assume that parameters are present when no evidence exists to indicate otherwise. We would be glad to discuss this further with IEPA if necessary.

Condition 20

The applicant shall submit its remedial action plan upon determining their course of action. The plan, at a minimum, shall describe, the selected course of action, how soil will be removed, stored, and treated (if applicable), loaded and how it will be managed once it leaves the property. At the latest, the remedial plan shall be submitted by December 1, 1991 for Agency review and comment.

Response:

This plan will be submitted with the extent of contamination investigation report. The approach to soil remediation will be based on the investigation results.

Condition 21

The location of the proposed groundwater monitoring wells can not be approved without adequate subsurface geology and hydrogeologic data. Therefore, upon review of the data to be gained by the installation of the proposed monitoring wells, the Agency will determine the ability of the groundwater monitoring system to fulfill the requirements of 725.191.

Response:

Attachment B contains the report regarding the soil gas survey and the well point data. This data was used to aid in the selection of monitoring well locations. Safety-Kleen will attempt to install wells that will adequately define the extent of groundwater impacts related to tanks T-190 through T-193. If groundwater analytical data indicates that this has not been achieved, Safety-Kleen will contact IEPA regarding further action.

Condition 22

All wells shall be installed in accordance with the methods, materials and techniques provided in the USEPA's RCRA Groundwater Monitoring Technical Enforcement Guidance Document, September 1986 and the Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells (EPA/600/4-89/034), March 1991.

Response:

Safety-Kleen will use the documents referenced by IEPA as much as possible. It should be noted that some well installation procedures may have to be modified to accomodate the shallow water table, which ranges from .5 to 3.5 ft. below ground surface. Any necessary modifications will be reported in accordance with Condition 27.

Condition 23

The bore holes shall be continuously sampled (using a split-spoon or Shelby tube method) and logged (using the Unified Soil Classification method) to provide the data necessary for a complete geologic description. Boring logs shall be completed by a qualified geologist or geotechnical engineer and submitted for Agency review.

Response:

Safety-Kleen will comply with this comment.

Condition 24

Completion diagrams shall be completed for all installed monitoring wells. All wells shall be surveyed and referenced to a temporary bench mark and to mean sea level. The temporary bench mark must be referenced to a USGS datum.

Response:

Safety-Kleen will comply with this comment.

Condition 25

The screen length and opening size shall be determined by the characteristics of the monitoring zone. A sieve analysis of the soil material in the saturated zone to be monitored shall be provided for the determination, and submitted for Agency review.

Response:

Safety-Kleen will collect soil samples for sieve analysis, however, these samples will be collected at the time of soil boring/well installation. Laboratory turnaround time will prevent the use of sieve data to determine the appropriate well construction materials. The existing data contained in Attachment B along with field observations from soil borings will allow for the selection of appropriate well materials.

Condition 26

The monitoring wells shall be developed until the well exhibits stable conditions. The parameters to be monitored during well development shall include at a minimum: pH, specific conductance, temperature and turbidity of the groundwater.

Response:

Safety-Kleen will comply with this comment.

Condition 27

The methods used to install and develop the monitoring wells shall be submitted to the Agency for review. The submittal shall include (in addition to the data provided on the boring logs and well completion reports) at a minimum: drilling method, borehole size, well development method, management of installation and development wastes (including development water) and decontamination procedures.

Response:

As discussed and agreed between Mr. Terence Ashworth of Canonie and Mr. Mark Schollenburger of IEPA via telephone on September 23, 1991. This data will be provided after the field work is completed in accordance with the schedule established in Comment 30.

Condition 28

All wells shall be measured for static groundwater elevations to determine apparent groundwater flow direction.

Response:

Safety-Kleen will comply with this comment.

Condition 29

Upon completion of monitoring wells, a complete characterization of the subsurface geology and hydrogeology must be provided. This investigation shall include all pertinent aquifer characteristics.

Response:

Safety-Kleen will provide the above-requested data. Data collected to date indicates that subsurface conditions are complicated by the thickness of concrete pavement and the presence of rubble and fill from former buildings and roads buried beneath the existing land surface. The fill encountered at the site is between 2 and 3.5 feet thick. The fill consisted of bricks, concrete slabs, granite paving stones, and dolomite flagstones. To the east of Tank Farm 3, several layers of concrete slabs and bricks were exposed with a minimum thickness of 2.5 feet. Granular fill, consisting of fine to coarse sand and some fine gravel, was encountered during exploration inside the tank farm. The fill was underlain throughout the site by clayey silt to clay that is brownish gray to black, soft, plastic, and wet. The clay and silt belong to the Carmi Member of the Equality Formation (Willman and Lineback, 1970). Initially, Safety-Kleen intends to avoid penetrating the clay layer so that a conduit for chemical migration to deeper groundwater is not created. This approach may be modified as field work progresses.

The area around Tank Farm No. 3 was surrounded by concrete dikes that extended 5 feet above ground and 4 feet below grade, according to the plant manager. The above-grade portion of most of the dikes were removed by Canonie as part of closure, but the subsurface portion of the dikes were left in place.

The subsurface portion of the dikes extends through the fill to the underlying clay, based on soil samples collected from inside the tank farm. This likely restricts lateral ground water flow from the tank farm by forcing the water to flow through the clay instead of through the overlying granular fill and, as a result, may serve to contain chemical constituents within the diked area. The depth to water varied from 0.5 to 1 foot below grade within the tank farm dikes and from 2.5 to 3.5 feet below grade south of the tank farm. The water table was encountered in the granular fill within the diked area of the tank farm and in the underlying clay south of the tank farm. Because the ground surface within Tank Farm No. 3 is partially paved and the subsurface portion of the dikes restrict lateral ground water flow, it is likely that recharge is occurring in this area, causing the formation of a ground water mound.

Condition 30

The above referenced boring logs, completion diagrams (along with the methods used to install and develop the well, see Special Condition #27)

and geologic/hydrogeologic characterization shall be submitted for Agency review within 30 days from well installation.

Response:

Safety-Kleen will comply with this comment.

Condition 31

A determination of the groundwater quality must be made by analyzing the groundwater samples for the parameters listed in SW-846 methods 8240/8270.

Response:

Safety-Kleen will comply with this comment.

Condition 32

Upon receipt of the laboratory results from the sampling event as required by 31 above, Safety-Kleen shall develop and submit a Sampling and Analysis Plan, as required in 725.192, to be used for all subsequent sampling events. The details of the Plan shall be consistent with the groundwater quality results and aquifer characteristics. This plan shall be submitted to the Agency for approval by no later than December 1, 1991.

Condition 33

Safety-Kleen must prepare and submit for review a groundwater quality assessment program consistent with the requirements of 725.193. This program shall be submitted for Agency review and approval by no later than December 1, 1991.

Condition 34

The groundwater monitoring program shall follow all applicable regulations and may be modified by the Agency to fulfill the intent of the Act.

Response:
to 32, 33, 34

Safety-Kleen collected soil samples in accordance with the original approved closure plan. Because soil impacts were indicated and a shallow water table is present, the company voluntarily agreed to

install groundwater monitoring wells and implement a groundwater monitoring program. In Conditions 32, 33, and 34, the Agency has gone beyond the groundwater monitoring program the company has volunteered to undertake and has sought to impose the specific requirements of Subpart F, Groundwater
Monitoring, Sections 725.192 and 725.193. These requirements apply only to surface impoundments, landfills, or land treatment facilities. They are not applicable to the units being closed at the Chicago Recycle Center.

The company is aware that the Agency has sought to impose the 725.192 and 725.193 requirements under a post-closure scenario at facilities like the Chicago Recycle Center. Safety-Kleen believes it is premature to implement these groundwater monitoring requirements at this time. It is Safety-Kleen's intent to achieve clean closure of tanks T-190 through T-193, and unless and until it is established that clean closure of these units cannot be achieved, the company is not required to undertake post-closure monitoring.

Safety-Kleen reiterates its commitment to proceed with a voluntary groundwater monitoring program and is willing to work with the Agency to tailor an approach based on the site specific data collected during the forthcoming investigation. Safety-Kleen will contact the Agency within the next 14 days to discuss a mutually satisfactory means to resolve this matter.

Condition 35

The June 1991 submittal did not contain an adequate proposal for the implementation of an effective groundwater monitoring program. Therefore, the Agency retains the right to require additional investigations and/or well installation as needed to provide adequate data or monitoring capabilities for the groundwater monitoring system.

Response:

Safety-Kleen will make a good faith effort to implement an effective groundwater monitoring program during the forthcoming investigation. If it is determined that additional work is necessary, Safety-Kleen will work with IEPA on a cooperative basis to develop an appropriate approach. (See also the response to Conditions 32, 33, and 34).

ATTACHMENT B

USEPA

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Refer to: 0316000053 -- Cook County
Safety Kleen Corporation (Chicago Recycling Center)
ILD005450697
RCRA Closure/Log No. C-541-1

August 30, 1991

Safety Kleen Corporation
Attn: Scott Davies
777 Big Timber Road
Elgin, Illinois 60123

Gentlemen:

This letter is to inform you that the Agency has revised the closure plan, (Log No. C-541) originally issued August 23, 1990. The modification dated May 31, 1991, (to conduct additional sampling to determine the extent and magnitude of the contamination present) submitted by Canonie Environmental, has been approved subject to Special Conditions 16 through 35.

If you have any questions regarding the above, please contact Mark A. Schollenberger of my staff.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:MAS:jar/2616q,1/sp

cc: Division File
Maywood Region
Canonie Environmental

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Received: May 25, 1990
Modification Received: June 3, 1991

Refer to: LPC #0316000053
Safety Kleen (Chicago Recycling Center)
ILD005450697
RCRA-Closure/Log No. C-541-1

August 23, 1990
Revised August 30, 1991

Safety Kleen Corporation
Attn: Scott Davies
777 Big Timber Road
Elgin, Illinois 60123

Dear Mr. Davies:

The closure plan submitted by you has been reviewed by this Agency. Your partial closure plan to close the four hazardous waste storage tanks (S02) at the above-referenced facility (Tanks T190, T191, T192 and T193) is hereby approved subject to the following conditions.

1. Closure activities must be completed by October 1, 1991. When closure is complete the owner or operator must submit to the Agency certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan. This certification must be received at this Agency within sixty (60) days after closure, or by June 1, 1992.

   The attached closure certification form must be used. Signatures must meet the requirements of 35 Ill. Adm. Code Section 702.126. The independent engineer should be present at all critical, major points (activities) during the closure. These might include soil sampling, soil removal, backfilling, final cover placement, etc. The frequency of inspections by the independent engineer must be sufficient to determine the adequacy of each critical activity. Financial assurance must be maintained for the units approved for closure herein until the Agency approves the facility's closure certification.

   The Illinois Professional Engineering Act (Ill. Rev. Stat., Ch. 111, par. 5101 et. seq.) requires that any person who practices professional engineering in the State of Illinois or implies that he (she) is a professional engineer must be registered under the Illinois Professional Engineering Act (par. 5101, Sec. 1). Therefore, any certification or engineering services which are performed for a closure plan in the State of Illinois must be done by an Illinois P.E.

Plans and specifications, designs, drawings, reports, and other documents rendered as professional engineering services, and revisions of the above must be sealed and signed by a professional engineer in accordance with par. 5119, sec. 13.1 of the Illinois Professional Engineering Act.

As part of the closure certification, to document the closure activities at your facility, please submit a Closure Documentation Report which includes:

a. The volume of waste and waste residue removed. The term waste includes wastes resulting from decontamination activities.

b. A description of the method of waste handling and transport.

c. The waste manifest numbers.

d. Copies of the waste manifests.

e. A description of the sampling and analytical methods used.

f. A chronological summary of closure activities and the cost involved.

g. Color photo documentation of closure. Document conditions before, during and after closure.

h. Tests performed, methods and results.

The original and two (2) copies of all certifications, logs, or reports which are required to be submitted to the Agency by the facility should be mailed to the following address:

Illinois Environmental Protection Agency
Division of Land Pollution Control -- #24
Permit Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

2. This facility must continue to meet the applicable requirements of 35 IAC - Subtitle G for those units identified on the Part A application i.e. not approved for closure herein.

3. The approval of this partial closure plan does not relieve Safety Kleen of the responsibility of providing financial assurance for the remainder of the facility which is subject to closure, in accordance with 35 IAC Section 725.243.

4. In accordance with 35 Ill. Adm. Code Sections 703.152 and 703.155, closure of your SO2 units requires modification of your Part A application. Please complete a form and submit it with your closure certification.

5. If the Agency determines that implementation of this closure plan fails to satisfy the requirements of 35 Ill. Adm. Code, Section 725.211, the Agency reserves the right to amend the closure plan. Revisions of closure plans are subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

6. If contamination is detected, the Agency must be notified in writing within fifteen (15) days. A revised closure plan addressing remediation of the contamination detected must be submitted within timeframes established by the Agency.

7. A revised cost estimate and financial assurance instruments should be submitted with the closure certification documents.

8. Under the provisions of 29 CFR 1910 (51 FR 15,654, December 19, 1986), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations.

9. All samples shall by analyzed individually (i.e., no compositing). Sampling and analytical procedures shall be conducted in accordance with the latest edition of SW-846 and Attachment 7 to this Agency's closure plan instruction package. When visually discolored or contaminated material exists within an area to be sampled, horizontal placement of sampling locations shall be adjusted to include such visually contaminated material within a sampling interval shall be included in the sample portion of the interval to be analyzed. To demonstrate a parameter is not present in a sample, analysis results must show a detection limit at least as low as the PQL for that parameter in the latest edition of SW-846. For inorganic parameters, the detection limit must be at least as low as the RCRA Groundwater Detection Limits, as referenced in SW-846 (Third Edition) Volume 1A, pages TWO-29 and TWO-30, Table 2-15.

10. The Agency will establish clean-up objectives to be used to determine if "clean" closure (closure by removal) has been achieved upon receipt and review of the sampling and analytical results required in the approved closure plan. These sampling and analytical results along with a proposal for site specific clean-up objectives (if you wish to propose them) must be submitted to this Agency by May 1, 1991.

11. If clean closure cannot be achieved pursuant to 35 IAC 725.297a then a modified closure plan and a post-closure plan prepared pursuant to 35 IAC Section 725.297b must be submitted to the Agency for review and approval within 60 days of such a determination.

12. 35 IAC 721.131 F001 through F005 wastes must be disposed in accordance with 35 IAC Part 728.

13. To avoid creating another regulated storage unit during closure, obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated material on-site prior to off-site disposal, do so only in containers or tanks for less than ninety (90) days. Do not create regulated waste pile units by storing the excavated material in piles. The ninety (90) day accumulation time exemption (35 IAC 722.134) only applies to containers and tanks.

14. Please be advised that the requirements of the Responsible Property Transfer Act (Public Act 85-1228) may apply to your facility due to the management of RCRA hazardous waste. In addition, please be advised that if you store or treat on-site generated hazardous waste in containers or tanks pursuant to 35 IAC 722.134, those units are subject to the closure requirements identified in 35 IAC 722.134(a)(1).

15. All hazardous wastes that result from this project are subject to annual reporting as required in 35 IAC 722.141 and shall be reported to the Agency by March 1 of the following year for wastes treated and left on-site or shipped off-site for storage, treatment and/or disposal during any calendar year. Additional information and appropriate report forms may be obtained from the Agency by contacting:

    Administrative Compliance Unit
    Division of Land Pollution Control
    Illinois Environmental Protection Agency
    P.O. Box 19276
    Springfield, Illinois 62794-9276

16. By November 1, 1991, Safety Kleen shall determine the vertical and lateral extent of contamination. All soil sampling locations used to define the boundaries of the contamination shall be determined using the Agency's "Instructions for the Preparation of Closure Plans for Interim Status RCRA Hazardous Waste Facilities." The spacing/location of the sampling sites may be altered so that "hot spots" identified by previous sampling episodes are entrained within this new sampling program.

17. The results of the previous soil gas survey and the new soil sampling program shall be submitted to the Agency by December 1, 1991. The location of sampling points shall be clearly indicated on a site map.

18. Soil sampling shall be conducted for the following parameters by the indicated method:

    Method 8240

methylene chloride	acetone
1,1,1 trichloroethane	trichloroethene
tetrachloroethene	toluene
trichlorofluoroethane	tetrahydrofuran

    Method 8270

N,N dimethylacetamide	B-picoline
pyridine	1 methyl 2-pyrolidone

    When analyzing the soil samples for organics, all organics detected in the library scan for the sampling method must be reported, not just the parameters identified under the test method.

19. The Agency will be establishing clean-up objectives for the parameters identified above. These objectives will be mailed to you under separate cover. To demonstrate a parameter is not present in a sample, analytical results must show a detection limit at least as low as the PQL for that parameter in the latest edition of SW-846. Values reported as less than but above the PQL value are considered to be contaminated by that organic. Sampling and analytical procedures shall be conducted in accordance with the latest edition of SW-846 and the enclosed attachment.

20. The applicant shall submit its remedial action plan upon determining their course of action. The plan, at a minimum, shall describe, the selected course of action, how soil will be removed, stored, and treated (if applicable), loaded and how it will be managed once it leaves the property. At the latest, the remedial plan shall be submitted by December 1, 1991 for Agency review and comment.

21. The location of the proposed groundwater monitoring wells can not be approved without adequate subsurface geology and hydrogeologic data. Therefore, upon review of the data to be gained by the installation of the proposed monitoring wells, the Agency will determine the ability of the groundwater monitoring system to fulfill the requirements of 725.191.

22. All wells shall be installed in accordance with the methods, materials and techniques provided in the USEPA's RCRA Groundwater Monitoring Technical Enforcement Guidance Document, September 1986 and the Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells (EPA/600/4-89/034), March 1991.

23. The bore holes shall be continuously sampled (using a split-spoon or Shelby tube method) and logged (using the Unified Soil Classification method) to provide the data necessary for a complete geologic description. Boring logs shall be completed by a qualified geologist or geotechnical engineer and submitted for Agency review.

24. Completion diagrams shall be completed for all installed monitoring wells. All wells shall be surveyed and referenced to a temporary bench mark and to mean sea level. The temporary bench mark must be referenced to a USGS datum.

25. The screen length and opening size shall be determined by the characteristics of the monitoring zone. A sieve analysis of the soil material in the saturated zone to be monitored shall be provided for the determination, and submitted for Agency review.

26. The monitoring wells shall be developed until the well exhibits stable conditions. The parameters to be monitored during well development shall include at a minimum: pH, specific conductance, temperature and turbidity of the groundwater.

27. The methods used to install and develop the monitoring wells shall be submitted to the Agency for review. The submittal shall include (in addition to the data provided on the boring logs and well completion reports) at a minimum: drilling method, borehole size, well development method, management of installation and development wastes (including development water) and decontamination procedures.

28. All wells shall be measured for static groundwater elevations to determine apparent groundwater flow direction.

29. Upon completion of monitoring wells, a complete characterization of the subsurface geology and hydrogeology must be provided. This investigation shall include all pertinent aquifer characteristics.

30. The above referenced boring logs, completion diagrams (along with the methods used to install and develop the well, see Special Condition #27) and geologic/hydrogeologic characterization shall be submitted for Agency review within 30 days from well installation.

31. A determination of the groundwater quality must be made by analyzing the groundwater samples for the parameters listed in SW-846 methods 8240/8270.

32. Upon receipt of the laboratory results from the sampling event as required by 31 above, Safety Kleen shall develop and submit a Sampling and Analysis Plan, as required in 725.192, to be used for all subsequent sampling events. The details of the Plan shall be consistent with the groundwater quality results and aquifer characteristics. This plan shall be submitted to the Agency for approval by no later than December 1, 1991.

33. Safety Kleen must prepare and submit for review a groundwater quality assessment program consistent with the requirements of 725.193. This program shall be submitted for Agency review and approval by no later than December 1, 1991.

34. The groundwater monitoring program shall follow all applicable regulations and may be modified by the Agency to fulfill the intent of the Act.

35. The June 1991 submittal did not contain an adequate proposal for the implementation of an effective groundwater monitoring program. Therefore, the Agency retains the right to require additional investigations and/or well installation as needed to provide adequate data or monitoring capabilities for the groundwater monitoring system.

Should you have any questions regarding this matter, please contact Mark A. Schollenberger at 217/782-6762.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:MAS:jar/2616q,2-8/sp

Attachment

cc: Maywood Region
Division File - RCRA Closure
Mark Schollenberger, Permit Section
USEPA Region V -- George Hamper
Enforcement

ATTACHMENT 7

Soil Volatile Sampling Procedures

Procedure:

A. PREPARATION AND DECONTAMINATION OF SOIL SAMPLER (i.e. STAINLESS STEEL, BRASS, BRONZE, COPPER, etc.). An example of these samplers would be a shelby tube, split-barrel sampler with metal tube inserts or california sampler. These are only examples there maybe more types available. Also, the sample tube must be at least six inches long.

*1. Wash tubing or sampler with hot water and a nonfoaming detergent.
2. Rinse with hot water.
*3. Rinse with a solvent, such as hexane or acetone.
4. Rinse with very hot water to drive off solvent.
5. Rinse with deionized distilled water.
6. Air Dry
7. Store the sampler in aluminum foil until ready for use.
*Consult the laboratory for specific recommendations.

B. SOIL SAMPLING FOR VOLATILE ORGANICS

1. Using a properly decontaminated sampler (refer to preparation and decontamination instructions), push or drive the sampler to obtain a representative soil sample.

2. DO NOT remove sample from sample tube in the field. The laboratory should remove the sample from the sampling tube.

3. Immediately add clay or other cohesive material (i.e. wetted bentonite) to the ends of the sample to eliminate head space, if necessary.

4. Cover both ends of the sampler with aluminum foil. If possible, cover the aluminum foil with a cap.

5. Put the sample in storage at 4 degrees centigrade immediately.

6. Transport the samples to the laboratory as soon as possible. Most laboratories require delivery within 24 hours of sampling.

NOTE:

Soil samples which will be tested for volatile organic constituents <u>cannot</u> be composited because of the volatilization which would result from any compositing method.

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Refer to: 0316000053 -- Cook County
Safety Kleen - Chicago Recycle Center
ILD005450697
Log No. C-541
RCRA Closure

April 19, 1991

Safety Kleen
777 Big Timber Road
Elgin, Illinois 60123

Gentlemen:

This letter is in response to your letter of April 3, 1991 in which you complied with Special Conditions 6 and 10 of your approved closure plan. The Agency hereby grants an extension of time to June 3, 1991 to submit a revised closure plan.

Should you have any questions or comments regarding the above, please contact Mark A. Schollenberger, P.E. of my staff at 217/782-6762.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:~~MAS~~ PWK:sf/1134q,29

cc: Northern Region
Division File - RCRA Closure
USEPA Region V - George Hamper
Enforcement

C541 USEPA

safety-kleen®

CERTIFIED MAIL

April 3, 1991
91-040

Mr. Lawrence W. Eastep
Manager - Permit Section
Division of Land Pollution Control
Illinois Environmental
Protection Agency
P. O. Box 19276
Springfield, IL 62794

RE: Safety-Kleen Corp., Chicago Recycle Center
Partial Closure Plan T190 - T193
Notification of Impacted Soil

Dear Mr. Eastep:

In accordance with Item No. 6 of the Illinois Environmental Protection Agency's (IEPA's) closure plan approval letter dated August 23, 1990 (Reference LPC No. 031000053), this letter is to inform you of chemical impacts found at the Safety-Kleen Corp. (Safety-Kleen) Chicago Recycle Center. Canonie Environmental Services Corp. (Canonie), on behalf of Safety-Kleen, completed soil sampling per the approved partial closure plan. The attached tables summarize analytical results for the soil samples. These analytical results were received by Safety-Kleen on April 2, 1991.

Figure 1 shows the sample locations. Two soil samples were obtained from each location shown, one surface sample and one from 1-1/2 to 2 feet in depth. Some soil sample locations required slight modification from those indicated in the closure plan due to surface impediments such as concrete. A strip of soil was available between the edge of the tank slabs and the containment wall footings. All soil samples were obtained from within these strips. The samples collected from the deeper interval were angled to match, as close as possible, the locations approved in the closure plan.

RECEIVED

APR 8 1991

IEPA-DLPC

777 BIG TIMBER ROAD ELGIN, ILLINOIS 60123 PHONE 708/697-8460 FAX 708/697-4295

All samples were anlayzed using U.S. Environmental Protection Agency (EPA) Methods 8240 and 8270 in accordance with SW-846 Third Edition Standard procedures. The list of target compounds is listed below and is identical to the list specified by the IEPA.

	Method
Methylene Chloride	8240
Acteone	8240
1,1,1-Trichloroethane	8240
Tetrachloroethene (Perchloroethylene)	8240
Toluene	8240
Freon 113 (Trichlorotrifluoroethane)	8240
Tetrahydrofuran	8240
N,N-Dimethylacetamide (Dimethylacetamide)	8270
Methyl Pyridine Isomers (B-Picoline)	8270
Pyridine (not identified)	8270
n-methyl-2-Pyrolidine	8270

Names in parenthese are as the compounds were listed in IEPA's list; other names are as reported by the laboratory.

Note also that B-Picoline was not positively identified by the laboratory although a number of methyl pyridine isomers were reported. These results are summarized in Table 2.

Tables 1 and 2 summarize the laboratory results, and a copy of the laboratory report will be included in the Safety-Kleen closure report.

In light of these unexpected results, Safety-Kleen requests an extension of the deadline for submission of proposed site cleanup objectives (Item No. 10 of the previously referenced letter). This extension is being requested to allow additional time to fully evaluate cleanup objectives for the area around Tank Farm No. 3. Safety-Kleen understands that a revised closure plan to address the impacted soil around Tank Farm No. 3 must be submitted in time frames established by the IEPA (See item 6 of the closure plan approval letter). Safety-Kleen believes that determination of site cleanup objectives will benefit from additional work likely to be required under the revised closure plan. Safety-Kleen believes this approach will result in a well coordinated effort that will lead to more appropriate cleanup objectives for the site.

If you have any questions, please do not hesitate to contact me at (708) 697-8460.

Very truly yours,

Scott E. Davies
Senior Project Manager - Remediation

SED/njs

Enclosure

cc: Desi Chari
Gary Long
Paul Lambert - Canonie
A. Aghaiephor

Results Summary
Safety-Kleen corp.
Chicago Recycle Center

Compound	EPA Method	Detection Limit or PQL	Sample Results S1-SH	S1-DE	S2-SH	S2-DE	S3-SH	S3-DE	S4-SH	S4-DE	S5-SH	S5-DE	S6-SH	S6-DE	S7-SH	S8-SH	S8-DE	TRIP	FIELD
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
Volatiles																			
Methylene chloride	8240	0.005	<0.005	<0.005	<0.005	<0.005	<0.5	<0.25	<0.5	26	2.9	6.9	<0.005	<0.5	<0.005	<0.25	<5.0		<0.005
Acetone	8240	0.1	<0.1	<0.1	<0.1	<0.1	<10.0	<5.0	<10.0	<10.0	<5.0	<5.0	<0.1	<10	<0.1	<5.0	<100.0		<0.1
1,1,1-Trichloroethane	8240	0.005	<0.005	0.013	<5.0	0.087	24	66	21	2000	13	47	0.45	21	0.014	10	38		0.005
Trichloroethene	8240	0.005	0.036	0.92	0.0073	1.0	40	86	55	2800	83	300	1.3	50	0.047	97	590		0.005
Tetrachloroethene (a)	8240	0.005	<0.005	<0.005	<0.005	0.27	55	50	25	42	11	16	0.29	12	0.02	28	43		<0.005
Toluene	8240	0.005	<0.005	0.012	<0.005	0.032	2.5	1.9	8.8	44000	10000	27000	<0.005	4	0.027	12000	33000		<0.005
Freon 113 (b)(c)	8240	0.005	<0.005	<0.005	<0.005	<0.005	1.9	2.3	3.5	<5.0	<0.25	1.9	0.055	5.9	0.051	3.4	<5		ND
Tetrahydrofuran (c)	8240	(c)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND
Detection Limit Multiplier			1	1	1	1	100	50	100	100	50	50	1	100	1	50	1000		
Semi Volatiles																			
N,N Dimethylacetamide (d	8270		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND		ND
B-Picoline (e)	8270																		
Pyridine	8270	0.33	<0.66	<0.33	<1.3	0.054	<6.6	<0.33	<1.7	0.39	3.5	0.47	<0.99	0.68	<2.5	<2.5	<0.66		ND
1-methyl-2-Pyrrolidone (f)	8270		ND	ND	ND	ND	ND	0.16	ND	17	1.8	5.8	ND	2.5	ND	ND	ND		ND
Detection Limit Multiplier (g)			2	1	4	1	20	1	1	1	5	2	1	1	8	8	2		

Notes:
(a) - Listed as Perchloroethylene in IEPA target compounds list
(b) - Listed as Trichlorotrifluoroethane in IEPA target compounds list
(c) - Tentatively identified compounds; no detection limit; estimated concentrations
(d) - Listed as Dimethylacetamide in IEPA tardet compounds list
(e) - See Table 2 for B-Picoline results
(f) - Listed as n-methyl-2-Pyrolidone in IEPA target compounds list
(g) - Applies only to Pyridine

ND - Not Detected

TABLE 2

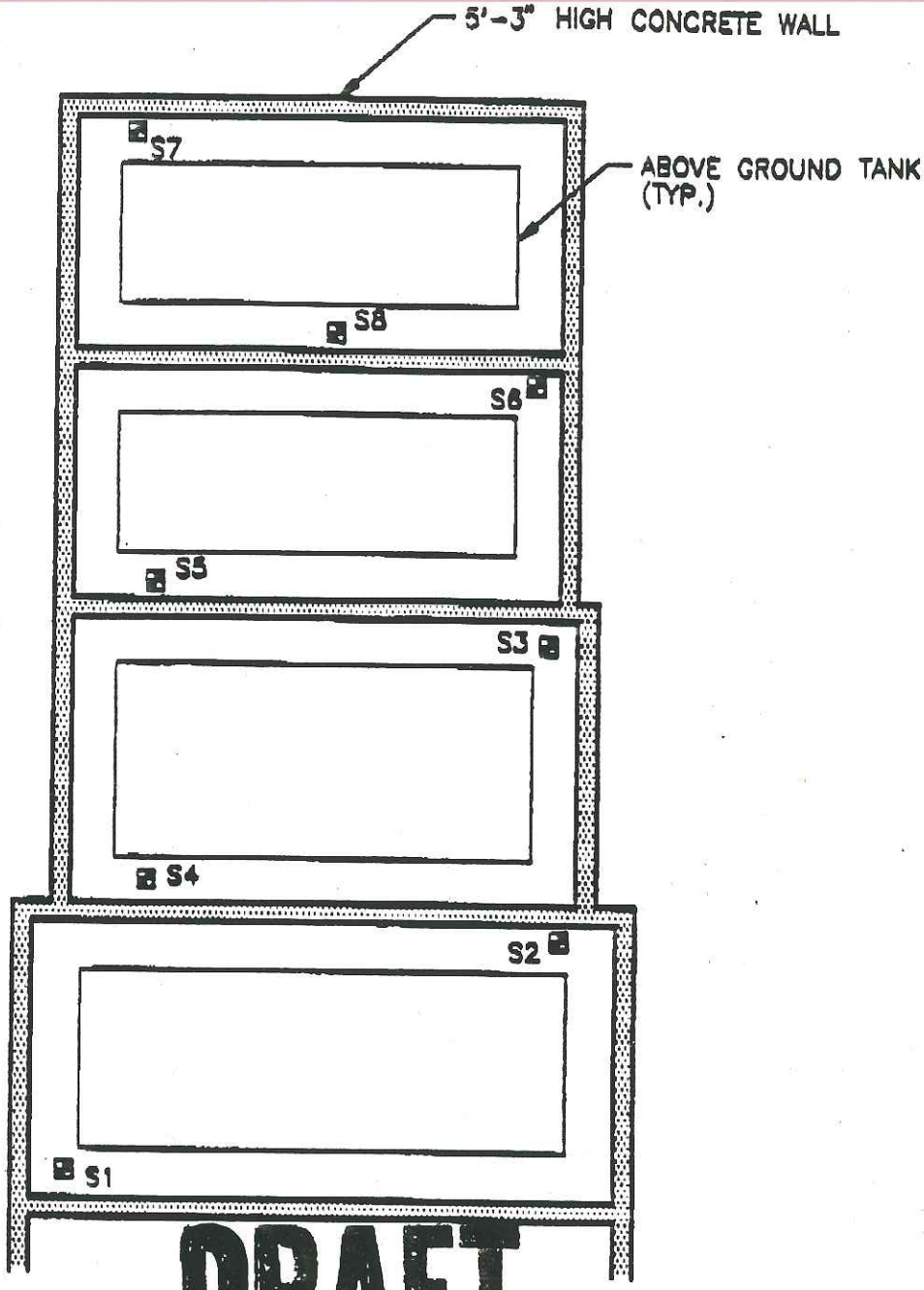
METHYL PYRIDINE RESULTS (a)
SAFETY KLEEN CORPORATION
CHICAGO RECYCLE CENTER

Compound	EPA Method	Scan No.	Sample Results																
			S1-SH	S1-DE	S2-SH	S2-DE	S3-SH	S3-DE	S4-SH	S4-DE	S5-SH	S5-DE	S6-SH	S6-DE	S7-SH	S8-SH	S9-DE	TRIP	FIELD
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
Methyl pyridine isomer	8270	249	0.61	4.2	1			ND	1.4							38			ND
Methyl pyridine isomer	8270	256	3.2					ND					1.1						ND
Methyl pyridine isomer	8270	255		1.5		8.6		ND			340								ND
Methyl pyridine isomer	8270	254					3.3	ND											ND
Methyl pyridine isomer	8270	265						ND		310									ND
Methyl pyridine isomer	8270	266						ND			53								ND
Methyl pyridine isomer	8270	252						ND							0.7				ND
Methyl pyridine isomer	8270	264						ND				880							ND
Methyl pyridine isomer	8270	250						ND					0.64						ND
Methyl pyridine isomer	8270	253						ND						18					ND
Methyl pyridine isomer	8270	258						ND									57		ND

Notes:
(a) - Listed as B-Picoline in IEPA target compounds list, full chemical name is 3-methylpyridine - 3-picoline

ND - Not Detected

DRAWING NUMBER 90-280-A1



DRAFT

LEGEND:

■ SOIL SAMPLE LOCATION

NOTES:

1. SOIL SAMPLE, TANK LOCATIONS AND TANK SIZES ARE APPROXIMATE.

REFERENCES:

- SAFETY-KLEEN CORP. CLOSURE PLAN, EXHIBIT 3.

SCALE

10 0 10 FEET

SOIL SAMPLE LOCATIONS
TANK FARM No. 3
CHICAGO RECYCLE CENTER
CHICAGO, ILLINOIS

PREPARED FOR

SAFETY-KLEEN CORP.

Canonie Environmental

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY		
1	3-18-91	ISSUED FOR REVIEW	DRE			DATE: 2-13-91 SCALE: AS SHOWN	FIGURE 1	DRAWING NUMBER 90-280-A1

USEPA

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

217/782-6761

Refer to: 0316000053 -- Cook
Safety-Kleen Corporation (Chicago RC)
Closure Plan Approved: April 26, 1990
Closure Log #: C-501
ILD005450697 CERTIFIED # P 367 388 109
RCRA CLOSURE

March 26, 1991

Safety-Kleen Corporation
Attn: Alfred Aghaiepour
1445 West 42nd Street
Chicago, Il 60609

Dear Mr. Aghaiepour:

The subject hazardous waste management facility was inspected by a representative of this Agency February 21, 1991. The inspection revealed that the closure activity was completed in accordance with the approved closure plan dated February 1990.

Certification that the hazardous waste tank storage units (S02) had been closed in accordance with the approved closure plan by the owner/operator, Safety-Kleen Corp., and an independent registered professional engineer, Lawrence Helish, of Illinois was received at this Agency February 4, 1991.

The Agency has determined that the closure of the tank storage units has apparently met the requirements of Interim Status Standards, 35 Ill. Admin. Code, Part 725 (40 CFR, Part 265).

This facility must continue to meet requirements of the 35 Ill. Admin. Code, Subtitle G, Parts 703 through 728.

If you have any questions, please contact John Maher at 708/531-5900.

Sincerely,

Glenn D. Savage

Glenn D. Savage, Manager
Field Operations Section
Division of Land Pollution Control

GDS:JM:sd

20

PRINTED ON RECYCLED PAPER

cc: Division File
Maywood Region
USEPA Region V, George Hamper
USEPA Region V, Marilyn Sabadaszka
USEPA Region V, Judy Kertcher
Lawerence Helish, P.E.
Brian White
Charlie Zeal

USEPA

C 501-m-1

safety-kleen®

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

January 31, 1991
DMC 91-116

Mr. Lawrence W. Eastep, P.E., Manager
Permit Section
IEPA-Division of Land Pollution Control
2200 Churchill Road
Springfield, IL 62706

Re: Safety-Kleen Corp. Chicago Recycle Center
0316000053, ILD005450697
RCRA - Closure

Dear Mr. Eastep:

Safety-Kleen Corp. has completed the closure activities at the Chicago Recycle Center pursuant to the closure plan approved by the Illinois EPA on April 26, 1990. Specifically, tanks T104 through T115 have been decontaminated and are removed from hazardous waste usage and tank T199 has been closed by dismantling.

Please find attached the closure report that contains closure certifications signed by an independent professional engineer and by an officer of Safety-Kleen Corp.

In addition to the closure report we are submitting:

1. Revised Part A forms
2. Closure cost estimates and financial assurance documents

If you have any questions or require additional information regarding the closure certification report, please contact me at 708/697-8460.

Very truly yours,

Desi M. Chari

Desi M. Chari
Regional Environmental Engineer

Attachment

cc: Alfred Aghaiepour
f: Chicago-Closure-Partial Closure Tanks T104-115

RECEIVED
FEB 04 1991
IEPA-DLPC

(18)

777 BIG TIMBER ROAD ELGIN, ILLINOIS 60123 PHONE 708/697-8460 FAX 708/697-4295

USEPA

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Log No. C-541
Received: May 25, 1990

Refer to: LPC #0316000053
Safety Kleen (Chicago Recycling Center)
ILD005450697
RCRA-Closure

August 23, 1990

Safety Kleen Corporation
Attn: Desi M. Clari
777 Big Timber Road
Elgin, Illinois 60123

Dear Mr. Chari:

The closure plan submitted by you has been reviewed by this Agency. Your partial closure plan to close the four hazardous waste storage tanks (S02) at the above-referenced facility (Tanks T190, T191, T192 and T193) is hereby approved subject to the following conditions.

1. Closure activities must be completed by October 1, 1991. When closure is complete the owner or operator must submit to the Agency certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan. This certification must be received at this Agency within sixty (60) days after closure, or by December 1, 1991.

   The attached closure certification form must be used. Signatures must meet the requirements of 35 Ill. Adm. Code Section 702.126. The independent engineer should be present at all critical, major points (activities) during the closure. These might include soil sampling, soil removal, backfilling, final cover placement, etc. The frequency of inspections by the independent engineer must be sufficient to determine the adequacy of each critical activity. Financial assurance must be maintained for the units approved for closure herein until the Agency approves the facility's closure certification.

   The Illinois Professional Engineering Act (Ill. Rev. Stat., Ch. 111, par. 5101 et. seq.) requires that any person who practices professional engineering in the State of Illinois or implies that he (she) is a professional engineer must be registered under the Illinois Professional Engineering Act (par. 5101, Sec. 1). Therefore, any certification or engineering services which are performed for a closure plan in the State of Illinois must be done by an Illinois P.E.

   Plans and specifications, designs, drawings, reports, and other documents rendered as professional engineering services, and revisions of the above must be sealed and signed by a professional engineer in accordance with par. 5119, sec. 13.1 of the Illinois Professional Engineering Act.

As part of the closure certification, to document the closure activities at your facility, please submit a Closure Documentation Report which includes:

a. The volume of waste and waste residue removed. The term waste includes wastes resulting from decontamination activities.

b. A description of the method of waste handling and transport.

c. The waste manifest numbers.

d. Copies of the waste manifests.

e. A description of the sampling and analytical methods used.

f. A chronological summary of closure activities and the cost involved.

g. Color photo documentation of closure. Document conditions before, during and after closure.

h. Tests performed, methods and results.

The original and two (2) copies of all certifications, logs, or reports which are required to be submitted to the Agency by the facility should be mailed to the following address:

Illinois Environmental Protection Agency
Division of Land Pollution Control -- #24
Permit Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

2. This facility must continue to meet the applicable requirements of 35 IAC - Subtitle G for those units identified on the Part A application i.e. not approved for closure herein.

3. The approval of this partial closure plan does not relieve Safety Kleen of the responsibility of providing financial assurance for the remainder of the facility which is subject to closure, in accordance with 35 IAC Section 725.243.

4. In accordance with 35 Ill. Adm. Code Sections 703.152 and 703.155, closure of your SO2 units requires modification of your Part A application. Please complete a form and submit it with your closure certification.

5. If the Agency determines that implementation of this closure plan fails to satisfy the requirements of 35 Ill. Adm. Code, Section 725.211, the Agency reserves the right to amend the closure plan. Revisions of closure plans are subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

6. If contamination is detected, the Agency must be notified in writing within fifteen (15) days. A revised closure plan addressing remediation of the contamination detected must be submitted within timeframes established by the Agency.

7. A revised cost estimate and financial assurance instruments should be submitted with the closure certification documents.

8. Under the provisions of 29 CFR 1910 (51 FR 15,654, December 19, 1986), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations.

9. All samples shall be analyzed individually (i.e., no compositing). Sampling and analytical procedures shall be conducted in accordance with the latest edition of SW-846 and Attachment 7 to this Agency's closure plan instruction package. When visually discolored or contaminated material exists within an area to be sampled, horizontal placement of sampling locations shall be adjusted to include such visually discolored and/or contaminated areas. Sample size per interval shall be minimized to prevent dilution of any contamination. Apparent visually contaminated material within a sampling interval shall be included in the sample portion of the interval to be analyzed. To demonstrate a parameter is not present in a sample, analysis results must show a detection limit at least as low as the PQL for that parameter in the latest edition of SW-846. For inorganic parameters, the detection limit must be at least as low as the RCRA Groundwater Detection Limits, as referenced in SW-846 (Third Edition) Volume 1A, pages TWO-29 and TWO-30, Table 2-15.

10. The Agency will establish clean-up objectives to be used to determine if "clean" closure (closure by removal) has been achieved upon receipt and review of the sampling and analytical results required in the approved closure plan. These sampling and analytical results along with a proposal for site specific clean-up objectives (if you wish to propose them) must be submitted to this Agency by May 1, 1991.

11. If clean closure cannot be achieved pursuant to 35 IAC 725.297a then a modified closure plan and a post-closure plan prepared pursuant to 35 IAC Section 725.297b must be submitted to the Agency for review and approval within 60 days of such a determination.

12. 35 IAC 721.131 F001 through F005 wastes must be disposed in accordance with 35 IAC Part 728.

13. To avoid creating another regulated storage unit during closure, obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated material on-site prior to off-site disposal, do so only in containers or tanks for less than ninety (90) days. Do not create regulated waste pile units by storing the excavated material in piles. The ninety (90) day accumulation time exemption (35 IAC 722.134) only applies to containers and tanks.

14. Please be advised that the requirements of the Responsible Property Transfer Act (Public Act 85-1228) may apply to your facility due to the management of RCRA hazardous waste. In addition, please be advised that if you store or treat on-site generated hazardous waste in containers or tanks pursuant to 35 IAC 722.134, those units are subject to the closure requirements identified in 35 IAC 722.134(a)(1).

15. All hazardous wastes that result from this project are subject to annual reporting as required in 35 IAC 722.141 and shall be reported to the Agency by March 1 of the following year for wastes treated and left on-site or shipped off-site for storage, treatment and/or disposal during any calendar year. Additional information and appropriate report forms may be obtained from the Agency by contacting:

    Administrative Compliance Unit
    Division of Land Pollution Control
    Illinois Environmental Protection Agency
    P.O. Box 19276
    Springfield, Illinois 62794-9276

Should you have any questions regarding this matter, please contact G. Tod Rowe at 217/782-6762.

Very truly yours,

Lawrence W Eastep by GTR

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:GTR:jas/2966n,48-51

Attachment

cc: Maywood Region
    Division File - RCRA Closure
    Tod Rowe, Permit Section
    USEPA Region V -- George Hamper
    Enforcement

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

ATTACHMENT

This statement is to be completed by both the responsible officer and by the registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

Closure Certification Statement

Closure Log C-541

The hazardous waste management S01 unit at the facility described in this document has been closed in accordance with the specifications in the approved closure plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

USEPA ID Number

Facility Name

Signature of Owner/Operator

Name and Title

Signature of Registered P.E.

Name of Registered P.E. and Illinois Registration Number

Date

GTR:jas/2966n,55

Hamper

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Log No. C-501
Received: July 20, 1989

Refer to: 0316000053 -- Cook County
Safety Kleen (Chicago Recycling Center)
ILD005450697
RCRA-Closure

October 18, 1989

Safety Kleen
Attn: Desi M. Chari
777 Big Timber Road
Elgin, Illinois 60123

Dear Mr. Chari:

The closure plan which you submitted has been reviewed by this Agency. Your partial closure plan to close eleven hazardous waste storage tanks (S02) at the above-referenced facility (Tanks T105-T114 and T199, to be referred to hereafter as "T105-T114" and "T199") is hereby approved subject to the following conditions and modifications.

1. Closure activities must be completed by March 1, 1990. When closure is complete the owner or operator must submit to the Agency certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan. This certification must be received at this Agency within sixty (60) days after closure, or by May 1, 1990.

   The attached closure certification form must be used. Signatures must meet the requirements of 35 Ill. Adm. Code Section 702.126. The independent engineer should be present at all critical, major points (activities) during the closure. These might include soil sampling, soil removal, backfilling, final cover placement, etc. The frequency of inspections by the independent engineer must be sufficient to determine the adequacy of each critical activity. Financial assurance must be maintained for the units approved for closure herein until the Agency approves the facility's closure certification.

   The Illinois Professional Engineering Act (Ill. Rev. Stat., Ch. 111, par. 5101 et. seq.) requires that any person who practices professional engineering in the State of Illinois or implies that he (she) is a professional engineer must be registered under the Illinois Professional Engineering Act (par. 5101, Sec. 1). Therefore, any certification or engineering services which are performed for a closure plan in the State of Illinois must be done by an Illinois P.E.

Plans and specifications, designs, drawings, reports, and other documents rendered as professional engineering services, and revisions of the above must be sealed and signed by a professional engineer in accordance with par. 5119, sec. 13.1 of the Illinois Professional Engineering Act.

As part of the closure certification, to document the closure activities at your facility, please submit a Closure Documentation Report which includes:

a. The volume of waste and waste residue removed. The term waste includes wastes resulting from decontamination activities.

b. A description of the method of waste handling and transport.

c. The waste manifest numbers.

d. Copies of the waste manifests.

e. A description of the sampling and analytical methods used.

f. A chronological summary of closure activities and the cost involved.

g. Color photo documentation of closure. Document conditions before, during and after closure.

h. Tests performed, methods and results.

The original and two (2) copies of all certifications, logs, or reports which are required to be submitted to the Agency by the facility should be mailed to the following address:

Illinois Environmental Protection Agency
Division of Land Pollution Control -- #24
Permit Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

2. The approval of this partial closure plan does not relieve Safety Kleen Chicago Recycling Center of the responsibility of providing financial assurance for the remainder of the facility which is subject to closure, in accordance with 35 IAC Section 725.243.

3. Enclosed is a Part A application form. In accordance with 35 Ill. Adm. Code Sections 703.152 and 703.155, closure of your eleven hazardous waste tanks requires modification of your Part A application. Please complete this form and submit it with your closure certification.

4. If the Agency determines that implementation of this closure plan fails to satisfy the requirements of 35 Ill. Adm. Code, Section 725.211, the Agency reserves the right to amend the closure plan. Revisions of closure plans are subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

5. If contamination is detected, the Agency must be notified in writing within fifteen (15) days. A revised closure plan addressing remediation of the contamination detected must be submitted within timeframes established by the Agency.

6. A revised cost estimate and financial assurance instruments should be submitted with the closure certification documents.

7. Under the provisions of 29 CFR 1910 (51 FR 15,654, December 19, 1986), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations.

8. Prior to initiating decontamination of T105-T114, an independent registered professional engineer shall inspect and photograph the concrete secondary containment system associated with the tanks. The containment system shall be inspected for cracks or gaps which penetrate through the floor and/or wall of the containment system. In addition, all construction joints must be inspected to ensure that they are watertight. The results of this inspection shall be submitted in the form of a certification and shall accompany the documentation report required in Condition 1 above. A description of how the conclusions in the certification were reached must also be included (e.g., information must be provided to demonstrate that all joints are watertight). If it is found that (1) cracks do penetrate through the floor and/or wall or (2) the construction joints are not watertight, a closure plan modification request must be submitted within sixty (60) days of the inspection which describes the activities necessary to investigate the potential release of contaminants due to an inadequate containment system.

9. If the inspection required by Condition 9 finds that (1) no cracks penetrate through the concrete of the secondary containment system associated with T105-T114, and (2) all construction joints associated with this structure are watertight, the procedures described below shall be followed:

   a. Any residue adhering to the concrete secondary containment system shall be removed by scraping and/or brushing.

   b. Each tank system (including all appurtenances and the associated secondary containment system) shall be steam-cleaned (or equivalent) and triple rinsed. Decontamination of these items will be considered complete after the third rinse (i.e., no testing of the rinsate is necessary).

   c. All wastewater generated during decontamination of these structures shall be collected. This wastewater may be treated at the on-site pretreatment plant, provided Safety Kleen has the permits necessary to treat this type of wastewater at this plant. If this wastewater cannot be treated on-site, it must be transported off-site as a hazardous waste to a properly permitted treatment, storage or disposal facility.

   d. The concrete secondary containment system shall be re-inspected in accordance with the procedures set forth in Condition 8 above after it has been steam-cleaned and triple-rinsed. The results of this inspection shall be evaluated and responded to in accordance with the procedures set forth in the aforementioned condition.

10. Due to the fact that T199 is constructed differently than the other tanks and is located in an area separate from the other tanks, it must be closed in a manner which is somewhat different from that utilized to close T105-T114. Specifically:

   a. T199 and its associated appurtenances shall be (1) decontaminated in accordance with the procedures set forth in Condition 9(a)-(c) above and (2) dismantled. The secondary containment system associated with Tank T199 need not be decontaminated due to the fact that it will be utilized as part of the area where hazardous wastes are to be stored in containers in accordance with 35 IAC 724 and 725.

   b. Once T199 has been removed, the concrete secondary containment system associated with the tank shall be inspected in accordance with the procedures set forth in Condition 8 above. The results of this inspection shall be evaluated and responded to in accordance with the procedures set forth in the aforementioned condition.

11. Page G2562-RV4 of the approved closure plan states "Pursuant to the requirements of 35 IAC 725.291, as to the structural integrity of the tanks (T105-T114) and the compatibility of the tanks (T105-T114) with the materials in these tanks has been completed by an independent registered professional engineer. The written assessment indicates that the tanks are in excellent condition and they can continue to be used for the storage of organic chemicals." However, the results of these assessments for T105-T114 were not included in the closure plan. Therefore, a copy of the assessment for T105-T114 must be submitted to the Agency as part of the closure documentation report required by Condition 1 above.

    These assessments must include the results of a leak test or internal inspection (as required by 35 IAC 725.291) and must demonstrate that there ar no leaks or cracks in the bottom of each tank. If this information is not contained in the assessment, it must be obtained during closure and submitted to the Agency along with the Closure Documentation Report required by Condition 1 above.

    a. If it is found that the bottom of a tank leaks or is cracked, a closure plan modification request must be submitted which describes the activities necessary to investigate the potential for contamination beneath the tank.

12. No soil sampling and analysis is required for closure of the subject tanks, provided a demonstration can be made that the concrete secondary containment system for the tanks provided proper containment of any spills or leaks. However, if inspection of the containment systems indicate that soil sampling and analysis is necessary, the Agency will establish clean-up objectives to be used to determine if "clean" closure (closure by removal) has been achieved upon receipt and review of the sampling and analytical results.

13. 35 IAC 721.131 F001 through F005 wastes must be disposed in accordance with 35 IAC Part 728.

14. To avoid creating another regulated storage unit during closure, obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated material on-site prior to off-site disposal, do so only in containers or tanks for less than ninety (90) days. Do not create regulated waste pile units by storing the excavated material in piles. The ninety (90) day accumulation time exemption (35 IAC 722.134) only applies to containers and tanks.

15. Approval of the subject closure plan does not constitute approval of the closure cost estimate contained in Section 11.0 of the approved closure plan. Specifically:

    a. A cost estimate must be provided for managing the waste contained in Tanks T105-T114. This estimate must be based on third-party costs and must represent a "worst case scenario" for managing the wastes in the tanks.

    b. No justification was provided for the proposed cost estimates for each of the activities associated with closure of the tanks. Specifically, the unit costs utilized in developing these estimates and the amount of time and/or material needed to carry out each activity must be justified.

    c. No cost estimate was provided for (1) personal protective equipment and (2) decontamination of the equipment utilized during closure of the tanks.

Should you have any questions regarding this matter, please contact James K. Moore, P.E. at 217/782-6762.

Very truly yours,

Lawrence W. Easter, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:JKM:rd3512k/100-105

Attachment

cc: Maywood Region
Division File - RCRA Closure
Andy Vollmer
USEPA Region V -- George Hamper
USEPA Region V -- Mary Murphy
Compliance Section
Enforcement

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

ATTACHMENT

This statement is to be completed by both the responsible officer and by the registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

Closure Certification Statement

Closure Log C-501

The eleven (11) hazardous waste management storage tanks (Tanks T105-T114 and T199) at the facility described in this document have been closed in accordance with the specifications in the approved closure plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

USEPA ID Number	Facility Name
Signature of Owner/Operator	Name and Title
Signature of Registered P.E.	Name of Registered P.E. and Illinois Registration Number

Date

JKM:rd3512k/106

MM
A.4.1

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

217/782-6762

Log No. C-501
Received: July 20, 1989

Refer to: 0316000053 -- Cook County
Safety Kleen (Chicago Recycling Center)
ILD005450697
RCRA-Closure

October 18, 1989

Safety Kleen
Attn: Desi M. Chari
777 Big Timber Road
Elgin, Illinois 60123

Dear Mr. Chari:

The closure plan which you submitted has been reviewed by this Agency. Your partial closure plan to close eleven hazardous waste storage tanks (S02) at the above-referenced facility (Tanks T105-T114 and T199, to be referred to hereafter as "T105-T114" and "T199") is hereby approved subject to the following conditions and modifications.

1. Closure activities must be completed by March 1, 1990. When closure is complete the owner or operator must submit to the Agency certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan. This certification must be received at this Agency within sixty (60) days after closure, or by May 1, 1990.

   The attached closure certification form must be used. Signatures must meet the requirements of 35 Ill. Adm. Code Section 702.126. The independent engineer should be present at all critical, major points (activities) during the closure. These might include soil sampling, soil removal, backfilling, final cover placement, etc. The frequency of inspections by the independent engineer must be sufficient to determine the adequacy of each critical activity. Financial assurance must be maintained for the units approved for closure herein until the Agency approves the facility's closure certification.

   The Illinois Professional Engineering Act (Ill. Rev. Stat., Ch. 111, par. 5101 et. seq.) requires that any person who practices professional engineering in the State of Illinois or implies that he (she) is a professional engineer must be registered under the Illinois Professional Engineering Act (par. 5101, Sec. 1). Therefore, any certification or engineering services which are performed for a closure plan in the State of Illinois must be done by an Illinois P.E.

Plans and specifications, designs, drawings, reports, and other documents rendered as professional engineering services, and revisions of the above must be sealed and signed by a professional engineer in accordance with par. 5119, sec. 13.1 of the Illinois Professional Engineering Act.

As part of the closure certification, to document the closure activities at your facility, please submit a Closure Documentation Report which includes:

a. The volume of waste and waste residue removed. The term waste includes wastes resulting from decontamination activities.

b. A description of the method of waste handling and transport.

c. The waste manifest numbers.

d. Copies of the waste manifests.

e. A description of the sampling and analytical methods used.

f. A chronological summary of closure activities and the cost involved.

g. Color photo documentation of closure. Document conditions before, during and after closure.

h. Tests performed, methods and results.

The original and two (2) copies of all certifications, logs, or reports which are required to be submitted to the Agency by the facility should be mailed to the following address:

Illinois Environmental Protection Agency
Division of Land Pollution Control -- #24
Permit Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

2. The approval of this partial closure plan does not relieve Safety Kleen Chicago Recycling Center of the responsibility of providing financial assurance for the remainder of the facility which is subject to closure, in accordance with 35 IAC Section 725.243.

3. Enclosed is a Part A application form. In accordance with 35 Ill. Adm. Code Sections 703.152 and 703.155, closure of your eleven hazardous waste tanks requires modification of your Part A application. Please complete this form and submit it with your closure certification.

4. If the Agency determines that implementation of this closure plan fails to satisfy the requirements of 35 Ill. Adm. Code, Section 725.211, the Agency reserves the right to amend the closure plan. Revisions of closure plans are subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

5. If contamination is detected, the Agency must be notified in writing within fifteen (15) days. A revised closure plan addressing remediation of the contamination detected must be submitted within timeframes established by the Agency.

6. A revised cost estimate and financial assurance instruments should be submitted with the closure certification documents.

7. Under the provisions of 29 CFR 1910 (51 FR 15,654, December 19, 1986), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations.

8. Prior to initiating decontamination of T105-T114, an independent registered professional engineer shall inspect and photograph the concrete secondary containment system associated with the tanks. The containment system shall be inspected for cracks or gaps which penetrate through the floor and/or wall of the containment system. In addition, all construction joints must be inspected to ensure that they are watertight. The results of this inspection shall be submitted in the form of a certification and shall accompany the documentation report required in Condition 1 above. A description of how the conclusions in the certification were reached must also be included (e.g., information must be provided to demonstrate that all joints are watertight). If it is found that (1) cracks do penetrate through the floor and/or wall or (2) the construction joints are not watertight, a closure plan modification request must be submitted within sixty (60) days of the inspection which describes the activities necessary to investigate the potential release of contaminants due to an inadequate containment system.

9. If the inspection required by Condition 9 finds that (1) no cracks penetrate through the concrete of the secondary containment system associated with T105-T114, and (2) all construction joints associated with this structure are watertight, the procedures described below shall be followed:

   a. Any residue adhering to the concrete secondary containment system shall be removed by scraping and/or brushing.

   b. Each tank system (including all appurtenances and the associated secondary containment system) shall be steam-cleaned (or equivalent) and triple rinsed. Decontamination of these items will be considered complete after the third rinse (i.e., no testing of the rinsate is necessary).

   c. All wastewater generated during decontamination of these structures shall be collected. This wastewater may be treated at the on-site pretreatment plant, provided Safety Kleen has the permits necessary to treat this type of wastewater at this plant. If this wastewater cannot be treated on-site, it must be transported off-site as a hazardous waste to a properly permitted treatment, storage or disposal facility.

   d. The concrete secondary containment system shall be re-inspected in accordance with the procedures set forth in Condition 8 above after it has been steam-cleaned and triple-rinsed. The results of this inspection shall be evaluated and responded to in accordance with the procedures set forth in the aforementioned condition.

10. Due to the fact that T199 is constructed differently than the other tanks and is located in an area separate from the other tanks, it must be closed in a manner which is somewhat different from that utilized to close T105-T114. Specifically:

   a. T199 and its associated appurtenances shall be (1) decontaminated in accordance with the procedures set forth in Condition 9(a)-(c) above and (2) dismantled. The secondary containment system associated with Tank T199 need not be decontaminated due to the fact that it will be utilized as part of the area where hazardous wastes are to be stored in containers in accordance with 35 IAC 724 and 725.

   b. Once T199 has been removed, the concrete secondary containment system associated with the tank shall be inspected in accordance with the procedures set forth in Condition 8 above. The results of this inspection shall be evaluated and responded to in accordance with the procedures set forth in the aforementioned condition.

11. Page G2562-RV4 of the approved closure plan states "Pursuant to the requirements of 35 IAC 725.291, as to the structural integrity of the tanks (T105-T114) and the compatibility of the tanks (T105-T114) with the materials in these tanks has been completed by an independent registered professional engineer. The written assessment indicates that the tanks are in excellent condition and they can continue to be used for the storage of organic chemicals." However, the results of these assessments for T105-T114 were not included in the closure plan. Therefore, a copy of the assessment for T105-T114 must be submitted to the Agency as part of the closure documentation report required by Condition 1 above.

    These assessments must include the results of a leak test or internal inspection (as required by 35 IAC 725.291) and must demonstrate that there ar no leaks or cracks in the bottom of each tank. If this information is not contained in the assessment, it must be obtained during closure and submitted to the Agency along with the Closure Documentation Report required by Condition 1 above.

    a. If it is found that the bottom of a tank leaks or is cracked, a closure plan modification request must be submitted which describes the activities necessary to investigate the potential for contamination beneath the tank.

12. No soil sampling and analysis is required for closure of the subject tanks, provided a demonstration can be made that the concrete secondary containment system for the tanks provided proper containment of any spills or leaks. However, if inspection of the containment systems indicate that soil sampling and analysis is necessary, the Agency will establish clean-up objectives to be used to determine if "clean" closure (closure by removal) has been achieved upon receipt and review of the sampling and analytical results.

13. 35 IAC 721.131 F001 through F005 wastes must be disposed in accordance with 35 IAC Part 728.

14. To avoid creating another regulated storage unit during closure, obtain any necessary permits for waste disposal prior to initiating excavation activities. If it is necessary to store excavated material on-site prior to off-site disposal, do so only in containers or tanks for less than ninety (90) days. Do not create regulated waste pile units by storing the excavated material in piles. The ninety (90) day accumulation time exemption (35 IAC 722.134) only applies to containers and tanks.

15. Approval of the subject closure plan does not constitute approval of the closure cost estimate contained in Section 11.0 of the approved closure plan. Specifically:

    a. A cost estimate must be provided for managing the waste contained in Tanks T105-T114. This estimate must be based on third-party costs and must represent a "worst case scenario" for managing the wastes in the tanks.

    b. No justification was provided for the proposed cost estimates for each of the activities associated with closure of the tanks. Specifically, the unit costs utilized in developing these estimates and the amount of time and/or material needed to carry out each activity must be justified.

    c. No cost estimate was provided for (1) personal protective equipment and (2) decontamination of the equipment utilized during closure of the tanks.

Should you have any questions regarding this matter, please contact James K. Moore, P.E. at 217/782-6762.

Very truly yours,

Lawrence W. Easter, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:JKM:rd3512k/100-105

Attachment

cc: Maywood Region
Division File - RCRA Closure
Andy Vollmer
USEPA Region V -- George Hamper
USEPA Region V -- Mary Murphy
Compliance Section
Enforcement

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

ATTACHMENT

This statement is to be completed by both the responsible officer and by the registered professional engineer upon completion of closure. Submit one copy of the certification with original signatures and three additional copies.

Closure Certification Statement

Closure Log C-501

The eleven (11) hazardous waste management storage tanks (Tanks T105-T114 and T199) at the facility described in this document have been closed in accordance with the specifications in the approved closure plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

USEPA ID Number	Facility Name
Signature of Owner/Operator	Name and Title
Signature of Registered P.E.	Name of Registered P.E. and Illinois Registration Number

Date

JKM:rd3512k/106

C-501 USEPA

safety-kleen®

Federal Express

July 18, 1989
DMC 89-262

Mr. Lawrence W. Eastep, P.E. Manager
Permit Section
IEPA - Division of Land Pollution Control
2200 Churchill Rd.
Springfield, IL 60706

Re: Safety-Kleen Corp. - Chicago Recycle Center
0316000053, ILD005450697

Dear Mr. Eastep:

Enclosed you will find a partial-closure plan to close eleven (11) aboveground storage tanks at the Chicago Recycle Center. Safety-Kleen proposes to close tanks T104 through T114 which are located in Tank Farm No. 1 and tank T199 which is located in container storage Area No. 1 as per this partial-closure plan.

Pursant to the agreement reached with the Agency's enforcement staff in the Maywood office, Safety-Kleen Corp. is required to close the above specified tanks for hazardous waste usage. We plan to perform the partial-closure in August, 1989. We appreciate the Agency's expedited review and approval of the partial-closure plan in order to complete the closure activities on time.

If you or your staff have any questions, or require further information, please contact me at 312/697-8460.

Very Truly Yours,

Desi M. Chari

Desi M. Chari
Regional Environmental Engineer

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DMC/rls

Enclosure

cc: Tom Hillstrom
John Maher, IEPA -Maywood
f: Chicago RC - Partial Closure Plan

777 BIG TIMBER ROAD ELGIN, ILLINOIS 60123 PHONE 312/697-8460 TELEX 910 251 4479

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PARTIAL CLOSURE PLAN
SAFETY-KLEEN CORP., CHICAGO RECYCLE CENTER

1.0 FACILITY DESCRIPTION

Safety-Kleen Corp. plans to close eleven (11) hazardous waste storage tanks at the Chicago Recycle Center pursuant to the requirements of 35 IAC 725.212(b)(1). This section provides a general description of the Safety-Kleen Corp. Chicago Recycle Center. The section includes information on the location of the facility and description of the adjacent areas, including USGS map and existing facility site plan. The section also contains a summary of facility operations, including site history, present and proposed operations, wastes accepted and wastes generated at the facility, and other relevant information.

1.1 GENERAL DESCRIPTION

The Chicago Recycle center is a solvent recovery facility (SIC Code 7399) that accepts solvent waste from Safety-Kleen toll customers and other industrial and commercial facilities and processes the waste material to recover clean material for recycle or sale. The Chicago Recycle Center is located within the city limits of Chicago, Cook County, Illinois, between 42nd Street and 43rd Street approximately 1,000 feet east of Ashland Avenue. The address of the Chicago Recycle Center is:

Safety-Kleen Corp., Chicago Recycle Center
1445 West 42nd Street
Chicago, Illinois 60609

A USGS map for the Englewood quadrangle shows the location of the Chicago Recycle Center and is included as Exhibit 1. The facility is situated on six contiguous surveyed parcels comprising approximately eight acres of land. Site plan of the existing facility is shown in Exhibit 2.

The site is zoned M-5 Industrial, the heaviest classification of industrial zoning in the City of Chicago. The site and surrounding area were formerly part of the Chicago Union Stockyards. Since the stockyards closed down, the area has reverted to commercial and light to heavy industrial uses. Commercial operations, including small businesses and retail stores, are

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located along Ashland Avenue and to the west of the site, and residential areas are located approximately one-quarter mile south and west of the facility.

The present Chicago Recycle Center was constructed by Custom Organics, Inc., who operated the facility from 1969 until 1985, when Custom Organics, Inc., was acquired by Safety-Kleen. The Chicago Recycle Center and land parcels are owned by the Safety-Kleen Corp., headquartered in Elgin, Illinois. The address of Safety-Kleen Corp. headquarters is:

Safety-Kleen Corporation
777 Big Timber Road
Elgin, Illinois 60123

1.2 FACILITY OPERATIONS

The Chicago Recycle Center receives used solvents, solvent mixtures, and other solvent-containing liquid and solid wastes from Safety-Kleen recycle centers and from industrial and commercial users. Wastes accepted include organic acids, chlorinated and fluorinated hydrocarbons, amines, alcohols, aliphatic and aromatic compounds, waste oils, and paint wastes. Industries served by the Chicago Recycle Center include chemical manufacturers, pharmaceutical manufacturers, paint manufacturers, automobile, appliance and electronics manufacturers, foundries, metal fabrication shops, maintenance shops, and aircraft manufacturers in Illinois and other states. Wastes are received in containers and in bulk shipments by tank trailer. Used solvents, solvent mixtures, and other solvent-containing wastes are recovered by a combination of processes including neutralization, distillation, fractionation, liquid-liquid extraction, and drying. Recovered products are either returned to the Safety-Kleen toll customer or marketed as recovered solvent.

Solid and liquid wastes are generated by solvent recovery operations at the Chicago Recycle Center. Distillation and fractionation of waste solvents generate still bottoms, which are generally a heavy, oily waste with significant BTU value and which may contain up to 40 percent solids. These wastes are shipped off-site to be processed into industrial furnace fuel. Solid wastes with no significant BTU value or which otherwise cannot be processed into fuel are shipped off-site for incineration.

Liquid-liquid extraction, decanting, and drying of aqueous/solvent mixtures and distillation of some wastes with high water content generate wastewater that may contain organic chemicals or metals. Wastewater generated by the Chicago Recycle Center is presently piped to the sanitary sewer system under approvals from the Metropolitan Sanitary District of Chicago.

The day-to-day operation of the Chicago Recycle Center is the responsibility of the Plant Manager. The Plan Manager reports to the Manager of Treatment Operations who in turn reports to the Vice President, Technical Services. The Safety-Kleen Corporate Department of Environment, Health and Safety provides assistance to the plant in the areas of regulatory affairs, permitting, and environmental compliance.

1.3 HAZARDOUS WASTE MANAGEMENT UNITS

The Chicago Recycle Center stores hazardous wastes in tanks and containers. The facility presently stores waste materials in forty-seven (47) aboveground storage tanks and in one (1) container storage area. Tank number, location, capacity and waste types managed in each tank are described in Table 1.

2.0 DESCRIPTION OF WASTE MANAGEMENT UNITS TO BE CLOSED

The Chicago Recycle Center presently manages hazardous waste in one (1) container storage area (EPA process code S01), and forty-seven (47) above-ground storage tanks (EPA process code S02). Exhibit 2 and Table 2 identify location of these units. Safety-Kleen Corp. proposes to close eleven (11) hazardous waste storage tanks at the facility. The eleven tanks are: T105, T106, T107, T108, T109, T110, T111, T112, T113, T114 and T199. Under this partial closure plan, tanks T105 through T114 will be decontaminated as per the procedures specified in Section 5.0. Upon decontamination of the tanks and the associated pumps and pipings, the ten (10) tanks will be used for storage of processed materials. Tank T199 will be decontaminated and removed from the facility.

2.1 STORAGE TANKS T105-T114 (TANK FARM NO. 1)

Tanks T105-T114 are located in Tank Farm 1, which is located east of Process Building No. 1, as shown in Exhibit 2. These tanks are located within a secondary containment system that is constructed of reinforced concrete. Tanks T105 through T114 are flat bottom tanks constructed of carbon steel with

storage capacity of 12,500 gallons each. The maximum quantity of waste stored in each tank is 12,500 with a total waste storage of 125,000 in ten (10) tanks. Pursuant to the requirements of 35 IAC 725.291, assessment as to the structural integrity of the tanks and the compatibility of the tanks with the materials stored in these tanks has been completed by an independent registered professional engineer. The written tank assessment indicates that the tanks are in excellent condition and they can continue to be used for the storage of organic chemicals.

Tanks T105 through T114 have welded pipes for transfer of materials into and out of the tanks. Exhibit 3 contains the tank details for these tanks. The secondary containment system is constructed of reinforced concrete and the base is free of cracks or gaps and is in good integrity. All the tanks are aboveground and any leaks or spills can be easily detected during the periodic inspection program. The secondary containment is sufficiently impervious to contain any accumulated liquid, including precipitation, until collected material is removed (35 IAC 725.293).

35 IAC 725.293(d) requires that the secondary containment for the hazardous waste storage tanks should be provided with an impermeable interior coating or lining that is compatible with the stored waste to prevent migration of the waste. Tanks T105 through T115 are flat bottom tanks which are situated on the concrete secondary containment. In order to coat the secondary containment, the tanks have to be lifted from the concrete pad to apply the coatings underneath the tanks. It will be uneconomical to lift all the tanks to apply the coatings. Further, the tanks have welded pipes and catwalks connected to them. Therefore, all the pipings have to be dismantled when the tanks are lifted up to apply the coatings. Safety-Kleen believes it is impractical and uneconomical to dismantle the entire tank farm. Therefore, Safety-Kleen proposes to decontaminate tanks T105 through T110 and perform closure as per the requirements of 35 IAC 725.211.

The tanks and associated pumps and auxiliary pipings will not be removed from the facility. Instead, they will be used for the storage of non-regulated materials, such as recycled in-process and product materials.

2.2 STORAGE TANK T199

Tank 199 is a 7,600-gallon capacity horizontal tank constructed of carbon steel, and it is located in Container Storage Area No. 1. Exhibit 4 contains the tank details for Tank No. 199, and Exhibit 5 shows the details of Container Storage Area No. 1.

Container Storage Area No. 1 consists of an uncovered, reinforced concrete pad with perimeter curbs. The approximate dimensions of the existing container storage area are 148.5 feet by 57.5 feet. The perimeter curbs on all four sides of the concrete pad are 6-inch-wide, 6-inch-high reinforced concrete.

The secondary containment structure provides containment for Tank No. 199 and the containers with the capacity to hold 10% of the volume of materials stored in containers, volume of Tank No. T199 and precipitation from a 25-year, 24-hour rainfall event. Container Storage Area No. 1 is free of cracks and gaps and the concrete base is in good integrity to contain any leaks or spills within the secondary containment system. Upon decontamination and removal of Tank No. 199, Container Storage Area No. 1 will be used exclusively for the storage of containers.

Upon closure of tanks T105 through T114 and T199, the hazardous waste management units which would be continued to be used at the Chicago Recycle Center are specified in Table 3. Table 3 also contains the expected year of closure of the units.

3.0 CLOSURE PERFORMANCE STANDARDS

The purpose of this partial closure plan is:

1. To identify the steps necessary to close the subject units at the facility in accordance with the requirements of 35 IAC 725.210.
2. To describe how Safety-Kleen Corp. plans to close the units in a manner that:
   a. Minimizes the need for further maintenance; and
   b. Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated

run-off or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

In closing these eleven (11) tanks, the loss in hazardous waste storage capacity will be made up by utilizing the other aboveground storage tanks. Safety-Kleen has submitted permit modification application to the Illinois EPA, DLPC, to operate certain tanks in Tank Farm No. 5 for the storage of hazardous wastes. Upon approval of the operating permit, waste materials from the tanks T105 through T114 will be transferred to the new permitted tanks. After transfer of the materials, the eleven tanks will go through closure as specified in the partial closure plan.

4.0 CLOSURE SCHEDULE

Within ninety (90) days after approval of this partial closure plan, Safety-Kleen will process all hazardous wastes in storage and/or remove them from the units to be closed, in accordance with this partial closure plan and 35 IAC 725.213. As required by 35 IAC 725.213(b), Safety-Kleen will complete closure activities within 180 days after approval of the closure plan by Illinois EPA.

Safety-Kleen may amend the closure plan in compliance with 35 IAC Section 725.211 at any time during the active life of the units. Safety-Kleen will request a permit modification within 30 days of any unexpected event that would affect the closure plan.

5.0 CLOSURE PROCEDURES

The purpose of this partial closure plan is to decontaminate tanks T105 through T114 and the associated ancillary equipment. In addition, Safety-Kleen proposes to close and remove Tank No. T199 and the associated pipings.

5.1 STORAGE TANKS T105 THROUGH T114

Hazardous materials presently stored in Tanks T105 through T114 will be pumped out of the tanks and recycled at the Chicago Recycle Center using the process units. Upon removal of the contents of the tanks, the pipings connected to the tanks will be washed with high pressure water and the water will be drained from the pipes into the tanks. The collected materials will be pumped out of the tanks using vacuum pumps and stored in a regulated hazardous waste storage tank and managed as a hazardous waste as per the requirements of 35 IAC 721.725.

After flushing the pipes, the pipes and the tanks will be triple rinsed and the rinsate will be collected and managed as a hazardous waste. The rinse water from the third rinse will be sampled and analyzed for the parameters specified in Table 3.

Access to the tanks is obtained by removing manways. The tanks will then be entered and cleaned using a squeegee. Afterwards, the entire interior wall of the tank will be triple rinsed with high pressure water. The quantity of the wash liquid will be kept to a minimum in order to limit the amount of unnecessary disposal material. If no contamination is detected above 10 ppm in the final rinsates, the tanks are considered clean. Safety-Kleen plans to use the tanks for the storage of similar chemicals in these storage tanks. Therefore, complete decontamination to non-detectable levels is not necessary.

5.2 STORAGE TANK NO. T199

Tank T199 is not in use for the past several months. The tank is connected with one overhead piping. T199 is presently empty and Safety-Kleen proposes to close and remove the tank from the facility, as per the requirements of 35 IAC 725.212. Initially, the overhead piping connected to the tank will be flushed with high pressure water. The collected water will be pumped out from Tank T199 using a vacuum pump and managed as a hazardous waste.

Afterwards, the pipe and the tank will be triple rinsed with high pressure water and the rinse water will be pumped out after each rinse. A sample of the final rinsate will be collected and analyzed for the parameters specified in Table 4. If no contamination is detected, the tanks are considered clean.

After decontamination, the piping will be disconnected from the tank and removed. The tank will be removed from Container Storage Area No. 1. The tank and the pipings will be transported off-site for scrap.

5.3 DECONTAMINATION

During closure, there are two points of decontamination that must be addressed. These are: 1) the decontamination of equipment used in cleaning and closure, and 2) the disposal of residual decontamination materials.

The equipment to be used during the tank cleaning process are pressure wash equipment, squeegees, personal protective suits, boots and equipment. The pressure wash equipment is mobile mounted and only the nozzle and part of the hose enter the tank. Upon withdrawal from the tank, the hose is washed and the material drains into the tank. Similarly, the personal rainsuits and boots are washed off. The other equipment coming in contact with the wash water and residuals are suction line and the tanker truck. These are normally in hazardous waste service and are cleaned according to the transporter's procedures.

The secondary containment area of Tanks T105 through T114 is in excellent condition and there are no cracks and gaps and no signs of deterioration. Therefore, the concrete area will be decontaminated by washing with high pressure water and triple rinsing. The wash water and the rinsate will be pumped out using vacuum pumps. The rinse water from the third rinsing will be sampled and analyzed for the parameters listed in Table 3. If no contamination is detected at 10 ppm, then the secondary containment is considered to be clean.

Tank T199 is situated inside the secondary containment of Container Storage Area No. 1. Container storage Area 1 will remain in operation after removal of Tank No. 199; therefore, it is not necessary to decontaminate the concrete base as part of this partial closure. The Container Storage Area No. 1 will be decontaminated when Safety-Kleen closes the area, which is expected to be around the year 2025.

6.0 SOIL SAMPLING

Tanks T105 through T114 and Tank T199 are situated on reinforced concrete bases with more than adequate secondary containment capacity. The secondary containments do not have any cracks or gaps and they are in good integrity. The concrete is sufficiently impervious to prevent migration of any materials before the accumulated materials are removed from the secondary containment within 24 hours. Therefore, Safety-Kleen believes it is not necessary to take soil samples from underneath the storage tanks. Further, since Safety-Kleen will continue the usage of the Tanks T105 through T114 and the container storage area, it is not practical to take any soil samples from underneath the tanks without jeopardizing the integrity of the secondary containment system.

Safety-Kleen proposes no soil sampling and analyses during the partial closure of the tanks which are situated inside secondary containment system.

7.0 ANALYTICAL PLAN

The rinsate samples during the decontamination of the tanks and the secondary containment system will be handled and analyzed in accordance with IEPA approved sampling and analytical methods (SW-846). The rinse water samples will be collected individually and there will not be any compositing, mixing or aeration of the samples. It is proposed that a qualified independent laboratory be used for the rinsate sample analyses. Results of the analyses should be available within 30 days of submitting the samples to the lab.

8.0 HEALTH AND SAFETY PROCEDURES

Storage tanks are considered confined spaces, i.e., spaces open or closed having a limited means of egress in which poisonous gases or flammable vapors might accumulate or an oxygen deficiency might occur. Entry into confined spaces requires special safety procedures. Attachment 1 to this partial closure plan describes those procedures.

Level D health and safety protection will be available for use if needed during the performance of any field activities at this site. Protection will be upgraded to Level C if the concentration of volatile organics in the work area exceeds 50 ppm based on HNU PID monitoring. See Table 4 for OSHA/AOGIA TLVs (Threshold Limit Values) for some volatile organics which are known to be associated with Safety-Kleen solvents and related materials. The proposed 50 ppm action level is believed to be very conservative for short-term exposure during the drilling operations as the 50 ppm value is essentially the long-term lower bound value of all volatiles handled by Safety-Kleen. Personal protective equipment may include the following (to be determined by the level of protection required):

- Coveralls (Chemical Resistant)
- Boots/Shoes (Safety Boots, Chemical Resistant)
- Boots/Outer (Chemical Resistant, Disposable)
- Safety Glasses or Chemical Splash Goggles
- Gloves (Chemical Resistant)
- Hard Hat
- Air-purifying Respirator with Organic Vapors Filter(s)

- First Aid Kit
- Bottled Eyewash
- Self-Contained Breathing Apparatus (SCBA)

9.0 CLOSURE CERTIFICATION

Pursuant to the requirements of 35 IAC 702.126 and 725.215, at the completion of the closure of the tanks (T105-T114 and T199), a certification by the owner/operator and an independent registered professional engineer (Attachment 1) will be made and submitted to the Illinois EPA. The report will certify that the closure was done in accordance with the approved closure plan and will highlight key points of information about the closure and will include:

a. The volume of waste and waste residue removed. The term "waste" includes wastes resulting from decontamination activities.

b. A description of the method of waste handling and transport.

c. The waste manifest numbers.

d. Copies of the waste manifests.

e. A description of the sampling and analytical methods used.

f. A chronological summary of closure activities and the cost involved.

g. Color photo documentation of closure. Document conditions before, during and after closure.

h. Tests performed, methods and results.

The original and two (2) copies of all certificates, logs or reports will be mailed to the following address:

Illinois Environmental Protection Agency
Division of Land and Pollution Control - #24
Permit Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

10.0 STATUS OF FACILITY AFTER PARTIAL CLOSURE

Safety-Kleen Corp. Chicago Recycle Center will continue to be a solvent recycling facility that will include storage of hazardous wastes in tanks and containers. Tanks T104 through T114 will be closed as specified in this partial closure plan and no hazardous wastes will be stored in these tanks. Instead, product or in-process materials will be stored in these tanks. Tank

T199 will be closed as per this partial closure plan and will be removed from the facility. The remaining hazardous waste management units will continue to be operated as per the requirements of 35 IAC 725 and the Illinois EPA operating permit. Table 6 provides the remaining hazardous waste management units at the Chicago Recycle Center.

11.0 CLOSURE COST ESTIMATE

An estimate of the cost of closing Tanks T105, 106, 107, 108, 109, 110, 111, 112, 113, 114 and 199 are provided below.

1.	10 - 12,500-gallon tanks (T105-T114)		
	Process tanks' contents at the Chicago facility	$ -0-	
	Decontamination		
	Squeegee and wash tanks (includes detergent and safety equipment), $600/tank x 10 tanks	$ 6,000.00	
	- Clean pumps and pipings, $100/tank x 10 tanks	1,000.00	
	- Decontaminate secondary containment	1,000.00	
	Disposal		
	Washwater		
	1,200 gal./tank x $0.10/gal. x 10 tanks	1,200.00	
	Rinsate Sampling and Analysis Cost		
	10 tanks + 1 secondary containment @ $300/sample	3,300.00	
			$12,500.00
2.	1 - 7,600-gallon tank (T199)		
	Decontamination		
	- Squeegee and wash tank, $600/tank	$ 600.00	
	- Clean pump and pipings	100.00	
	Disposal		
	Washwater		
	7.60 gal./tank x $0.10/gal. x 1 tank	76.00	
	Disposal of tank and pipings	500.00	
	Sampling and Analysis Cost		
	1 x $300/sample	300.00	
			$ 1,576.00
	Professional Engineer Certification	$ 5,000.00	
	Total Closure Cost		$19,076.00

Table 1

EXISTING HAZARDOUS WASTE MANAGEMENT UNITS

CHICAGO RECYCLE CENTER

A. Tank Storage

Tank No.	Location	Capacity (gals.)	Use
T-1	TF-4	12,500	Waste Solvent Storage
T-2	TF-4	12,500	Waste Solvent Storage
T-3	TF-4	12,500	Waste Solvent Storage
T-4	TF-4	12,500	Waste Solvent Storage
T-5	TF-4	8,000	Waste Solvent Storage
T-6	TF-4	8,000	Waste Solvent Storage
T-11	TF-4	3,500	Waste Solvent Storage
T-12	TF-4	3,500	Waste Solvent Storage
T-13	TF-4	3,500	Waste Solvent Storage
T-14	TF-4	3,500	Waste Solvent Storage
T-15	TF-4	3,500	Waste Solvent Storage
T-16	TF-4	3,500	Waste Solvent Storage
T-17	TF-4	3,500	Waste Solvent Storage
T-18	TF-4	3,500	Waste Solvent Storage
T-19	TF-4	3,500	Waste Solvent Storage
T-20	TF-4	1,000	Waste Solvent Storage
T-21	TF-4	500	Waste Solvent Storage
T-22	TF-4	3,500	Waste Solvent Storage
T-23	TF-4	3,500	Waste Solvent Storage
T-105	TF #1	12,500	Waste Solvent Storage
T-106	TF #1	12,500	Waste Solvent Storage
T-107	TF #1	12,500	Waste Solvent Storage
T-108	TF #1	12,500	Waste Solvent Storage
T-109	TF #1	12,500	Waste Solvent Storage
T-110	TF #1	12,500	Waste Solvent Storage
T-111	TF #1	12,500	Waste Solvent Storage
T-112	TF #1	12,500	Waste Solvent Storage
T-113	TF #1	12,500	Waste Solvent Storage
T-114	TF #1	12,500	Waste Solvent Storage
T-170	TF-2	3,500	Waste Solvent Storage
T-171	TF-2	3,095	Waste Solvent Storage
T-172	TF-2	5,335	Waste Solvent Storage
T-173	TF-2	5,335	Waste Solvent Storage
T-174	TF-2	4,500	Waste Solvent Storage
T-175	TF-2	3,095	Waste Solvent Storage
T-176	TF-2	5,335	Waste Solvent Storage
T-177	TF-2	5,335	Waste Solvent Storage
T-178	TF-2	6,500	Waste Solvent Storage
T-179	TF-2	6,500	Waste Solvent Storage
T-180	TF-2	6,500	Waste Solvent Storage
T-190	TF-3	8,300	Waste Solvent Storage
T-191	TF-3	8,300	Waste Solvent Storage

Table 1
(continued)

A. Tank Storage (continued)

Tank No.	Location	Capacity (gals.)	Use
T-192	TF-3	14,400	Waste Solvent Storage
T-193	TF-3	10,185	Waste Solvent Storage
T-194	TF-3	11,835	Waste Solvent Storage
T-195	TF-3	20,000	Waste Solvent Storage
T-199	Container Area #1	7,600	Waste Solvent Storage

B. Container Storage Areas

Storage Area	Dimensions	Capacity (gals.)	Location
1	150' x 50'	174,900	West of DMAC Building

Table 2

HAZARDOUS WASTE TANKS PROPOSED TO BE CLOSED

UNDER THE PARTIAL CLOSURE PLAN

A. Tank Storage

Tank No.	Location	Capacity (gals.)	Type	Use	Closure Period
T-105	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-106	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-107	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-108	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-109	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-110	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-111	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-112	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-113	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-114	TF #1	12,500	CS/FB	Waste Solvent Storage	Fall 1989
T-199	Container Area #1	7,600	CS/ Horiz.	Waste Solvent Storage	Fall 1989

Table 3

HAZARDOUS WASTE STORAGE UNITS REMAIN IN OPERATION

A. Tank Storage

Tank No.	Location	Capacity (gals.)	Type	Use	Closure Period
T-1	TF-4	12,500		Waste Solvent Storage	2025
T-2	TF-4	12,500		Waste Solvent Storage	2025
T-3	TF-4	12,500		Waste Solvent Storage	2025
T-4	TF-4	12,500		Waste Solvent Storage	2025
T-5	TF-4	8,000		Waste Solvent Storage	2025
T-6	TF-4	8,000		Waste Solvent Storage	2025
T-11	TF-4	3,500		Waste Solvent Storage	2025
T-12	TF-4	3,500		Waste Solvent Storage	2025
T-13	TF-4	3,500		Waste Solvent Storage	2025
T-14	TF-4	3,500		Waste Solvent Storage	2025
T-15	TF-4	3,500		Waste Solvent Storage	2025
T-16	TF-4	3,500		Waste Solvent Storage	2025
T-17	TF-4	3,500		Waste Solvent Storage	2025
T-18	TF-4	3,500		Waste Solvent Storage	2025
T-19	TF-4	3,500		Waste Solvent Storage	2025
T-20	TF-4	1,000		Waste Solvent Storage	2025
T-21	TF-4	500		Waste Solvent Storage	2025
T-22	TF-4	3,500		Waste Solvent Storage	2025
T-23	TF-4	3,500		Waste Solvent Storage	2025
T-170	TF-2	3,500		Waste Solvent Storage	2025
T-171	TF-2	3,095		Waste Solvent Storage	2025
T-172	TF-2	5,335		Waste Solvent Storage	2025
T-173	TF-2	5,335		Waste Solvent Storage	2025
T-174	TF-2	4,500		Waste Solvent Storage	2025
T-175	TF-2	3,095		Waste Solvent Storage	2025
T-176	TF-2	5,335		Waste Solvent Storage	2025
T-177	TF-2	5,335		Waste Solvent Storage	2025
T-178	TF-2	6,500		Waste Solvent Storage	2025
T-179	TF-2	6,500		Waste Solvent Storage	2025
T-180	TF-2	6,500		Waste Solvent Storage	2025
T-190	TF-3	8,300		Waste Solvent Storage	2025
T-191	TF-3	8,300		Waste Solvent Storage	2025
T-192	TF-3	14,400		Waste Solvent Storage	2025
T-193	TF-3	10,185		Waste Solvent Storage	2025
T-194	TF-3	11,835		Waste Solvent Storage	2025
T-195	TF-3	20,000		Waste Solvent Storage	2025
T-199	Container Area #1	7,600		Waste Solvent Storage	2025

B. Container Storage Areas

Storage Area	Dimensions	Capacity (gals.)	Location	Year of Closure
1	150' x 50'	174,900	West of DMAC Building	2025

Note: CS = Carbon Steel
FB = Flat Bottom Tank

Table 4

Chemical compounds managed in the tanks which are included in the partial-closure plan.

Dimethylacetamide
B-Picoline
Water
Toluene
Methylene Chloride
Acetone
Pyridine
N-Methyl-2-Pyrolidone
Trichlorotrifluoroethane
1,1,1-Trichlorothane
Trichloroethylene
Tetrahydrofuran
Perchloroethylene

EXHIBIT 7

SHEET _____ OF _____

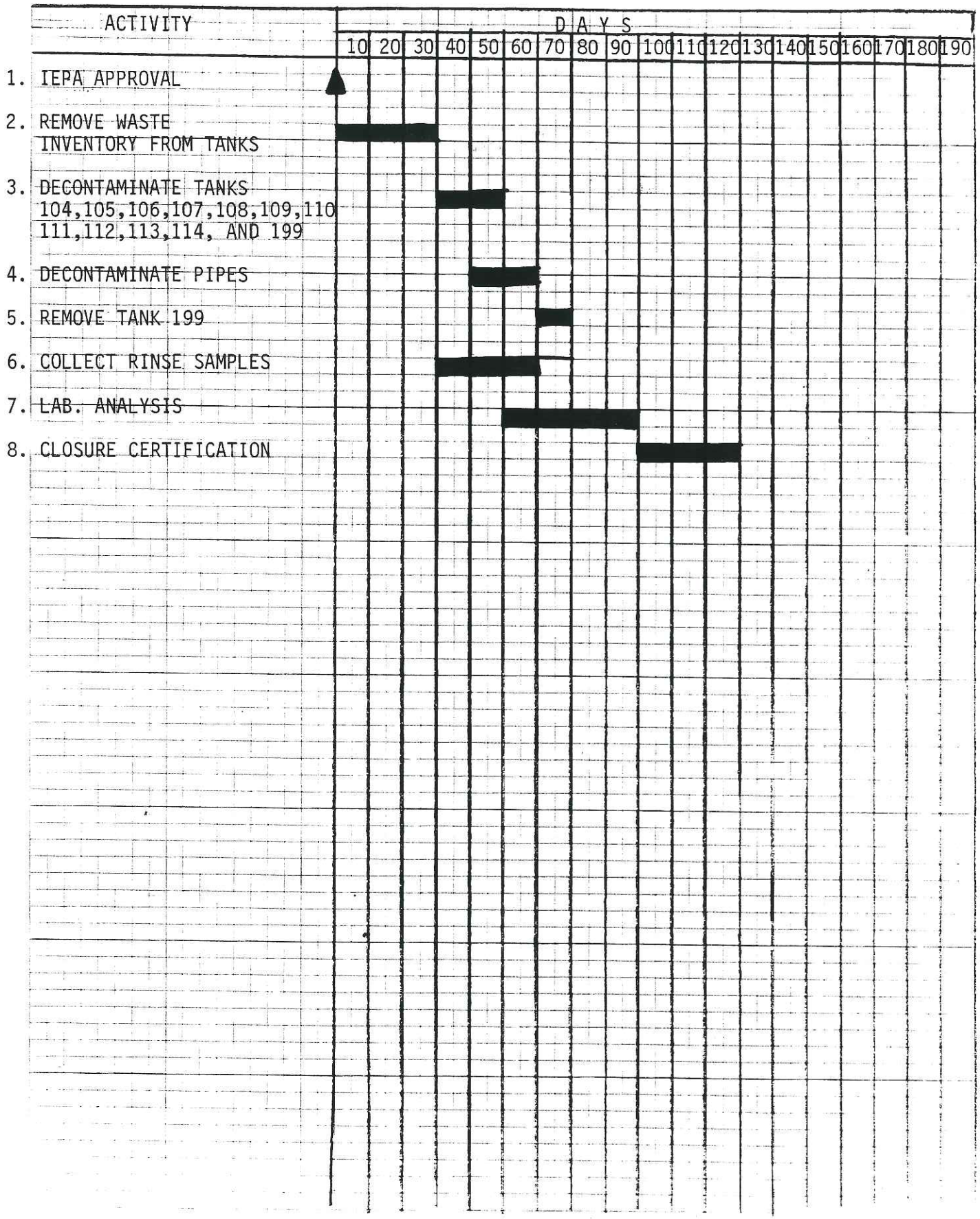
safety-kleen corp.

DATE JULY 3, 1989 NO. _____

BY _____

SUBJECT CLOSURE SCHEDULE

FOR CHOCAGO RECYCLE CENTER



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject Custom Organics, Inc.
Data ILD005450697
Reviewed by EWD Date July 9, 1985

Closure Plan

① Part A shows 26 billion #/yr of T01 36 billion #/yr of T04 - Distillation
A chemical recovery facility by fraction al and simple distillation F001, F002 F003 F005 + D001
Custom Organics is being purchased by Safety-Kleen
Safety-Kleen Part A shows 9,000,000 p/yr T01 T04 F001 F002
24,000,000 p/yr T04 F003 F005 D001

② The closure plan describes the above units for treatment.

③ The closure plan meets the performance standards for the following reasons: a. All waste from treatment will be disposed of in an environmentally approved manner.
b. Minimizes the escape of wastes
c. The closure plan is developed adequately to prevent any damage to public safety. The plan adequately describes the removal of waste and facility decontamination and minimizes the need for post-closure maintenance.

④ The plan is for the complete closure of the facility.

⑤ The maximum inventory is for 400 drums (200 chlorinated - 200 ignitable) and tank capacity of 162,800 gals (81,400 gal chlorinated - 81,400 gal ignitable) and is properly identified as chlorinated (F001, F002) and ignitable (D001, F003 and F005) to be shipped separately.

⑥ Decontamination: a. The plan shows reclamation of solvents and organic chemicals and proper disposal of hazardous waste inventory
b. The plan shows decontamination of all equipment and storage tanks, removal of all drums from the container storage area.
c. The plan calls for removal of all residual material from the drain and sump areas and washing of the entire storage area washing of equipment and disposal of the washing agent.
d. Dike areas will be tested for contamination and decontaminated if necessary.

⑦ The expected year of closure is 2015 - Schedule - remove waste 3/1 to 5/1
decontaminate 5/1 to 5/14
Certify 5/14

⑧ Certification is given. I recommend that this closure plan be accepted.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject

Data ILD005450697

Reviewed by Date

Closure Cost Estimate is in order (See attached Sheet)

Financial Instruments:

1. A letter of credit is used for closure assurance
2. The wording is O.K. (Illinois form). It is furnished by Harris Trust and Saving Bank, 311 W. Monroe, Chicago #SPL27405 dated April 20, 1985 for $20,000
3. The updated amendment dated 6-3-85 is for $342,500 which agrees with the updated closure cost estimate. Letter received.
4. The Trust Agreement wording is OK (Illinois form)
5. " " " is furnished by Harris Trust and Savings Bank #81144- and is dated June 27, 1985 and is acknowledged 6-28-85.

Liability Insurance:

1. Provided by Integrity Insurance Co, Paramus N.J. on an Illinois form
2. The limits of liability are $5mm - $5mm S.O.
3. The policy number is 15X 11344 dated 4/9/84 effective 2/1/84
4. No expiration date is given.

Subpart H submission is in order

My recommendation is that subparts G + H be accepted since closure minimizes need for post closure maintenance and minimizes the release of wastes.

Update Due 6/20/86

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject: CUSTOM ORGANICS INC
Data:
Reviewed by: E & D
Date: MAY 10, 1985 ~~Feb 26, 1985~~

031600 0053 -- Cook County
M Chicago/Custom Organics
ILD 005450697

FH 170

REVISED CLOSURE PLAN ~ Treatment and storage facility
- reclamation of solvents and organic chemicals
- Schedule 3/1/2015 to 5/14/2015
- Chlorinated and ignitable wastes
- max. 400 drums - Tanks 10 - 12,500 gals 2 - 10,000 gals 2 - 5000 2 - 3500
- Decontaminate by washing storage area and disposal of washing agent.
- test for contamination
- certify
- all wastes are to be disposed of in an environmentally approved manner and all tanks, equipment and storage area will be decontaminated so there will no longer a threat to human health and environment, therefore the closure plan is in order

Closure Cost Estimate

				Comparison
Dispose ignitables	92400 gal	@ $1-	$92,400	Average
✓ chlorinates	✓	✓ @ 2.75	254,100	above Average
Tank cleaning	162,000	@ .015	2,400	Average
Storage ✓			800	OK
Dike area ✓			3000	✓
Equipment ✓			800	✓
Washing agent disposal			6000	✓
Certification			3000	✓

Revised closure cost estimate of $362,500 is in order

The letter of credit must be adjusted to $362,500
Need Trust Agreement

Liability Insurance ~ Integrity Insurance Co #IS x 113444 eff 2/1/84 4/19/84 $5m - $5m SO
Paramus N.J.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject: CUSTOM ORGANICS, INC

Data:

Reviewed by: EWD Date: FEB 13, 1985

031600CC53 - Cook County FA 176
Chicago / Custom Organics, Inc
ILD005450697

Closure plan ~ Treatment + Storage facility
~ reclamation of solvents and organic chemicals
~ closure year of 2015
~ 200 drums of waste - 2-10000 gal tanks 2-5400 gal 1-1500 gal
" Decontamination of tanks + equipment + facility
~ testing

- the closure plan does not give closure performance standard or certification.

Due to these discrepancies the closure plan is rejected

Closure Cost Estimate

		Comparison
Tank cleaning	4822.50	high
Container Storage area cleaning	2200	OK
Dike cleaning Area	6000	OK
Waste material Disposal	2415	Low
Certification	—	
Contingency	3087.40	—
	$18,524.40	

The cost of drum disposal is too low. no cost for certification is given. Therefore the closure cost estimate is rejected

Received 2/22/85 ✓ The liability insurance certificate is a photo copy and not acceptable
✓ The letter of credit is not an original or on an Illinois form
They have not executed a trust agreement.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

IL 532-0357
ADM 39
054-002

Subject Custom Organics, Inc.

Data

Reviewed by Date

They failed to give a description of how closure minimizes the need for post closure maintenance and minimizes the release of wastes as required by 725.211 (40CFR 265.111) Minimizes the need for further maintenance and controlls, minimizes or eliminates, to the extent necessary to protect human health and the environment

They failed to show certification in the closure plan as required by 725.215 (40CFR 265.115) When closure is completed the owner or operator must submit to the Director certification both by the owner or operator and by an independent registered professional engineer.

The cost shown for drum disposal in the closure cost estimate does not meet average disposal costs as required by 725.242 (40CFR 265.142) The closure cost estimate must equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive as indicated by its closure plan

They failed to show cost of certification

recieved 2/22/85 - The Liability Insurance certificate is a photo copy of the Illinois form and is not acceptable as required by 725.251 The agency may promulgate standardized forms

received 2/22/85 - The letter of credit is not an original or on the Illinois form as required by ~~725.243 (40CFR 265.143(c)(3)(i)) An original Signed duplicate of the trust 725.251~~

They failed to execute the Trust agreement as required by 725.243 (40CFR 265.143(c)(3)(i) An original signed duplicate of the trust agreement must be submitted to the Director with the letter of credit

The closure plan does not give a time schedule for closure as required by 725.212(a)(4) (40CFR 265.112(a)(4) An estimate of the expected year of closure and a schedule for final closure

GUSTO ORGANICS, INC.

ILD 005450697 MAR 26, 1985

Update 5/14/85

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
	G. Closure Plans, Post-closure Plans and Financial Requirements (270.14(b)13, 264.110 thru 264.120)	
	G-1 Closure Plan (264.111-114) A copy of the written closure plan consistent with G-1a through G-1f including an estimate of the maximum inventory of wastes in storage and treatment at any time. If changes in operating plans or facility design affect the closure plan or the expected year of closure changes, a modification of the closure plan is needed.	~~Ultimately a land disposal facility~~ Reclaim solvents and organic chemicals All material disposed of offsite
YES NO N/A pg(s).	(a) Closure Performance Standard A description of how closure minimizes the need for post-closure maintenance and minimizes release of wastes.	All material is returned to the generator. Any material is to be disposed of in an environmentally approved manner.
YES NO N/A pg(s).	(b) Partial and Final Closure Activities If partial closure is anticipated, a description of how and when the facility will be partially closed, including an identification of the maximum extent of operation after partial closure. A description of how and when the facility will finally be closed.	Not anticipated ~ to close in 2015 by removing all ignitable and chlorinated off site Will cancel all reclamation contracts
YES NO N/A pg(s).	(c) Maximum Waste Inventory A description of the maximum inventory of wastes in storage and treatment.	400 drums ~ Tanks ~ 2-10,000 gal, 4-5400 gal, 2-12,000 gal, 1-1000 gal ~ No inventory of waste given They do not list all tanks, but give 9 tanks as maximum Total 184,400 gals
YES NO N/A pg(s).	(d) Inventory Removal, Disposal or Decontamination of Equipment A description of how all hazardous waste inventory will be removed and how all facility equipment and structures will be decontaminated or disposed of when closure is completed.	Decontamination of all tanks and equipment " " dikes Certify
YES NO N/A pg(s).	(e) Schedule for Closure An estimate of the expected year of closure and schedule for final closure including total time to close the facility and time for closure activities. A schedule for closure which shows that all hazardous wastes will be treated, removed off-site or disposed of on-site within	Year 2015 time of 10 weeks 3/1/2015 to 5/14/2015

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
	90 days from receipt of final volume of waste, and that all closure activities will be completed within 180 days from receipt of final volume of waste.	
YES NO (N/A) pg(s).	(f) Extensions for Closure Time A petition for a schedule for closure which exceeds the 90 days for treatment, removal or disposal of wastes and/or the 180 days for completion of closure activites made to the Regional Administrator.	not anticipated
YES NO (N/A) pg(s).	G-2 Post-closure Plans Documentation (See appropriate check list for specific requirements) Applicable only for surface impoundments, landfills, land treatment facilities, and waste piles (264.117-118).	Storage + treatment
YES NO (N/A) pg(s).	(a) Description of ground water monitoring activities and frequencies	
YES NO (N/A) pg(s).	(b) Description of maintenance activities and frequencies for; (i) Final containment structures (ii) Facility monitoring equipment	
YES NO (N/A) pg(s).	(c) Location(s) and number of copies of post closure plan	
YES NO (N/A) pg(s).	(d) Identification and location (address and phone number) of person responsible for storage and updating of facility copy of post-closure plan prior to closure	
YES NO (N/A) pg(s).	(e) Identification and location (address and phone number) of person responsible for storage and updating facility copy of post closure plan during post-closure period	
YES NO (N/A) pg(s).	(f) Procedure for updating all other copies of post-closure plan	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
YES NO N/A pg(s).	G-3 Notice in Deed and Notice to Local Land Authority (existing facilities only) 264.119-120)	
YES NO N/A pg(s).	(a) Description of ground water monitoring activities and frequencies	
YES NO N/A pg(s).	(b) Description of maintenance activities and frequencies for; (i) Final containment structures (ii) Facility monitoring equipment	
YES NO N/A pg(s).	(c) Location(s) and number of copies of post closure plan	
YES NO N/A pg(s).	G-4 Closure Cost Estimate (270.14(b)(15), 264.142) A copy of the most recent closure cost estimate, calculated to cover the cost of closure when the cost would be greatest (not including partial closure). The cost must be updated annually using an inflation factor.	~~Incorrect~~ Cost of disposal of material in tanks not considered Updated to $362,500
	G-5 Financial Assurance Mechanism for Closure (270.14(b)(15, 264.143, 264.151) A copy of the established financial assurance mechanism for facility closure. For facilities in Phase I authorized states, originally signed duplicates of executed instruments are not required until the time of permit issuance, except as required by local state law. The mechanism must be one of the following: (G-5(a) through G-5(f).)	Not submitted
YES NO N/A pg(s).	(a) Closure Trust Fund A copy of the closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement.	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
	(b) Surety Bond	
YES NO N/A pg(s).	(1) Surety Bond Guaranteeing Payment Into a Closure Fund A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund, and a written guarantee that the owner or operator will fund the standby fund at least 60 days before final closure begins and will provide alternate financial assurance if the bond is cancelled.	
YES NO N/A pg(s).	(2) Surety Bond Guaranteeing Performance of Closure A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner or operator will perform closure according to the closure plan and the requirements of Subpart G, or that the owner or operator will fund the standby trust fund as in I-5b(1).	
YES NO N/A pg(s).	(c) Closure Letter of Credit A copy of the irrevocable letter of credit with the wording required in 264.161(d) and a copy of the standby trust fund. The letter of credit must be issued for a period of at least one year and be for the amount of estimated closure.	Need to update to 8502, see and submit trust agreement Trust Agreement received 7-1-85
YES NO N/A pg(s).	(d) Closure Insurance A noncancellable assignable insurance policy for the amount of estimated closure costs. The policy must provide that the insurance company will pay the cost of closure up to the full amount of the policy whenever closure occurs.	
YES NO N/A pg(s).	(e) Financial Test and Corporate Guarantee Test based on guarantor firm's most recent annual audited financial statements and taking into account current adjusted cost of closure and post-closure care in all facilities not covered by an alternative financial mechanism. Submit letter from Chief Financial Officer, accompanied by independent auditor's opinion and special report verifying the letter.	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
YES NO N/A pg(s).	(f) Combination	
YES NO N/A pg(s).	(1) Use of Multiple Financial Mechanisms A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a closure trust fund, letters of credit, closure insurance, or state guarantees which provide financial assurance for the amount of closure.	
YES NO N/A pg(s).	(2) Use of Financial Mechanism for Multiple Facilities A copy of a financial assurance mechanism for more than one facility showing, for each facility, the EPA ID number, name, address, and amount of fund for closure assured by the mechanism.	
YES NO N/A pg(s).	G-6 Post-closure Cost Estimate (264.144 See requirements) of G-5 Applicable only for surface impoundments, landfills, land treatment facilities, and waste piles.	
YES NO N/A pg(s).	G-7 Financial Assurance Mechanism for Post-closure (264.145-146) (See requirements of G-8) Applicable only for surface impoundments, landfills, land treatment facilities, and waste piles.	
	G-8 Liability Requirements (270.14(b)(17), 264.147, 264.151) A copy of the Certificate of Insurance or other documentation which comprises compliance with the liability requirements of 264.147. Coverage is for all facilities owned and operated and applies until certification for closure is completed. For facilities in Phase I authorized states, originally signed duplicates of executed instruments or certificates of insurance are not required until the time of permit issuance, except as required by local state law.	Not submitted

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
YES NO N/A pg(s).	(a) Sudden Insurance Coverage is required in the amount of $1 million per sudden accidental occurrence with an annual aggregate of $2 million. Supply a Certificate of Insurance or the Hazardous Waste Facility Liability Endorsement.	Integrity Insurance Co #ISX113444 eff 2/1/84 $5 — $5 — 50
YES NO N/A pg(s).	(b) Nonsudden Insurance (Reserved) Applicable only for surface impoundments, landfills or land treatment facilities.	
YES NO N/A pg(s).	(c) Financial Test Test based on firm's most recent annual audited financial statements and taking into account the amount of coverage not provided by other insurance or guarantees. Submit letter for Chief Financial Officer, accompanied by independent auditor's opinion and special report verifying the letter.	
YES NO N/A pg(s).	(d) Variance Procedures Regional Administrator may approve reduction in liability coverage required, based on an evaluation of the degree and duration of risks and on other technical and engineering information.	
YES NO N/A pg(s).	(e) Adjustment Procedures Regional Administrator may increase amounts of liability coverage required for any facility or group of facilities, or he may elect to impose nonsudden liability coverage requirements on treatment or storage facilities, based on an evaluation of the degree and duration of risks as deemed necessary to protect human health and the environment.	

Custom Organics, Inc.
ILD005450697 Feb 13, 1985

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
	G. Closure Plans, Post-closure Plans and Financial Requirements (270.14(b)13, 264.110 thru 264.120)	
	G-1 Closure Plan (264.111-114) A copy of the written closure plan consistent with G-1a through G-1f including an estimate of the maximum inventory of wastes in storage and treatment at any time. If changes in operating plans or facility design affect the closure plan or the expected year of closure changes, a modification of the closure plan is needed.	A treatment + storage facility
YES (NO) N/A pg(s).	(a) Closure Performance Standard A description of how closure minimizes the need for post-closure maintenance and minimizes release of wastes.	
YES (NO) N/A pg(s).	(b) Partial and Final Closure Activities If partial closure is anticipated, a description of how and when the facility will be partially closed, including an identification of the maximum extent of operation after partial closure. A description of how and when the facility will finally be closed.	No partial closure is anticipated
(YES) NO N/A pg(s).	(c) Maximum Waste Inventory A description of the maximum inventory of wastes in storage and treatment.	200 drums 5 tanks 32,300 gal total
(YES) NO N/A pg(s).	(d) Inventory Removal, Disposal or Decontamination of Equipment A description of how all hazardous waste inventory will be removed and how all facility equipment and structures will be decontaminated or disposed of when closure is completed.	tanks, equipment and facility
YES NO N/A pg(s).	(e) Schedule for Closure An estimate of the expected year of closure and schedule for final closure including total time to close the facility and time for closure activities. A schedule for closure which shows that all hazardous wastes will be treated, removed off-site or disposed of on-site within	year of 2015 but no time schedule given

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
	90 days from receipt of final volume of waste, and that all closure activities will be completed within 180 days from receipt of final volume of waste.	
YES NO N/A pg(s).	(f) Extensions for Closure Time A petition for a schedule for closure which exceeds the 90 days for treatment, removal or disposal of wastes and/or the 180 days for completion of closure activites made to the Regional Administrator.	
YES NO N/A pg(s).	G-2 Post-closure Plans Documentation (See appropriate check list for specific requirements) Applicable only for surface impoundments, landfills, land treatment facilities, and waste piles(264.117-118).	
YES NO N/A pg(s).	(a) Description of ground water monitoring activities and frequencies	
YES NO N/A pg(s).	(b) Description of maintenance activities and frequencies for; (i) Final containment structures (ii) Facility monitoring equipment	
YES NO N/A pg(s).	(c) Location(s) and number of copies of post closure plan	
YES NO N/A pg(s).	(d) Identification and location (address and phone number) of person responsible for storage and updating of facility copy of post-closure plan prior to closure	
YES NO N/A pg(s).	(e) Identification and location (address and phone number) of person responsible for storage and updating facility copy of post closure plan during post-closure period	
YES NO N/A pg(s).	(f) Procedure for updating all other copies of post-closure plan	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
YES NO N/A pg(s).	G-3 Notice in Deed and Notice to Local Land Authority (existing facilities only) 264.119-120)	
YES NO N/A pg(s).	(a) Description of ground water monitoring activities and frequencies	
YES NO N/A pg(s).	(b) Description of maintenance activities and frequencies for; (i) Final containment structures (ii) Facility monitoring equipment	
YES NO N/A pg(s).	(c) Location(s) and number of copies of post closure plan	
YES NO N/A pg(s).	G-4 Closure Cost Estimate (270.14(b)(15), 264.142) A copy of the most recent closure cost estimate, calculated to cover the cost of closure when the cost would be greatest (not including partial closure). The cost must be updated annually using an inflation factor.	Drum Disposal cost too low Do not show cost of Certification costs do not follow closure plan
	G-5 Financial Assurance Mechanism for Closure (270.14(b)(15, 264.143, 264.151) A copy of the established financial assurance mechanism for facility closure. For facilities in Phase I authorized states, originally signed duplicates of executed instruments are not required until the time of permit issuance, except as required by local state law. The mechanism must be one of the following: (G-5(a) through G-5(f).)	
YES NO N/A pg(s).	(a) Closure Trust Fund A copy of the closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement.	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
	(b) Surety Bond	
YES NO (N/A) pg(s).	(1) Surety Bond Guaranteeing Payment Into a Closure Fund A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund, and a written guarantee that the owner or operator will fund the standby fund at least 60 days before final closure begins and will provide alternate financial assurance if the bond is cancelled.	
YES NO (N/A) pg(s).	(2) Surety Bond Guaranteeing Performance of Closure A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner or operator will perform closure according to the closure plan and the requirements of Subpart G, or that the owner or operator will fund the standby trust fund as in I-5b(1).	
YES (NO) N/A pg(s).	(c) Closure Letter of Credit A copy of the irrevocable letter of credit with the wording required in 264.161(d) and a copy of the standby trust fund. The letter of credit must be issued for a period of at least one year and be for the amount of estimated closure.	A photocopy of letter - Received 2/22/85 no copy of standby trust fund
YES NO (N/A) pg(s).	(d) Closure Insurance A noncancellable assignable insurance policy for the amount of estimated closure costs. The policy must provide that the insurance company will pay the cost of closure up to the full amount of the policy whenever closure occurs.	
YES NO (N/A) pg(s).	(e) Financial Test and Corporate Guarantee Test based on guarantor firm's most recent annual audited financial statements and taking into account current adjusted cost of closure and post-closure care in all facilities not covered by an alternative financial mechanism. Submit letter from Chief Financial Officer, accompanied by independent auditor's opinion and special report verifying the letter.	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
YES NO N/A pg(s).	(f) Combination	
YES NO N/A pg(s).	(1) Use of Multiple Financial Mechanisms A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a closure trust fund, letters of credit, closure insurance, or state guarantees which provide financial assurance for the amount of closure.	
YES NO N/A pg(s).	(2) Use of Financial Mechanism for Multiple Facilities A copy of a financial assurance mechanism for more than one facility showing, for each facility, the EPA ID number, name, address, and amount of fund for closure assured by the mechanism.	
YES NO N/A pg(s).	G-6 Post-closure Cost Estimate (264.144 See requirements) of G-5 Applicable only for surface impoundments, landfills, land treatment facilities, and waste piles.	
YES NO N/A pg(s).	G-7 Financial Assurance Mechanism for Post-closure (264.145-146) (See requirements of G-8) Applicable only for surface impoundments, landfills, land treatment facilities, and waste piles.	
	G-8 Liability Requirements (270.14(b)(17), 264.147, 264.151) A copy of the Certificate of Insurance or other documentation which comprises compliance with the liability requirements of 264.147. Coverage is for all facilities owned and operated and applies until certification for closure is completed. For facilities in Phase I authorized states, originally signed duplicates of executed instruments or certificates of insurance are not required until the time of permit issuance, except as required by local state law.	

ITEM CHECK	SUBJECT REQUIREMENT	COMMENTS/NOTES
YES NO N/A pg(s).	(a) Sudden Insurance Coverage is required in the amount of $1 million per sudden accidental occurrence with an annual aggregate of $2 million. Supply a Certificate of Insurance or the Hazardous Waste Facility Liability Endorsement.	Certificate is a photo copy Received 2/22/85 - Integrity Insurance Co #TSX 11344 eff 2/1/84 $5m - $5m
YES NO N/A pg(s).	(b) Nonsudden Insurance (Reserved) Applicable only for surface impoundments, landfills or land treatment facilities.	
YES NO N/A pg(s).	(c) Financial Test Test based on firm's most recent annual audited financial statements and taking into account the amount of coverage not provided by other insurance or guarantees. Submit letter for Chief Financial Officer, accompanied by independent auditor's opinion and special report verifying the letter.	
YES NO N/A pg(s).	(d) Variance Procedures Regional Administrator may approve reduction in liability coverage required, based on an evaluation of the degree and duration of risks and on other technical and engineering information.	
YES NO N/A pg(s).	(e) Adjustment Procedures Regional Administrator may increase amounts of liability coverage required for any facility or group of facilities, or he may elect to impose nonsudden liability coverage requirements on treatment or storage facilities, based on an evaluation of the degree and duration of risks as deemed necessary to protect human health and the environment.	

A-43

CleanHarbors
ENVIRONMENTAL SERVICES®

COPY

Clean Harbors Recycling Services of Chicago, LLC
1445 West 42nd Street
Chicago, IL 60609

773.247.2828
Fax 773.650.1466
www.cleanharbors.com

VIA CERTIFIED MAIL
7005 2570 0000 0264 1586

April 30, 2008

Mr. James Blough
Waste Management Branch, DW-8J
Waste, Pesticides and Toxics Division
United States Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Clean Harbors Recycling Services of Chicago, LLC (formerly Safety Kleen Systems, Inc.)
Closure Certification Report – Tank T-17
ILD #005450697, Permit # 0316000053 - Cook

Dear Mr. Blough:

Enclosed is the closure certification report for Tank T-17 at the Clean Harbors Recycling Services of Chicago, LLC. The Closure Certification Report is being submitted in accordance with Part B Permit, Section II, L.6. A Closure Certification Statement is included in the report in Attachment F.

The report summarizes the activities performed to achieve closure of tank T-17. Closure activities were performed in accordance with the facility permit conditions and closure plan.

If you have any questions concerning this submittal or require additional information, please contact Gary Malinowski at 773-247-2828.

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 upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Alfred Aghapour
General Manager,
Clean Harbors Recycling Services of Chicago, LLC

Enclosures

cc:

Mark Schollenberger (IEPA)
Part B Permit - 2008 – T-17 Closure

Trihydro
CORPORATION

April 21, 2008

Mr. Alfred Aghapour
Facility Manager – Chicago Recycle Center
Clean Harbors Environmental Services
1445 W. 42nd Street
Chicago, IL 60609

RE: Tank T-17 Closure Certification for the Chicago Recycle Center, Clean Harbors Environmental Services, Chicago, Illinois

Dear Mr. Aghapour:

Safety-Kleen Systems, Inc. (S-K) operated the Chicago Recycle Center at 1445 West 42nd Street in Chicago, Illinois until March 2008. S-K operated the Recycle Center in accordance with a Hazardous Waste Permit (ILD 005450697/Permit No. 0316000053) issued by the Illinois Environmental Protection Agency (IEPA). S-K sold the Chicago Recycle Center to Clean Harbors Environmental Corporation on March 21, 2008.

Prior to Clean Harbors purchase of the Chicago Recycle Center, S-K contracted with Trihydro Corporation (Laramie, Wyoming) to document and verify closure of Tank T-17. Trihydro Corporation (Trihydro) recently completed the Tank T-17 closure documentation and verification activities at the Chicago Recycle Center under the direction of a register Illinois Professional Engineer. The results of the Tank T-17 closure activities are being submitted to both S-K and Clean Harbors.

Background

Tank T-17 had been used for management of hazardous waste (PW VOC Strip LTO). S-K cleaned and removed the tank from service in 2004 in order to proceed with repairs on the tank so it could be placed back in service. On February 19, 2007, following a detailed evaluation of the needed repairs, S-K concluded that the tank was beyond repair; therefore, the tank required closure pursuant to 40 CFR 264.197. Site-specific requirements for tank closure are documented in the facility Closure Plan, which was submitted as part of the Part B Permit Application dated May 8, 2002. On August 1, 2007, S-K requested a Class 1 Modification from the IEPA for removal Tank T-17 from the facility permit. A copy of pertinent correspondence related to the closure of Tank T-17 is included as Attachment A.

Previous Tank Closure Activities

Tank T-17 was a 3,500-gallon waste stainless steel cone bottom above ground storage tank. Ancillary equipment for the tank included piping, pumps, valves, filters, and flow meters. Secondary containment for the tank consisted of reinforced concrete floor with perimeter dike walls to prevent migration of incidental spillage. The secondary containment area is sealed with a chemical resistant coating to limit

the migration of materials into the concrete. Since Tank T-17 is within a tank farm with other actively utilized tanks, the secondary containment decontamination and closure activities outlined in the May 8, 2002 Closure Plan were not performed at this time.

In September 2004, S-K facility personnel began the clean-out and decontamination process for Tank T-17 in order to prepare the tank for the needed repairs. As required by the Closure Plan, the lines to Tank T-17 were locked out and tagged to prevent the flow of material into and out of the tank. The contents of the tank were removed by S-K personnel on September 19, 2004. This process generated a reported 2,798 gallons of material, which was transferred into another above ground storage tank for subsequent processing through the S-K recycling and waste management system.

Following removal of the contents, S-K personnel pressure washed and rinsed the Tank T-17 on September 20, 2004 and again on September 23, 2004. Reportedly, decontamination was completed for surfaces that waste streams contacted or potentially contacted, including ancillary equipment and the interior of the tank. Washing and rinsing continued until the surfaces appeared visually clean to the extent practicable. Documentation of the 2004 decontamination activities are included in Attachment B. Photographs showing Tank T-17 following the September 2004 pressure washing activities are included in Attachment C.

S-K collected and analyzed a preliminary rinsate sample, according to the GC analytical procedures set forth in the facility Waste Analysis Plan, to determine if additional decontamination was necessary. This sample was analyzed by the onsite S-K laboratory for total organic compounds on September 20, 2004. The Closure Plan, as amended by the Class 1 permit modification, specified decontamination of the tank will continue until the rinsate concentrations are no longer characteristically hazardous and the concentration of total organic constituents is below 10 ppm. Based on the results of the preliminary GC analysis, S-K performed additional pressure washing of Tank T-17 on September 23, 2004. Copies of the S-K Facility Daily Notes regarding the decontamination and sampling activities have been included as Attachment B.

The wash/rinse water from the September 2004 pressure washing activities was collected and processed through the S-K recycling and waste management system.

2008 Tank Inspection and Sampling Procedures

S-K retained Trihydro to verify that Tank T-17 was appropriately decontaminated pursuant to the facility Closure Plan dated May 8, 2002. Jack Bedessem of Trihydro (Illinois Professional Engineer No. 062049091) inspected Tank T-17 on January 17, 2008. One additional tank rinse was conducted by S-K personnel during the January 2008 inspection. Approximately 100 gallons of rinse water were generated during the final rinse of Tank T-17.

The secondary containment structure was also inspected on January 17, 2008. Less than one inch of ponded water was observed within the secondary containment area from recent precipitation. No sheen was observed on the ponded water. The secondary containment area consisted of concrete floor and dike walls with gray coating/sealant. No gaps or cracks were observed in the floor or dike walls near Tank T-17. Photographs from the January 2008 inspection of Tank T-17 have been included in Attachment C. Field notes from the January 2008 tank inspection are also in Attachment B.

The modified closure plan submitted in August 2007 as part of a Class 1 permit modification included a requirement for rinsate sampling to verify decontamination. Two samples were collected to verify the rinsate was free from facility-related organic and inorganic constituents. One final rinsate sample (FR-1) was collected after the tank had been re-rinsed. The sample was collected by closing the bottom drain valve to the tank, rinsing the interior tank walls, submerging the clean glass container, and transferring the rinsate water to sample container. One tap water sample (TAP-1) was also collected to determine if the water used for decontamination contained organic or inorganic constituents.

The samples were sealed, labeled, placed on ice in a cooler, and delivered to the TestAmerica Laboratory (University Park, Illinois) for analysis of volatile organic compounds (VOCs) by EPA Method 8260B, semivolatile organic compounds (SVOCs) by EPA Method 8270C, and RCRA metals by EPA Method 6010B and 7470A. One trip blank accompanied the samples and was submitted for analysis of VOCs.

Tank Inspection and Sampling Results

During the January 2008 site visit, Tank T-17 was found to be free of visible signs of oily or hazardous materials, and was also odor free. No residue or solids were noted in the tank. Minor areas of discoloration were noted on the interior walls of the tank. Photographs of the decontaminated tank have been included in Attachment C.

A summary of the analytical results for the tank rinsate sample, tap water sample, and trip blank is presented in Table 1. Three VOCs (bromodichloromethane, chloroform, and dibromochloromethane) were detected at low concentrations in the final rinsate sample (FR-1) and the tap water sample (TAP-1). These constituents are trihalomethanes (THMs), which are commonly present in tap water as disinfection by-products, and not likely associated with the tank contents. As shown in Table 1, the detected concentrations were well below the USEPA MCL for total THMs of 0.1 mg/L. The laboratory analytical report and associated data validation documentation have been included as Attachment D.

Following receipt of laboratory data confirming the decontamination of Tank T-17, S-K contracted with Anchor Mechanical to remove the clean tank from Tank Farm #4. On February 26 and 27, 2008, Anchor Mechanical removed Tank T-17 and cut it up for off-site recycling and management as scrap material.

On March 8, 2008, the tank was shipped from the Chicago Recycle Center to United Scrap Metal, Inc. (Cicero, Illinois). Photographs documenting the Tank T-17 removal and scrapping process have been included as Attachment C. A copy of the certificate of destruction from United Scrap Metal, Inc. dated March 10, 2008 has been included as Attachment E.

Closure Certification

Verification and documentation of the closure of the 3,500-gallon Tank T-17 at the former S-K Chicago Recycle Center was completed between January and March 2008. The documentation and verifications activities were performed under the supervision of an Illinois registered Professional Engineer. The field inspections and the results of rinsate samples indicate that closure has been satisfactorily completed in accordance the facility closure plan and modification. A closure certification statement for Tank T-17 is presented in Attachment F.

Trihydro appreciates the opportunity to assist S-K and Clean Harbors with closure of Tank T-17. If you have any questions or require additional information, please do not hesitate to contact us at (307) 745-7474.

Sincerely,
Trihydro Corporation

Jack Bedessem, P.E.
President

George Mathes P.E.
Vice President

083-001-001

Enclosures:
- Table 1 – Rinsate Sample Analytical Summary
- Attachment A – Pertinent Correspondence
- Attachment B – Field Notes
- Attachment C – Photodocumentation
- Attachment D – Laboratory Analytical Report and Data Validation
- Attachment E – Certificate of Destruction
- Attachment F – Closure Certification Statement

ATTACHMENT A

PERTINENT CORRESPONDENCE

VIA CERTIFIED MAIL
 # 7005 2570 0000 0264 0589

August 1, 2007

Mr. Stephan Nightingale, P.E.
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Re: Safety-Kleen Systems, Inc. Chicago Recycle Center
Class 1 Modification – Removal of Permitted Unit (Storage Tank T-17)
ILD 005450697, Permit # 0316000053 – Cook County

Dear Mr. Nightingale,

In accordance with 35 IAC Section 703.281(b), Safety-Kleen Systems, Inc. (Safety-Kleen) is notifying the IEPA of a class 1 modification to the State Hazardous Waste Operating Permit (Part-B) issued by the Agency on March 4, 2005. Safety-Kleen requests approval to remove from the Part B Permit the unit identified as Storage Tank T-17 in Section II.B.1. of the Part-B Permit.

Safety-Kleen had anticipated that closure of this tank would occur with the closure of the entire facility. Safety-Kleen has further made the determination that this unit will need to be closed due to the tank being deemed un-fit for hazardous waste service. The tank was evaluated by a registered professional engineer and repair was deemed to be not practical and economical due to the tank needing major repairs due to corrosion. Therefore, Safety-Kleen is requesting approval to close this unit and remove it from the tank farm. Safety Kleen is also requesting that the current permitted capacity of this tank be reserved in the Part-B Permit for a future "replacement in-kind". This request is being submitted in accordance with 35 IAC 703, Appendix A (D)(1)(c). This type of Class 1 modification is identified with an asterisk. Therefore, prior approval from the Agency is required before the modification can be made.

In accordance with 35 Ill. Adm. Code 703.281(a)(2), Safety-Kleen will send a notice to all persons on the facility mailing lists within 90 days after the receipt of approval from the Illinois Environmental Protection Agency.

If you have any questions or require additional information, please contact Gary Malinowski at (773) 247-2828.

> 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 upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Alfred Aghapour
Chicago Recycle Center
Facility Manager

Enclosures

cc: file
Harriet Croke (USEPA- Region 5)
Mark Schollenberger (IEPA)
Eamon Reilly (Chicago D.O.E.)
Bob Schoepke (Safety Kleen Systems, Inc.)
Part-B Permit - 2007 - Class 1 Modification (T-17 Storage Tank Closure)

Chicago Recycle Center
Class 1 Permit Modification
(July 2, 2007)

Part B Permit Modifications

As identified in the cover letter to this request, Safety-Kleen Systems, Inc. (Safety-Kleen) will be modifying the permitted tank system in Tank Farm #4 by removing tank T-17.

The modification to the permit is necessary to comply with the standards required for the storage of hazardous waste in a permitted tank system.

Provided below is the applicable information that is required to be submitted in accordance with 35 IAC 703.281(a)(1).

I. 35 IAC 703.181 - Contents of Part A

This section is not impacted by this modification request.

II. 35 IAC 703.182 - Contents of Part B

The tank system T-17 as approved in the Part B Permit on April 8, 2005 will be removed from service and closed in accordance with the closure plan approved in the permit.

The tank system T-17 is a 3500 gallon storage tank used for the storage of liquid hazardous and non-hazardous waste solvents. The tank, its location within Tank Farm #4, and location in the facility are shown in Exhibit(s) #3 and #30 in the facility RCRA Part-B Permit application dated 5/7/2002.

III. 35 IAC 703.183 - General Information

This section is not impacted by this modification request.

IV. 35 IAC 703.184 - Facility Location

The tank system T-17 is located in Tank Farm #4, an existing tank farm that contains 18 other tanks subject to RCRA which are approved for hazardous waste storage in the facility Part-B Permit.

V. 35 IAC 703.185 - Ground Water Protection Information

This section is not impacted by this modification request.

VI. 35 IAC 703.201 - Containers

This section is not impacted by this modification request.

VII. 35 IAC 703.202 - Tanks

The tank system T-17 is an existing RCRA Part-B permitted 3500 gallon capacity, cone bottom, atmospheric tank constructed of stainless steel. The tank diameter is 6'2" and the height is 18'5".

VIII. 35 IAC 703.203 - .207 - Other Units

The Chicago Recycle Center will not be utilizing any of the methods identified in the above noted sections to manage hazardous waste on-site. Therefore, these sections are not applicable to this permit modification request.

IX. 35 IAC 703.221 - Short Term & Phased Permits

This section is not applicable to this permit modification request.

X. 35 IAC 703.222 - .225 - Incinerators

The Chicago Recycle Center will not be utilizing this method to manage hazardous waste on-site. Therefore, these sections are not applicable to this permit modification request.

XI. 35 IAC 703.230 - Land Treatment

The Chicago Recycle Center will not be utilizing this method to manage hazardous waste on-site. Therefore, this section is not applicable to this permit modification request.

XII. 35 IAC 703.232 - Permits for Hazardous Waste BIFs

The Chicago Recycle Center will not be utilizing this method to manage hazardous waste on-site. Therefore, this section is not applicable to this permit modification request.

XIII. 35 IAC 724.210 - Closure Plans

A. Closure Procedures

Safety-Kleen Systems, Inc. (Safety-Kleen) will close the Chicago facility following a sequence that allows maximum flexibility while meeting all the requirements of 40 CFR 264.111, 113, 114, 178, and 197. Closure operations will involve processing of waste and intermediate product inventory and unprocessed regulated waste through the on-site processing equipment; shipment off-site of waste fuels for burning for energy recovery; decontamination of tanks, containment systems, and associated equipment; removal of residuals generated during the closure process; and certification of closure. The procedures used to carry out closure are discussed below.

The initial step of the unit closures will involve inventory removal. Any regulated waste will either be processed on-site before discharge or shipped off-site for off-site disposal at an approved waste facility in accordance with all applicable state and federal regulations. Following the removal of the inventory, decontamination of the process equipment and containment surfaces will commence. Confined space entry, if necessary and decontamination procedures are discussed in Sections 8.5 and 8.6 of the Part B Closure Plan. Decontamination wash waters and rinsates will be collected and either tested and disposed of accordingly, or assumed to be regulated and transported off-site for treatment and disposal. Any residuals generated during decontamination will be containerized disposed off-site at an approved waste management facility. The final rinseate will be sampled to determine that decontamination is complete.

Closure operations will be observed by an independent, registered professional engineer. The engineer will supply Safety-Kleen with a certification that facility closure has been conducted in accordance with the approved Closure Plan; Safety-Kleen will forward that certification to IEPA.

All procedures and regulatory requirements pertaining to the closure of these units will be in compliance with the Chicago Facility Part B Permit Closure Plan to which this document is an addendum.

1. Tank System T-17 Decontamination

Tank T-17 has been taken out of service and is currently empty. The tank does not contain any residual contents due to the tank being emptied and cleaned in order to prepare for internal inspection by a licensed, registered professional engineer.

The tank system and associated piping will be decontaminated using a high pressure wash system or a steam cleaning.

The amount of fluids and steam (condensate) used for decontamination will be kept to a minimum in order to limit the amount of contaminated material that must be disposed. Rinse water will be treated on-site to remove organics prior to disposal. A sample of the final rinse water will be collected and analyzed for contaminants according to the GC analytical procedures set forth in the Waste Analysis Plan of the Permit. A unit will be considered decontaminated when the rinse waters have concentrations of individual components at levels below that which would render the waste characteristically hazardous, and when the concentration of total organic constituents is below the level of 10 ppm (mg/l).

Following decontamination, all access points will be exposed, to allow the units to dry out. All appurtenant piping, fittings, and pumping equipment will be disconnected and removed. Cleaning and flushing of this piping may be done prior to or during the system cleaning, whichever proves most efficient to the cleaning contractor.

The tank will be removed from the tank farm and may be cut into smaller sections to allow handling and to aid in the transportation for disposal or scrapping. The tank system will be offered as scrap for metal recycling in accordance with applicable state and federal regulations.

Any residues and waste materials generated during closure (e.g., contaminated protective clothing and rags) will be placed in containers and transported to a permitted off-site hazardous waste treatment, storage, and disposal facility.

After the system has been decontaminated, the secondary containment structure will be examined for evidence of spills or contamination. The containment surface will be decontaminated by brushing down all surfaces and subsequently pressure washing surfaces with a detergent solution. The wash fluid will be treated on-site to remove any organic constituents. Following washing, the containment structure will be rinsed with water; the rinsate will be analyzed using the GC analytical procedures set forth in the Waste Analysis Plan of the Permit and the unit will be considered decontaminated when the rinsates have concentrations of individual components at levels below that which would render the waste characteristically hazardous, and when the

concentration of total organic constituents is below the level of 10 ppm (mg/l). The secondary containment will be certified by an independent, registered, professional engineer indicated that the surface has no cracks, gaps or other defects which would allow waste to migrate through to the underlying soil.

XIV. 35 IAC 724.217 - Post-closure Care

Since the tank system T-17 is not a land disposal unit, it is expected that the unit can be clean closed. Therefore, this section is not applicable.

ATTACHMENT B

FIELD NOTES

Nowosielski, Joe

From: Nowosielski, Joe
Sent: Friday, October 12, 2007 5:33 PM
To: 'Gary Malinowski (E-mail)'
Cc: 'AAghapour@safety-kleen. com (E-mail)'
Subject: T-17 Closeout

I will attach this email to the referenced documents and give it to you. Let me know if anything else is needed for the T-17 closeout documentation.

- The inventories from 09/19/04 and 09/20/04 show the tank being cleaned from PW VOC Strip LTO to MT/C
- 09/15/07 Email from Supervisor David Fandrei explaining how the washout was done for T-17.
- The CRC washout report form and GC scan showing no organic contaminants on 09/20/04.
- A note from me in the communicator indicating that Pedro Gonzalez had completed the washout of T-17.

"Are you in earnest? Seize this very minute! What you can do, or dream you can, begin it. Boldness has genius, power and magic in it. Only engage, and then the mind grows heated. Begin, and then the work will be completed." Johann Wolfgang von Goethe (1749 - 1832)

Joe Nowosielski
Operations Manager
Chicago Recycle Center
773-650-1468

CHICAGO RECYCLE CENTER
DAILY TANK INVENTORY
September 19, 2004

H	F	R	TANK	CODE	MATERIAL CONTENTS	COMMENTS	HW	<6000 BTU	GALS
2	2	0	T1	T030	DP BUFF DMAC Crude		NO		5116
1	2	0	T2	T038	ABBL DMSO NVR Removal LTO		NO		6152
1	2	0	T3	T038	ABBL DMSO NVR Removal LTO		NO		8417
2	2	0	T4	T030	DP BUFF DMAC FP		NO		4598
0	0	0	T5	W001	MT/C	SL GC	NO		0
0	0	0	T6	W001	MT/D	Hatch is open	NO		0
2	1	0	T11	R300	SK MeCl Fractions		NO		3159
0	0	0	T12	W001	Washing Out	Hatch is open	NO		0
0	0	0	T13	W001	Washing Out	Hatch is open	NO		0
0	0	0	T14	W001	Washing Out	Hatch is open	NO		0
0	0	0	T15	W001	MT/C	Out of service !	NO		0
2	1	0	T16	R007	SK NMP B-Pass UTO	with sulfolane	NO		2190
0	0	0	T17	W001	PW VOC Strip LTO		NO		2798
2	2	0	T18	T025	Cel DMAC LB UTO		NO		2988
2	2	0	T19	T030	DP BUFF DMAC B-Pass UTO		NO		2010
0	0	0	T20	W001	Washing Out	Top hatch is open	NO		0
0	0	0	T21	W001	MT/C		NO		0
2	1	0	T22	R007	SK NMP B-Pass UTO	from caustic treated aquired	NO		2429
0	0	0	T23	W001	MT/C	SL GC	NO		0
2	3	1	T30A	F001	SK PGMEA Crude		YES	NO	5729
1	2	0	T30B	T046	EL DMSO Final Dehy UTO	...and LTO	NO		5719
2	3	1	T31	R009	SK G THF Demethanolization LTO		NO		12079
2	3	1	T32	R009	SK G THF HB Strip UTO		NO		14043
2	3	1	T33	R009	SK G THF Crude		NO		0
2	3	0	T34A	T041	MRK NEP/IAA Dehy-Split UTO		NO		6511
2	3	0	T34B	T036	MRK NEP B-Pass LTO		NO		2427
2	3	0	T35A	R999	SK G MeOH FP Via ATO		NO		4164
2	3	0	T35B	T041	MRK NEP/IAA Dehy-Split UTO		NO		2426
2	3	1	T36	T038	ABBL DMSO Crude		NO		1566
2	2	0	T37A	R999	SK PGMEA LB UTO		NO		1618
2	3	1	T37B	R009	SK G THF HB Strip UTO		NO		2788
2	3	1	T38	R999	SK G THF FP		NO		2262
2	3	0	T39	T036	MRK NEP Crude		YES	NO	5250
1	2	0	T40A	T038	ABBL DMSO THF Strip LTO		NO		0
2	3	1	T40B	W001	Process Water		YES	YES	6594
2	3	0	T41A	W001	Process Water		NO		6558
2	3	0	T41B	T036	MRK NEP LB Strip UTO		NO		1734
2	3	1	T42	R009	SK G THF Dehy w/Hexane UTO		NO		8532
2	3	1	T43	T038	ABBL DMSO Crude		NO		10084
2	3	0	T44	T036	MRK NEP B-Pass UTO		NO		216
2	3	1	T45	R009	SK A THF (D) Self Dehy UTO	...& ABBL DMSO THF STRIP UTO	NO		13430
2	3	0	T46A	R999	SK PGMEA Crude		NO		6150
2	3	1	T46B	R009	SK G THF Crude		NO		1879
2	3	1	T47A	W001	PW VOC Strip UTO		NO		6253
2	3	1	T47B	W001	SK G MeOH Hskp UTO		NO		6361
2	3	0	T48A	T036	MRK NEP/IAA MeCl Strip LTO		NO		2372
3	0	1	T48B	I999	Phosphoric Acid		NO		2614
2	3	1	T49A	R009	SK G MeOH Hskp UTO		NO		6510
2	3	1	T49B	R009	SK G THF Demethanolization LTO		NO		3732
2	3	1	T50	F001	Waste Fuel		YES	NO	0
2	3	1	T51	R009	SK Nor THF Crude		YES	NO	13576
2	3	1	T52A	F001	Waste Fuel		YES	NO	5511
2	3	1	T52B	F001	Waste Fuel		YES	NO	4917
2	3	1	T53A	R009	SK G THF HB Strip LTO		YES	NO	5619
2	3	1	T53B	W001	PW VOC Strip UTO		NO		6591
2	1	0	T54	R008	SK NMP Premium FP		N/A		7506

CHICAGO RECYCLE CENTER
DAILY TANK INVENTORY
September 20, 2004

		R	TANK	CODE	MATERIAL CONTENTS	COMMENTS	HW	<6000 BTU	GALS
2		0	T1	T030	DP BUFF DMAC Crude		NO		5116
1	2	0	T2	T038	ABBL DMSO NVR Removal LTO		NO		6152
1	2	0	T3	T038	ABBL DMSO NVR Removal LTO		NO		8417
2	2	0	T4	T030	DP BUFF DMAC FP		NO		4598
0	0	0	T5	W001	MT/C	SL GC	NO		0
0	0	0	T6	W001	MT/D	Hatch is open	NO		0
2	1	0	T11	R300	SK MeCl Fractions		NO		3159
0	0	0	T12	W001	MT/C	Hatch is open	NO		0
0	0	0	T13	W001	MT/C	Hatch is open	NO		0
0	0	0	T14	W001	MT/C	Hatch is open	NO		0
0	0	0	T15	W001	MT/C	Out of service !	NO		0
2	1	0	T16	R007	SK NMP B-Pass UTO	with sulfolane	NO		2190
0	0	0	T17	W001	MT/C		NO		0
2	2	0	T18	T025	Cel DMAC LB UTO		NO		2988
2	2	0	T19	T030	DP BUFF DMAC B-Pass UTO		NO		2010
0	0	0	T20	W001	MT/C	Top hatch is open	NO		0
0	0	0	T21	W001	MT/C		NO		0
2	1	0	T22	R007	SK NMP B-Pass UTO	from caustic treated aquired	NO		2429
0	0	0	T23	W001	MT/C	SL GC	NO		0
2	3	1	T30A	F001	SK PGMEA Crude		YES	NO	5729
1	2	0	T30B	T046	EL DMSO Final Dehy UTO	...and LTO	NO		5719
2	3	1	T31	R009	SK G THF Demethanolization LTO		NO		9376
2	3	1	T32	R009	SK G THF HB Strip UTO		NO		14043
0	0	0	T33	W001	PW VOC Strip LTO		NO		3088
2	3	0	T34A	T041	MRK NEP/IAA Dehy-Split UTO		NO		6511
2	3	0	T34B	T036	MRK NEP B-Pass LTO		NO		2967
2	3	0	T35A	R999	SK G MeOH FP Via ATO		NO		4164
2	3	0	T35B	T041	MRK NEP/IAA Dehy-Split UTO		NO		2426
2	3	1	T36	T038	ABBL DMSO Crude		NO		1566
2	2	0	T37A	R999	SK PGMEA LB UTO		NO		1618
2	3	1	T37B	R009	SK G THF HB Strip UTO		NO		2788
2	3	1	T38	R999	SK G THF FP		NO		4314
2	3	0	T39	T036	MRK NEP Crude		YES	NO	3198
1	2	0	T40A	T038	ABBL DMSO THF Strip LTO		NO		0
2	3	1	T40B	W001	Process Water		YES	YES	6594
2	3	0	T41A	W001	Process Water		NO		6558
2	3	0	T41B	T036	MRK NEP LB Strip UTO		NO		1734
2	3	1	T42	R009	SK G THF Dehy w/Hexane UTO		NO		9558
2	3	1	T43	T038	ABBL DMSO Crude		NO		10084
2	3	0	T44	T036	MRK NEP B-Pass UTO		NO		3550
2	3	1	T45	R009	SK A THF (D) Self Dehy UTO	...& ABBL DMSO THF STRIP UTO	NO		13430
2	3	0	T46A	R999	SK PGMEA Crude		NO		6150
2	3	1	T46B	R009	SK G THF Crude		NO		3203
2	3	1	T47A	W001	PW VOC Strip UTO		NO		6253
2	3	1	T47B	W001	SK G MeOH Hskp UTO		NO		6361
2	3	0	T48A	T036	MRK NEP/IAA MeCl Strip LTO		NO		4586
3	0	1	T48B	I999	Phosphoric Acid		NO		2614
2	3	1	T49A	R009	SK G MeOH Hskp UTO		NO		6510
2	3	1	T49B	R009	SK G THF Demethanolization LTO		NO		3732
2	3	1	T50	F001	Waste Fuel		YES	NO	0
2	3	1	T51	R009	SK Nor THF Crude		YES	NO	13576
		1	T52A	F001	Waste Fuel		YES	NO	5511
		1	T52B	F001	Waste Fuel		YES	NO	4917
2	3	1	T53A	R009	SK G THF HB Strip LTO		YES	NO	5619
2	3	1	T53B	W001	PW VOC Strip UTO		NO		6591
2	1	0	T54	R008	SK NMP Premium FP		N/A		7506

MEMORANDUM

DATE: September 15, 2007

TO: Joe N.

FROM: David F.

SUBJECT: T17 washout

CC:

A normal washout of a tank like T17 would be to wash the overhead line first into the tank, then spray the sides of the tank from the top. All the water generated would go to wherever the water in the tank had gone. A sample of the water from the bottom of the tank would be checked for our straight line GC.

SAFETY KLEEN CORPORATION
CHICAGO RECYCLE CENTER

WASHOUT REPORT

DATE: 9-20-04 TIME: 0200
OPERATOR: _____
MATERIAL TO BE PROCESSED: THICKNESS TEST

	WASHED?	GC ATTACHED
PROCESS EQUIPMENT: _____	_____	_____

PROCESS FRACTIONS / TRANSFER LINES

MATERIAL	LINE ID		
FEED			
UTO			
LTO			
ATO			
DECANT			

TANKS

T-17		

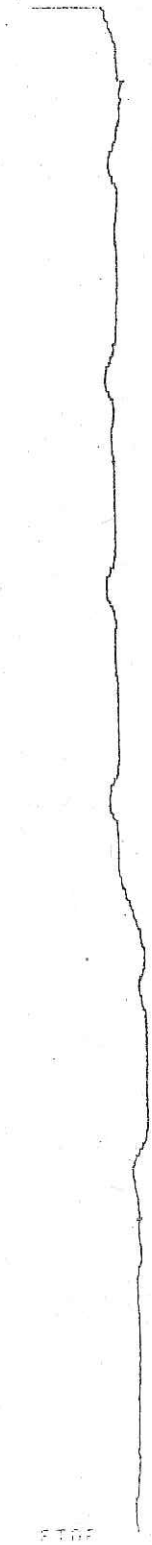
PROCESS WATER GENERATED: 0 gallons

SIGNED OPERATOR _____
SUPERVISOR _____

TOTAL AREA- 873
MIN FACTOR-1.0000E+00

City H2O ↓

* RUN # 58 FEB 14, 1981 19:48:54
START



STOP

RUN# 58 FEB 14, 1981 19:48:54

MIN FACTOR=1.00000E+00

RUN # 61 FEB 10, 1981 02:18:04

START

T-17
washout

STOP

RUN# 61 FEB 10, 1981 02:18:04

NO RUN PEAKS STORED

Jm

9-22-04 1- C-1100 - will be going to a Pass change - need to make NEP F-P in the T-108 - will do LB in T-39 (move to T-44) Follow procedure for NaOH addition, also have maint to put side hatch back to T-108

2- C-1200 - Omso Fine dely - Pass is running ok, found problem w/ cooling tower #1 pump was not pumping, maint fixed so far is running ok, also they installed a pressure gauge in the pump let the operators know to keep an eye, also see if we can find out if there is a way to tell if there is a problem with this cooling tower in the chart. which temperature can tell us we have a problem ask operators ~~if~~ how they can tell.

3 - C-1300 - THF G H-B LTO HRG. is running ok

4- C-1400 - THF F-P - ok.

9/23/04 Side hatch is back on T-108

AR C1100 - setting up to start MRK NEP LB STRIP - The feed pump in TFA5 developed a leak from the seal - steamed it and still leaked - locks are in place and washing another pump.

C1200 - Running OK

C1300 - Running OK

C1400 - Running OK

LUNA DOWN

sample from T-55 in the lab for Recert.

T-16 is MT/C, side hatch open and locks in placed

T-13, T-14, T-15 and T-23 are ready for welding

T-5 and T-17 are still a little dirty - did some pressure washing on both but could not see to well need some more.

JM

9/23/~~03~~ 04 Joel

FJo - It is my intention to get to work Friday AM between 6:30-7:00. I will take care of the KPLs, shipping paperwork, and Excel inventory. Hopefully this will free you up for the TF#4 permits and the Calumet Testing permits.

We must blind off the vents on any tank in TF#4 th in which a vessel entry is done. See David's note #2 of 9/13/04 on page 35

Interesting day!
C1100 - While maint. repaired the F1 TF#5 feed pump (done), Murad attempted to start C1100 on MRK NEPLD Strip. LTO pump would not pump regularly under vacuum. After some tests, long story to short = there were solids in the line that we blew back towards the strainers (OKd ONE TIME ONLY to blow back by Joe Pos). Afterwards we ~~were~~ had much better (50 psi vs ~30/35) pump pressure, but there are still solids in this line. Either the next time the LTO pump or by schedule with maint, we need to clean the LTO line back to the pot from the old cooler location at least. Started making money ~16:30
Note: We need to have at least 4,600 gallons "Sample in the lab" of T108 for 8AM Monday AM. We will need to plan the LBHB Strips to cut off to meet this target

C1200 - running slower than normal even with better water in feed (11% to 15% for first tank). T111 is 15-20 APHA. Resample for Ramos on day shift Friday

C1300 Running PW: OK but could not control Pet lux. taking UTO → BTF until we build up a higher VOC concentration to make fuel again

C1400 Shutting down on SKG THF Self Rely. Ran

JJn

out of room in T38. Directed Semyon to take last little bit of T49A (and the column itself) to T42 (UTo receiver, but hexane fraction we need to figure out how to run).

Had Semyon sample decant Tank: About 40% Hex 1 and 1.7% water.

Calumet testing completed T30A, T30B, T32, T33, T34A, T35A + T51. Tank tracking sheet updates. I put the "Friday tanks" in the Leadman communicator.

TF#4 for Friday → Pedro pressure washed T-5 and T-17 and did maint. requested cleanups for (4) TF#4 tanks for Friday repairs. Use Jim to support this project with anything last minute work that is needed

ABBL personnel came out to witness the offloading of the 1st Flexitank trailer... but it didn't happen! Driver showed up with 1st load and no paperwork. Tentatively re-scheduling for Monday morning if paperwork errors can be fixed by CBSL (delivering carrier)

SCM was canceled for today — no minutes! Sent Jim home at 2:30. Joe R did not come in until 2:15. FJO: did Joe R tell you he couldn't make it?

I asked Fernando and he will come in at 5:00 pm next Tuesday, 9/28/04. We will do the SCM then. Please put on the schedule and let Ron know.

Please post a note Friday to defrost Bldg #2 refrigerator overweekend to warn employees when you will have it done, then do it per your note.

1/17/08 Field Notes — Jack Bedessem

Safety-Kleen Chicago RC Tank T17 Closure

1445 W 52nd Street, Chicago IL 60609

845 Arrived onsite

Met with Bob Schoepke, Alfred Agapeur (Facility Manager) and Gary Malinoski (EHS Manager)

Review Closure Plan and 8/1/07 Modification and Waste Analysis Plan

Inspected Tank T17 - 3500 gal SS w/Cone bottom vertical AST - Located in TF#4 w/18 other tanks

- Piping and appurtenances disconnected, except for drain piping from cone bottom
- Both top and lower side hatches open, so interior visible
- Interior clean with minor areas of SS discoloration
- No liquids or solids residual noted in tank

1000 Contacted Test America to confirm sample containers required for analyses - Bonnie Stadelmann 708-534-5200

Prepared bottle labels and COC

S-K crew commenced final rinse of Tank T-17

Confirmed with Joe Nowsielski (Operations Manager) that

- Last waste solvent stored in T-17 9/19/04 (see Daily Tank Inventory)
- T-17 pressure washed on 9/20/04 (S-K crew)
- Rinsate sample collected 9/20/04 and analyzed by S-K lab for GC screen indicated no volatile organics
- T-17 pressure washed again on 9/23/04 (S-K crew)

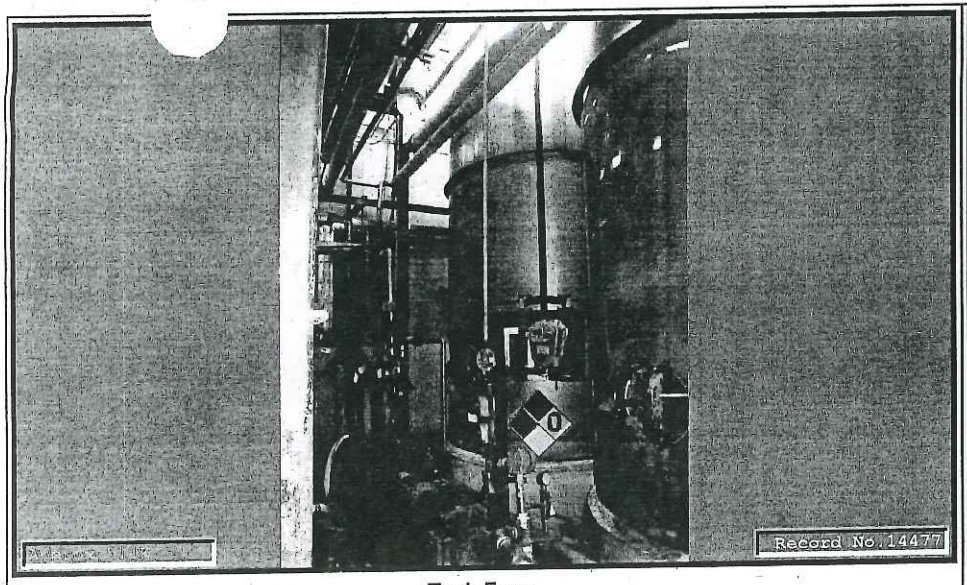
1/17/08 Field Notes (Continued) 2/7

1100 S-K Crew completed final rinsing of tank w/tap water
Estimate of 100 gallons water used for final rinsing
Closed bottom drain valve to collect portion of
final rinse water in bottom of tank - 6M indicated rinse wash water processed per S-K Waste Man System
Commenced sampling using clean sample container
on bent wire to dip pooled rinse water
Rinsate samples appeared clear, no solids or no odor
Collected final rinsate sample FR-1
- VOCs (3 VOA vials)
- SVOCs (2 1-liter ambers glass from S-K lab)
- Metals (1 1-liter clear glass from S-K lab)
Collected tap water sample Tap 1
- Same as above
1200 Documented Tank T17 condition w/photographs
Some ponded water (<1") observed within secondary
containment area - Ponded water from recent snow/rain
- No sheen on ponded water
Secondary containment area consisted of concrete
floor and dike walls with gray coating/sealant
No evidence of gaps or cracks observed in floor
or dike walls near Tank T-17
1300 Packed sample containers in coolers with ice
Secured coolers w/tape and custody seals
1400 Checked out of site
1230 Delivered samples to lab (Dick Wright)

ATTACHMENT C

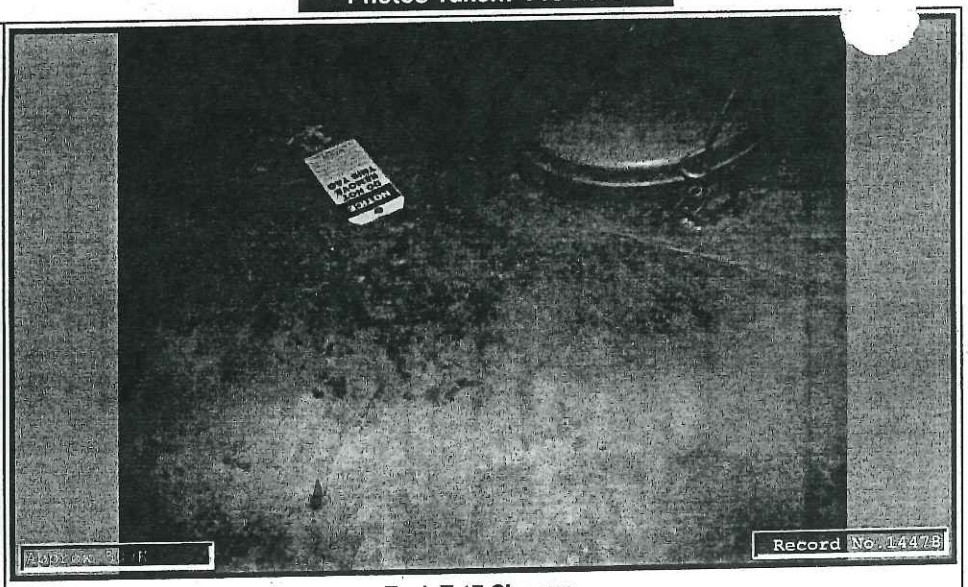
PHOTODOCUMENTATION

Photos Taken: Pre-2008



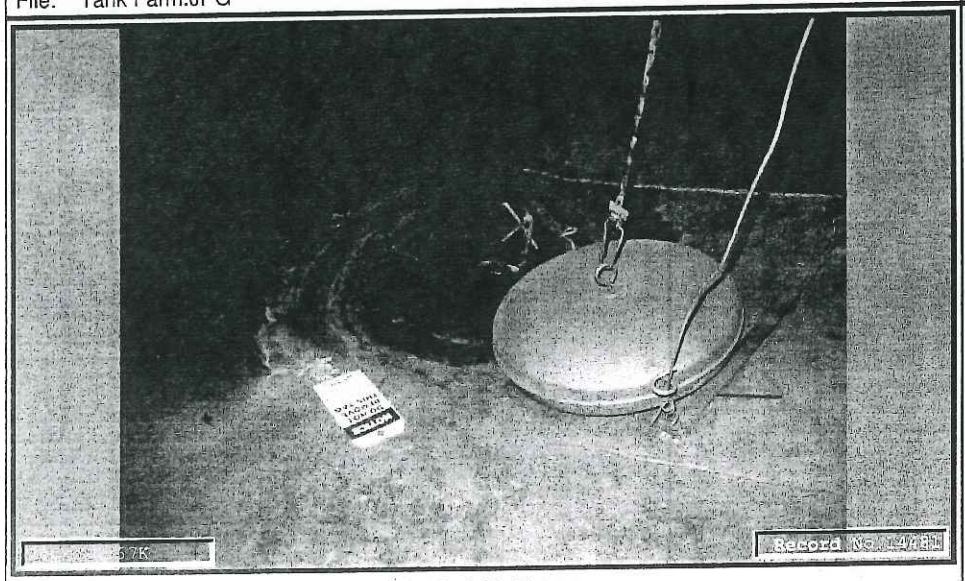
Tank Farm

Date: 10/17/07 Direction: North Taken By: SK
File: Tank Farm.JPG Job Number: 083-001-001



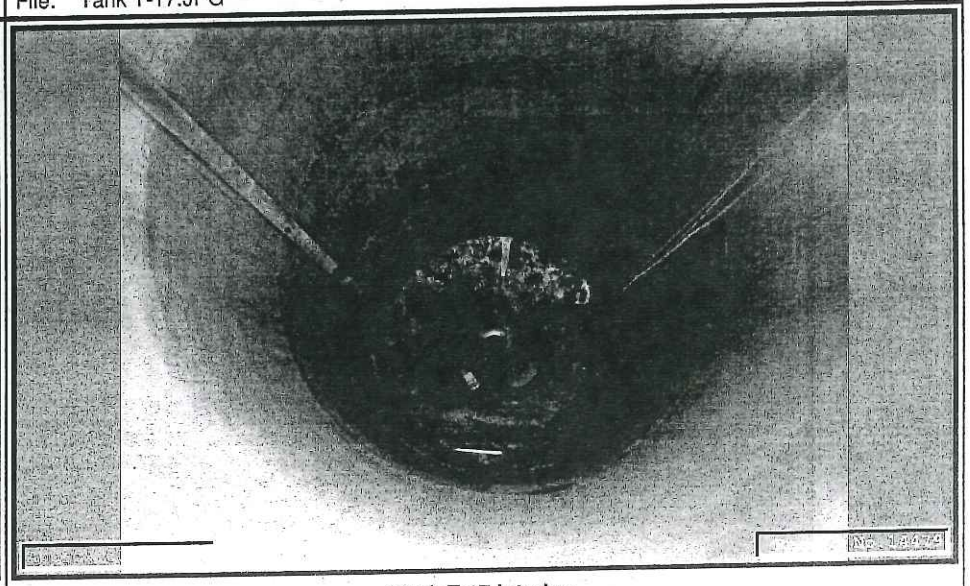
Tank T-17 Closeup

Date: 10/17/07 Direction: Down Taken By: SK
File: Tank T-17.JPG Job Number: 083-001-001



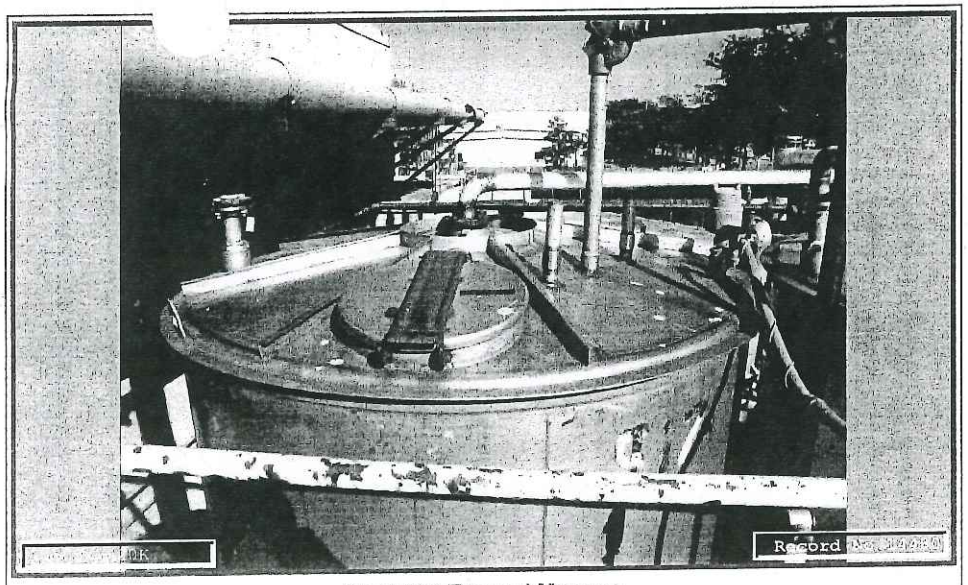
Tank T-17

Date: 10/17/07 Direction: Down Taken By: SK
File: Tank T-17D.JPG Job Number: 083-001-001



Tank T-17 Interior

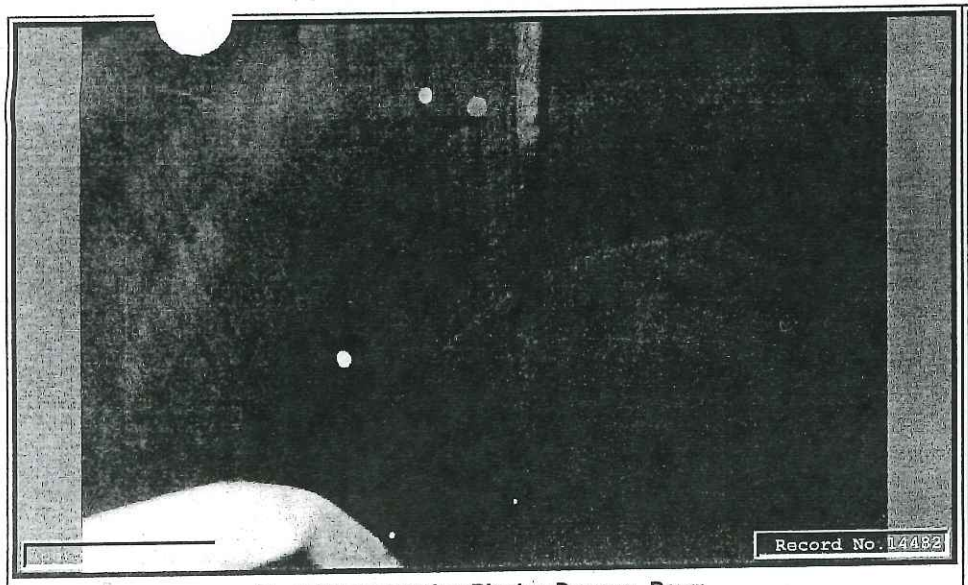
Date: 10/17/07 Direction: Down Taken By: SK
File: Tank T-17Int.JPG Job Number: 083-001-001



Tank T-17 Top and Manway

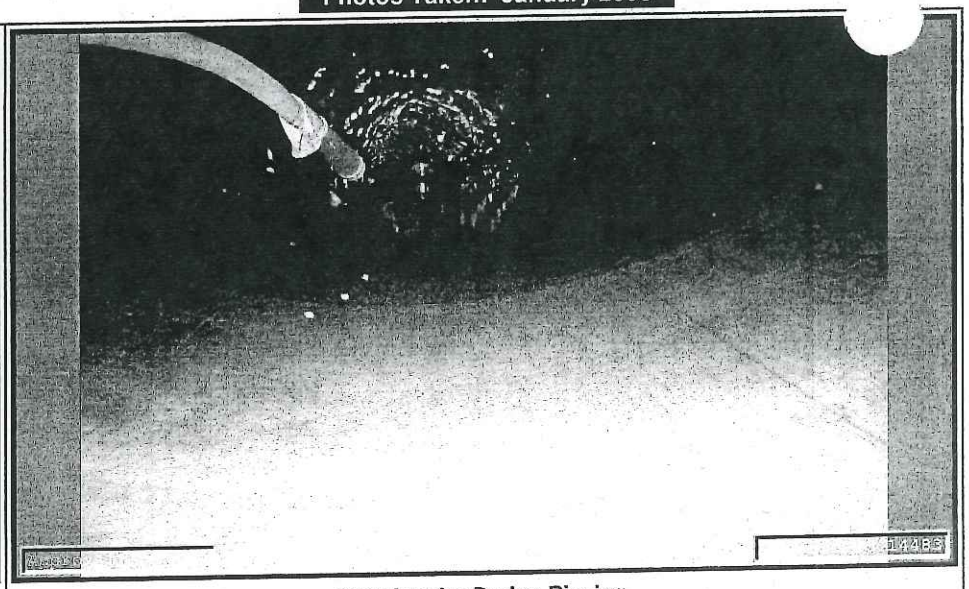
Date: 10/17/07 Direction: Down Taken By: SK
File: Tank T-17Top.JPG Job Number: 083-001-001

Photos Taken: January 2008



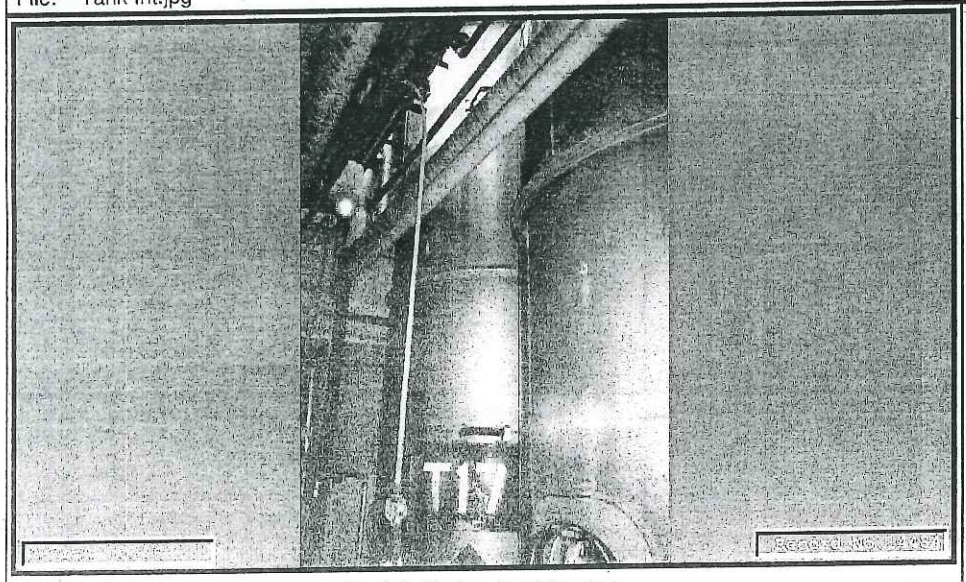
Tank Interior During Rinsing Process_Down

Date: 1/17/08 Direction: Down Taken By: Jack Bedessem
File: Tank Int.jpg Job Number: 083-001-001



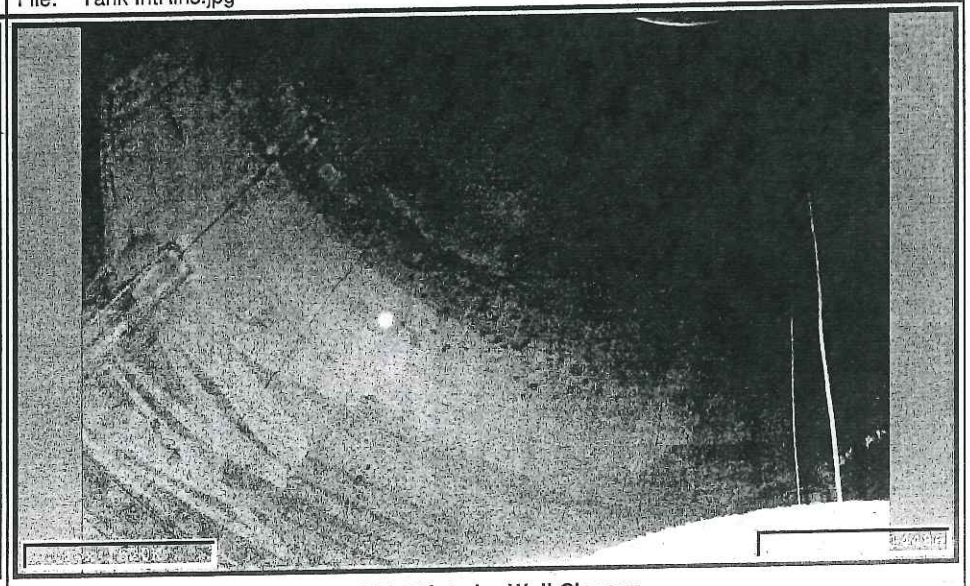
Tank Interior During Rinsing

Date: 1/17/08 Direction: Down Taken By: Jack Bedessem
File: Tank IntRins.jpg Job Number: 083-001-001



Tank T-17 Exterior Closeup

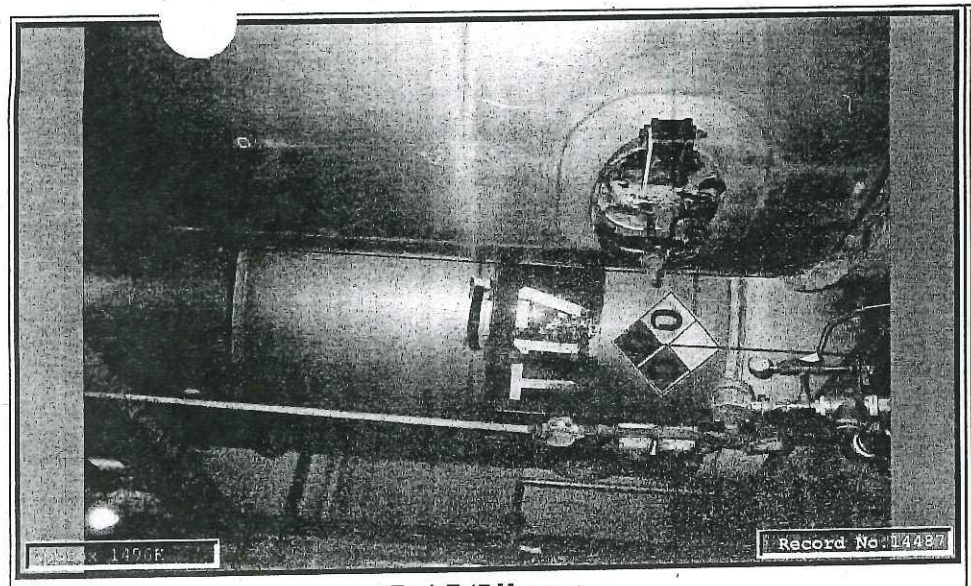
Date: 1/17/08 Direction: North Taken By: Jack Bedessem
File: Tank T-17 Exterior.jpg Job Number: 083-001-001



Tank T-17 Interior Wall Closeup

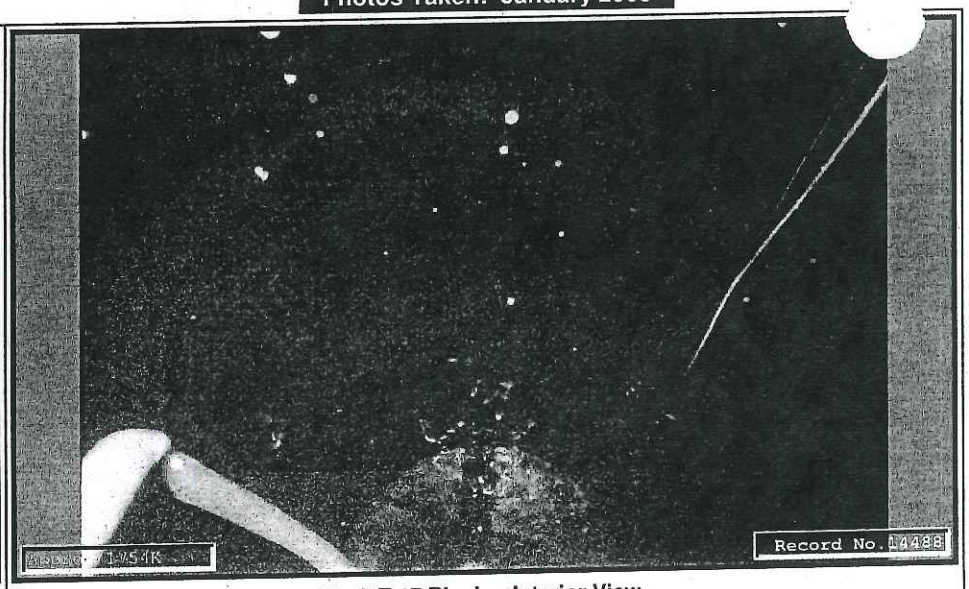
Date: 1/17/08 Direction: Down Taken By: Jack Bedessem
File: Tank T-17 Interior Wall.jpg Job Number: 083-001-001

Photos Taken: January 2008



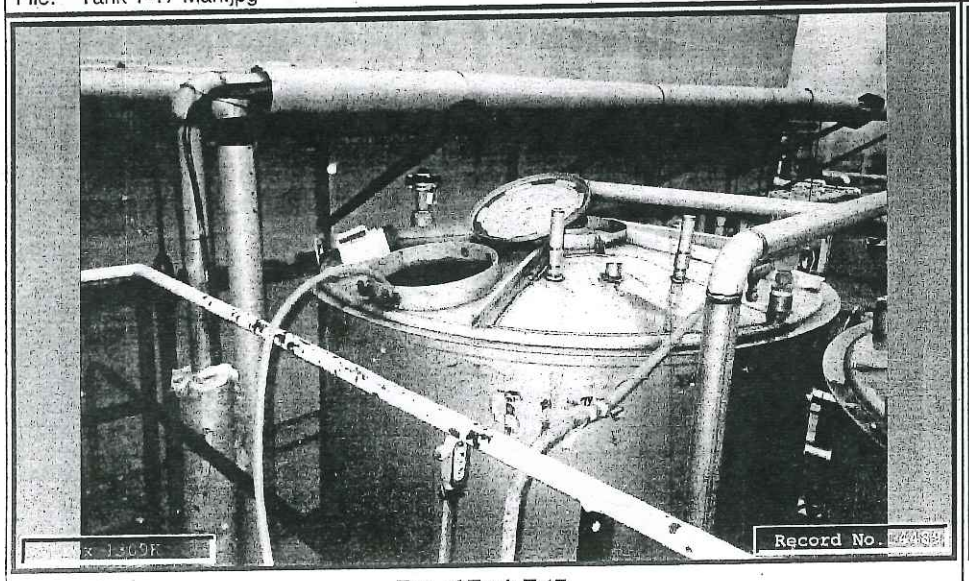
Tank T-17 Manway

Date: 1/17/08 Direction: North Taken By: Jack Bedessem
File: Tank T-17 Man.jpg Job Number: 083-001-001



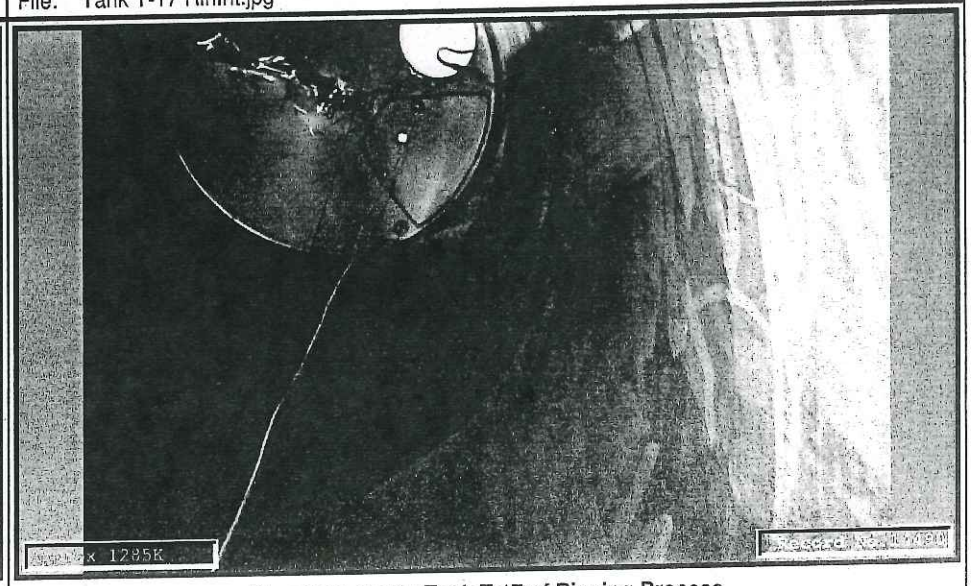
Tank T-17 Rinsing Interior View

Date: 1/17/08 Direction: Down Taken By: Jack Bedessem
File: Tank T-17 RinInt.jpg Job Number: 083-001-001



Top of Tank T-17

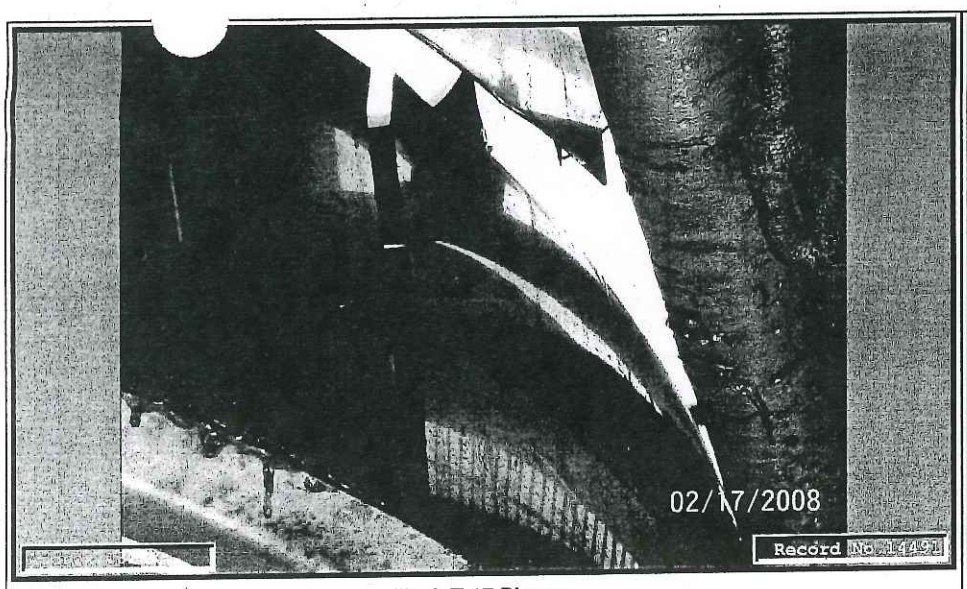
Date: 1/17/08 Direction: North Taken By: Jack Bedessem
File: Top of Tank.jpg Job Number: 083-001-001



View from Inside Tank T-17 of Rinsing Process

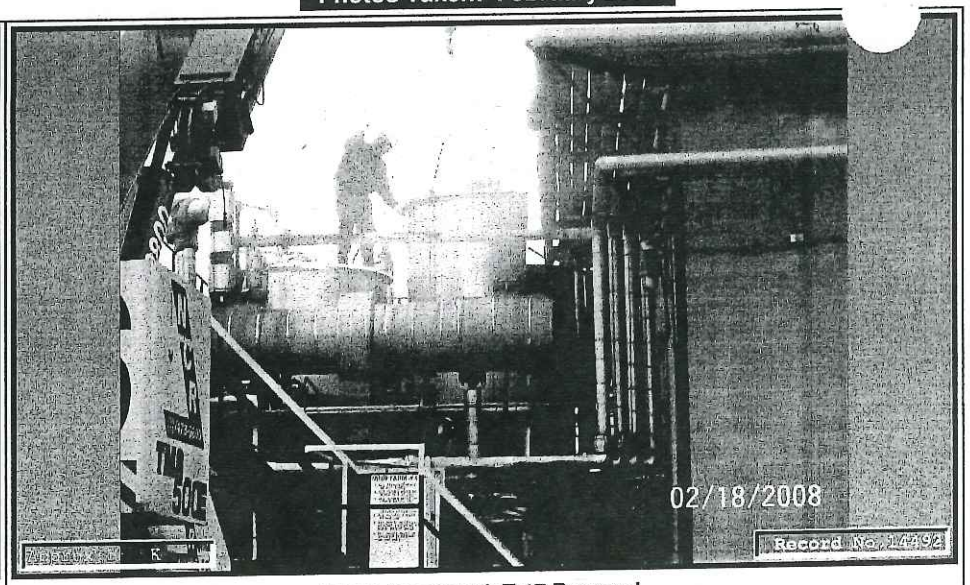
Date: 1/17/08 Direction: Up Taken By: Jack Bedessem
File: View from Inside Tank.jpg Job Number: 083-001-001

Photos Taken: February 2008



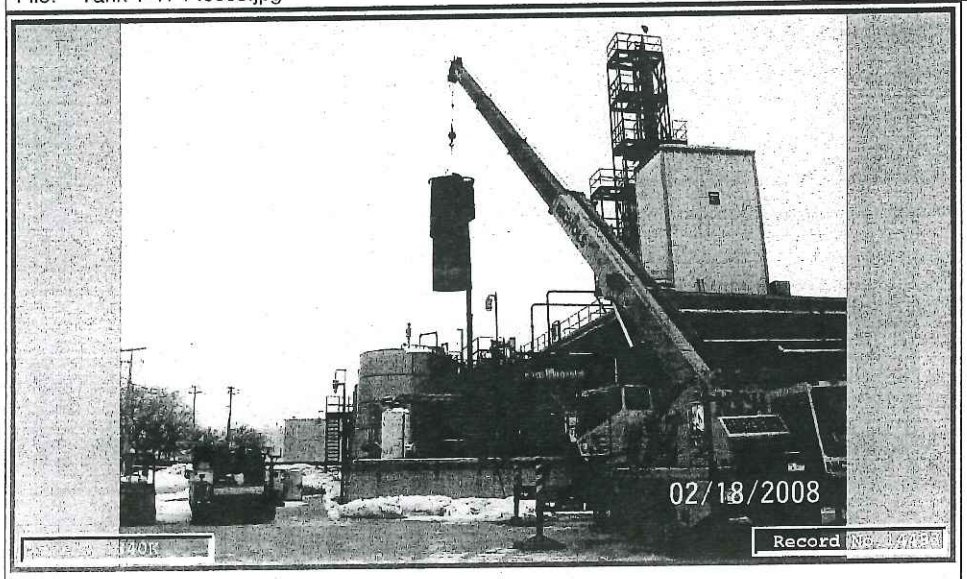
Tank T-17 Pieces

Date: 2/26/08 Direction: Up Taken By: SK
File: Tank T-17 Pieces.jpg Job Number: 083-001-001



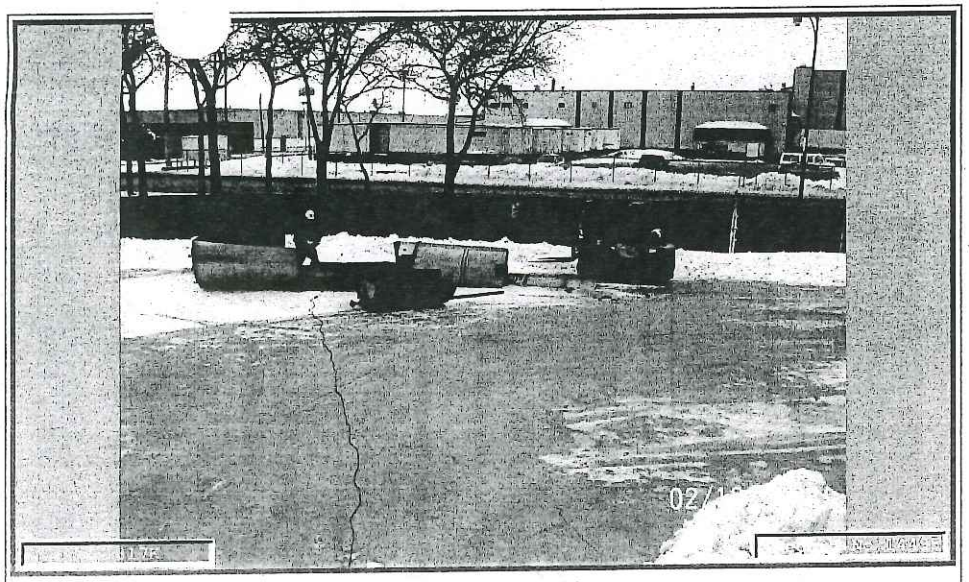
Close Up of Tank T-17 Removal

Date: 2/27/08 Direction: North Taken By: Jack Bedessem
File: Close Up of Tank.jpg Job Number: 083-001-001



Tank T-17 Removal

Date: 2/27/08 Direction: North Taken By: SK
File: Tank T-17 Removal.jpg Job Number: 083-001-001



Tank T-17 Cut Up Into Pieces

Date: 3/8/08 Direction: South Taken By: SK
File: Tank T-17 Cut Up.jpg Job Number: 083-001-001

ATTACHMENT D

LABORATORY ANALYTICAL REPORT AND DATA VALIDATION

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 500-8991-1

Job Description: Safety-Kleen Chicago RC T17

For:
Trihydro Corporation
1252 Commerce Drive
Laramie, WY 82070

Attention: George Mathes

Bonnie M Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com
01/31/2008

These test results meet all the requirements of NELAC for accredited parameters.

The Lab Certification ID# is 100201.

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Sample Datasheets 9

Data Qualifiers 19

QC Results 20

Qc Association Summary 21

Surrogate Recovery Report 23

Qc Reports 25

Client Chain of Custody 36

Sample Receipt Checklist 37

Comments
'ditional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method(s) 8270C: Surrogate recovery for the following samples were outside control limits. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Trihydro Corporation

Job Number: 500-8991-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-8991-1	**TAP-1**				
Bromodichloromethane		3.3	1.0	ug/L	8260B
Chloroform		2.8	1.0	ug/L	8260B
Dibromochloromethane		2.5	1.0	ug/L	8260B
500-8991-2	**FR-1**				
Bromodichloromethane		2.5	1.0	ug/L	8260B
Chloroform		2.0	1.0	ug/L	8260B
Dibromochloromethane		2.0	1.0	ug/L	8260B

METHOD SUMMARY

Client: Trihydro Corporation

Job Number: 500-8991-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL CHI	SW846 8260B	
Purge-and-Trap	TAL CHI		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL CHI	SW846 8270C	
Separatory Funnel Liquid-Liquid Extraction	TAL CHI		SW846 3510C
Inductively Coupled Plasma - Atomic Emission Spectrometry	TAL CHI	SW846 6010B	
Toxicity Characteristic Leaching Procedure	TAL CHI		SW846 1311
Acid Digestion of Aqueous Samples and Extracts for	TAL CHI		SW846 3010A
Mercury in Liquid Waste (Manual Cold Vapor Technique)	TAL CHI	SW846 7470A	
Toxicity Characteristic Leaching Procedure	TAL CHI		SW846 1311
Mercury in Liquid Waste (Manual Cold Vapor	TAL CHI		SW846 7470A

Lab References:

TAL CHI = TestAmerica Chicago

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Trihydro Corporation

Job Number: 500-8991-1

Method	Analyst	Analyst ID
SW846 8260B	Petruszak-Kmetty, JoAnn	JP
SW846 8270C	Lesiak, Karen D	KDL
SW846 6010B	Smith, Todd D	TDS
SW846 7470A	Klee, George O	GOK

SAMPLE SUMMARY

ent: Trihydro Corporation

Job Number: 500-8991-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
500-8991-1	TAP-1	Water	01/17/2008 1100	01/17/2008 1730
500-8991-2	FR-1	Water	01/17/2008 1100	01/17/2008 1730
500-8991-3	TRIP BLANK	Water	01/17/2008 1100	01/17/2008 1730

SAMPLE RESULTS

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1252 Commerce Drive
Laramie, WY 82070

Job Number: 500-8991-1

Client Sample ID: TAP-1
Lab Sample ID: 500-8991-1

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B		Date Analyzed:	01/22/2008 2359	
Prep Method: 5030B		Date Prepared:	01/22/2008 2359	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1.0
1,1,1-Trichloroethane	ND	ug/L	1.0	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0	1.0
1,1-Dichloroethane	ND	ug/L	1.0	1.0
1,1-Dichloroethene	ND	ug/L	1.0	1.0
1,1-Dichloropropene	ND	ug/L	1.0	1.0
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1.0
1,2,3-Trichloropropane	ND	ug/L	1.0	1.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1.0
1,2-Dibromo-3-Chloropropane	ND	ug/L	2.0	1.0
1,2-Dibromoethane	ND	ug/L	1.0	1.0
1,2-Dichloroethane	ND	ug/L	1.0	1.0
1,2-Dichloropropane	ND	ug/L	1.0	1.0
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1.0
1,3-Dichloropropane	ND	ug/L	1.0	1.0
2,2-Dichloropropane	ND	ug/L	1.0	1.0
2-Chlorotoluene	ND	ug/L	1.0	1.0
2-Hexanone	ND	ug/L	5.0	1.0
4-Chlorotoluene	ND	ug/L	1.0	1.0
Acetone	ND	ug/L	5.0	1.0
Benzene	ND	ug/L	1.0	1.0
Bromobenzene	ND	ug/L	1.0	1.0
Bromochloromethane	ND	ug/L	1.0	1.0
Bromodichloromethane	3.3	ug/L	1.0	1.0
Bromoform	ND	ug/L	1.0	1.0
Bromomethane	ND	ug/L	1.0	1.0
Carbon disulfide	ND	ug/L	5.0	1.0
Carbon tetrachloride	ND	ug/L	1.0	1.0
Chlorobenzene	ND	ug/L	1.0	1.0
Chloroethane	ND	ug/L	1.0	1.0
Chloroform	2.8	ug/L	1.0	1.0
Chloromethane	ND	ug/L	1.0	1.0
cis-1,2-Dichloroethene	ND	ug/L	1.0	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0	1.0
Dibromochloromethane	2.5	ug/L	1.0	1.0
⁻ibromomethane	ND	ug/L	1.0	1.0
chlorodifluoromethane	ND	ug/L	1.0	1.0
±thylbenzene	ND	ug/L	1.0	1.0

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Job Number: 500-8991-1

Client Sample ID: TAP-1
Lab Sample ID: 500-8991-1

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Isopropylbenzene	ND	ug/L	1.0	1.0
m&p-Xylene	ND	ug/L	2.0	1.0
Methyl Ethyl Ketone	ND	ug/L	5.0	1.0
methyl isobutyl ketone	ND	ug/L	5.0	1.0
Methyl tert-butyl ether	ND	ug/L	1.0	1.0
Methylene Chloride	ND	ug/L	2.0	1.0
n-Butylbenzene	ND	ug/L	1.0	1.0
N-Propylbenzene	ND	ug/L	1.0	1.0
o-Xylene	ND	ug/L	1.0	1.0
p-Isopropyltoluene	ND	ug/L	1.0	1.0
sec-Butylbenzene	ND	ug/L	1.0	1.0
Styrene	ND	ug/L	1.0	1.0
tert-Butylbenzene	ND	ug/L	1.0	1.0
Tetrachloroethene	ND	ug/L	1.0	1.0
Toluene	ND	ug/L	1.0	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0	1.0
Trichloroethene	ND	ug/L	1.0	1.0
Trichlorofluoromethane	ND	ug/L	1.0	1.0
Vinyl chloride	ND	ug/L	1.0	1.0
Surrogate			Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	105	%	70 - 125	
Toluene-d8 (Surr)	84	%	75 - 120	
4-Bromofluorobenzene (Surr)	91	%	75 - 120	
Dibromofluoromethane	100	%	75 - 120	
Method: 8270C		Date Analyzed:	01/30/2008 1556	
Prep Method: 3510C		Date Prepared:	01/21/2008 0555	
1,2,4-Trichlorobenzene	ND	ug/L	2.0	1.0
1,2-Dichlorobenzene	ND	ug/L	2.0	1.0
1,3-Dichlorobenzene	ND	ug/L	2.0	1.0
1,4-Dichlorobenzene	ND	ug/L	2.0	1.0
2,2'-oxybis[1-chloropropane]	ND	ug/L	2.0	1.0
2,4,5-Trichlorophenol	ND	ug/L	10	1.0
2,4,6-Trichlorophenol	ND	ug/L	5.0	1.0
2,4-Dichlorophenol	ND	ug/L	10	1.0
2,4-Dimethylphenol	ND	ug/L	10	1.0
2,4-Dinitrophenol	ND	ug/L	20	1.0
2,4-Dinitrotoluene	ND	ug/L	1.0	1.0
2,6-Dinitrotoluene	ND	ug/L	0.50	1.0
2-Chloronaphthalene	ND	ug/L	2.0	1.0

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Job Number: 500-8991-1

Client Sample ID: TAP-1
Lab Sample ID: 500-8991-1

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
2-Chlorophenol	ND		ug/L	5.0	1.0
2-Methylnaphthalene	ND		ug/L	0.50	1.0
2-Nitroaniline	ND		ug/L	5.0	1.0
2-Nitrophenol	ND		ug/L	10	1.0
3,3'-Dichlorobenzidine	ND	*	ug/L	5.0	1.0
3-Nitroaniline	ND		ug/L	10	1.0
4,6-Dinitro-2-methylphenol	ND		ug/L	20	1.0
4-Bromophenyl phenyl ether	ND		ug/L	5.0	1.0
4-Chloro-3-methylphenol	ND		ug/L	10	1.0
4-Chloroaniline	ND		ug/L	10	1.0
4-Chlorophenyl phenyl ether	ND		ug/L	5.0	1.0
4-Nitroaniline	ND		ug/L	10	1.0
4-Nitrophenol	ND		ug/L	20	1.0
Acenaphthene	ND		ug/L	1.0	1.0
Acenaphthylene	ND		ug/L	1.0	1.0
Anthracene	ND		ug/L	1.0	1.0
Benzidine	ND	*	ug/L	40	1.0
Benzo[a]anthracene	ND		ug/L	0.20	1.0
Benzo[a]pyrene	ND		ug/L	0.20	1.0
Benzo[b]fluoranthene	ND		ug/L	0.20	1.0
Benzo[g,h,i]perylene	ND		ug/L	1.0	1.0
Benzo[k]fluoranthene	ND		ug/L	0.20	1.0
Benzoic acid	ND	*	ug/L	20	1.0
Benzyl alcohol	ND		ug/L	20	1.0
Bis(2-chloroethoxy)methane	ND		ug/L	2.0	1.0
Bis(2-chloroethyl)ether	ND		ug/L	2.0	1.0
Bis(2-ethylhexyl) phthalate	ND		ug/L	10	1.0
Butyl benzyl phthalate	ND		ug/L	2.0	1.0
Carbazole	ND		ug/L	5.0	1.0
Chrysene	ND		ug/L	0.50	1.0
Dibenz(a,h)anthracene	ND		ug/L	0.30	1.0
Dibenzofuran	ND		ug/L	2.0	1.0
Diethyl phthalate	ND		ug/L	2.0	1.0
Dimethyl phthalate	ND		ug/L	2.0	1.0
Di-n-butyl phthalate	ND		ug/L	5.0	1.0
Di-n-octyl phthalate	ND		ug/L	10	1.0
Fluoranthene	ND		ug/L	1.0	1.0
Fluorene	ND		ug/L	1.0	1.0
Hexachloro-1,3-butadiene	ND		ug/L	5.0	1.0
›xachlorobenzene	ND		ug/L	0.50	1.0
›exachlorocyclopentadiene	ND	*	ug/L	20	1.0

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Job Number: 500-8991-1

Client Sample ID: TAP-1
Lab Sample ID: 500-8991-1

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
Hexachloroethane	ND		ug/L	5.0	1.0
Indeno[1,2,3-cd]pyrene	ND		ug/L	0.20	1.0
Isophorone	ND		ug/L	2.0	1.0
m & p - Cresol	ND		ug/L	2.0	1.0
Naphthalene	ND		ug/L	1.0	1.0
Nitrobenzene	ND		ug/L	1.0	1.0
N-Nitrosodi-n-propylamine	ND		ug/L	0.50	1.0
N-Nitrosodiphenylamine	ND		ug/L	1.0	1.0
o-Cresol	ND		ug/L	2.0	1.0
Pentachlorophenol	ND		ug/L	20	1.0
Phenanthrene	ND		ug/L	1.0	1.0
Phenol	ND		ug/L	5.0	1.0
Pyrene	ND		ug/L	1.0	1.0
Pyridine	ND		ug/L	20	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	76		%	30 - 136	
2-Fluorobiphenyl	77		%	37 - 123	
2-Fluorophenol	34		%	20 - 110	
Nitrobenzene-d5	78		%	35 - 120	
Phenol-d5	1	X	%	10 - 115	
Terphenyl-d14	74		%	31 - 127	
Method: TCLP-6010B			Date Analyzed:	01/22/2008 1814	
Prep Method: 3010A			Date Prepared:	01/22/2008 0855	
Arsenic	ND		mg/L	0.050	1.0
Barium	ND		mg/L	0.50	1.0
Cadmium	ND		mg/L	0.0050	1.0
Chromium	ND		mg/L	0.025	1.0
Lead	ND		mg/L	0.0075	1.0
Selenium	ND		mg/L	0.050	1.0
Silver	ND		mg/L	0.025	1.0
Method: TCLP-7470A			Date Analyzed:	01/23/2008 1448	
Prep Method: 7470A			Date Prepared:	01/23/2008 1000	
Mercury	ND		mg/L	0.0020	1.0

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Job Number: 500-8991-1

Client Sample ID: FR-1
Lab Sample ID: 500-8991-2

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B		Date Analyzed:	01/23/2008 0022	
Prep Method: 5030B		Date Prepared:	01/23/2008 0022	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1.0
1,1,1-Trichloroethane	ND	ug/L	1.0	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0	1.0
1,1-Dichloroethane	ND	ug/L	1.0	1.0
1,1-Dichloroethene	ND	ug/L	1.0	1.0
1,1-Dichloropropene	ND	ug/L	1.0	1.0
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1.0
1,2,3-Trichloropropane	ND	ug/L	1.0	1.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1.0
1,2-Dibromo-3-Chloropropane	ND	ug/L	2.0	1.0
1,2-Dibromoethane	ND	ug/L	1.0	1.0
1,2-Dichloroethane	ND	ug/L	1.0	1.0
1,2-Dichloropropane	ND	ug/L	1.0	1.0
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1.0
1,3-Dichloropropane	ND	ug/L	1.0	1.0
2,2-Dichloropropane	ND	ug/L	1.0	1.0
2-Chlorotoluene	ND	ug/L	1.0	1.0
2-Hexanone	ND	ug/L	5.0	1.0
4-Chlorotoluene	ND	ug/L	1.0	1.0
Acetone	ND	ug/L	5.0	1.0
Benzene	ND	ug/L	1.0	1.0
Bromobenzene	ND	ug/L	1.0	1.0
Bromochloromethane	ND	ug/L	1.0	1.0
Bromodichloromethane	2.5	ug/L	1.0	1.0
Bromoform	ND	ug/L	1.0	1.0
Bromomethane	ND	ug/L	1.0	1.0
Carbon disulfide	ND	ug/L	5.0	1.0
Carbon tetrachloride	ND	ug/L	1.0	1.0
Chlorobenzene	ND	ug/L	1.0	1.0
Chloroethane	ND	ug/L	1.0	1.0
Chloroform	2.0	ug/L	1.0	1.0
Chloromethane	ND	ug/L	1.0	1.0
cis-1,2-Dichloroethene	ND	ug/L	1.0	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0	1.0
Dibromochloromethane	2.0	ug/L	1.0	1.0
ʼibromomethane	ND	ug/L	1.0	1.0
chlorodifluoromethane	ND	ug/L	1.0	1.0
ɛthylbenzene	ND	ug/L	1.0	1.0

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Job Number: 500-8991-1

Client Sample ID: FR-1
Lab Sample ID: 500-8991-2

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Isopropylbenzene	ND	ug/L	1.0	1.0
m&p-Xylene	ND	ug/L	2.0	1.0
Methyl Ethyl Ketone	ND	ug/L	5.0	1.0
methyl isobutyl ketone	ND	ug/L	5.0	1.0
Methyl tert-butyl ether	ND	ug/L	1.0	1.0
Methylene Chloride	ND	ug/L	2.0	1.0
n-Butylbenzene	ND	ug/L	1.0	1.0
N-Propylbenzene	ND	ug/L	1.0	1.0
o-Xylene	ND	ug/L	1.0	1.0
p-Isopropyltoluene	ND	ug/L	1.0	1.0
sec-Butylbenzene	ND	ug/L	1.0	1.0
Styrene	ND	ug/L	1.0	1.0
tert-Butylbenzene	ND	ug/L	1.0	1.0
Tetrachloroethene	ND	ug/L	1.0	1.0
Toluene	ND	ug/L	1.0	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0	1.0
Trichloroethene	ND	ug/L	1.0	1.0
Trichlorofluoromethane	ND	ug/L	1.0	1.0
Vinyl chloride	ND	ug/L	1.0	1.0
Surrogate			Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	103	%	70 - 125	
Toluene-d8 (Surr)	93	%	75 - 120	
4-Bromofluorobenzene (Surr)	93	%	75 - 120	
Dibromofluoromethane	100	%	75 - 120	
Method: 8270C		Date Analyzed:	01/30/2008 1617	
Prep Method: 3510C		Date Prepared:	01/21/2008 0555	
1,2,4-Trichlorobenzene	ND	ug/L	2.1	1.0
1,2-Dichlorobenzene	ND	ug/L	2.1	1.0
1,3-Dichlorobenzene	ND	ug/L	2.1	1.0
1,4-Dichlorobenzene	ND	ug/L	2.1	1.0
2,2'-oxybis[1-chloropropane]	ND	ug/L	2.1	1.0
2,4,5-Trichlorophenol	ND	ug/L	10	1.0
2,4,6-Trichlorophenol	ND	ug/L	5.2	1.0
2,4-Dichlorophenol	ND	ug/L	10	1.0
2,4-Dimethylphenol	ND	ug/L	10	1.0
2,4-Dinitrophenol	ND	ug/L	21	1.0
2,4-Dinitrotoluene	ND	ug/L	1.0	1.0
2,6-Dinitrotoluene	ND	ug/L	0.52	1.0
2-Chloronaphthalene	ND	ug/L	2.1	1.0

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Job Number: 500-8991-1

Client Sample ID: FR-1
Lab Sample ID: 500-8991-2

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
2-Chlorophenol	ND		ug/L	5.2	1.0
2-Methylnaphthalene	ND		ug/L	0.52	1.0
2-Nitroaniline	ND		ug/L	5.2	1.0
2-Nitrophenol	ND		ug/L	10	1.0
3,3'-Dichlorobenzidine	ND	*	ug/L	5.2	1.0
3-Nitroaniline	ND		ug/L	10	1.0
4,6-Dinitro-2-methylphenol	ND		ug/L	21	1.0
4-Bromophenyl phenyl ether	ND		ug/L	5.2	1.0
4-Chloro-3-methylphenol	ND		ug/L	10	1.0
4-Chloroaniline	ND		ug/L	10	1.0
4-Chlorophenyl phenyl ether	ND		ug/L	5.2	1.0
4-Nitroaniline	ND		ug/L	10	1.0
4-Nitrophenol	ND		ug/L	21	1.0
Acenaphthene	ND		ug/L	1.0	1.0
Acenaphthylene	ND		ug/L	1.0	1.0
Anthracene	ND		ug/L	1.0	1.0
Benzidine	ND	*	ug/L	41	1.0
Benzo[a]anthracene	ND		ug/L	0.21	1.0
Benzo[a]pyrene	ND		ug/L	0.21	1.0
Benzo[b]fluoranthene	ND		ug/L	0.21	1.0
Benzo[g,h,i]perylene	ND		ug/L	1.0	1.0
Benzo[k]fluoranthene	ND		ug/L	0.21	1.0
Benzoic acid	ND	*	ug/L	21	1.0
Benzyl alcohol	ND		ug/L	21	1.0
Bis(2-chloroethoxy)methane	ND		ug/L	2.1	1.0
Bis(2-chloroethyl)ether	ND		ug/L	2.1	1.0
Bis(2-ethylhexyl) phthalate	ND		ug/L	10	1.0
Butyl benzyl phthalate	ND		ug/L	2.1	1.0
Carbazole	ND		ug/L	5.2	1.0
Chrysene	ND		ug/L	0.52	1.0
Dibenz(a,h)anthracene	ND		ug/L	0.31	1.0
Dibenzofuran	ND		ug/L	2.1	1.0
Diethyl phthalate	ND		ug/L	2.1	1.0
Dimethyl phthalate	ND		ug/L	2.1	1.0
Di-n-butyl phthalate	ND		ug/L	5.2	1.0
Di-n-octyl phthalate	ND		ug/L	10	1.0
Fluoranthene	ND		ug/L	1.0	1.0
Fluorene	ND		ug/L	1.0	1.0
Hexachloro-1,3-butadiene	ND		ug/L	5.2	1.0
Hexachlorobenzene	ND		ug/L	0.52	1.0
Hexachlorocyclopentadiene	ND	*	ug/L	21	1.0

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Job Number: 500-8991-1

Client Sample ID: FR-1
Lab Sample ID: 500-8991-2

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
Hexachloroethane	ND		ug/L	5.2	1.0
Indeno[1,2,3-cd]pyrene	ND		ug/L	0.21	1.0
Isophorone	ND		ug/L	2.1	1.0
m & p - Cresol	ND		ug/L	2.1	1.0
Naphthalene	ND		ug/L	1.0	1.0
Nitrobenzene	ND		ug/L	1.0	1.0
N-Nitrosodi-n-propylamine	ND		ug/L	0.52	1.0
N-Nitrosodiphenylamine	ND		ug/L	1.0	1.0
o-Cresol	ND		ug/L	2.1	1.0
Pentachlorophenol	ND		ug/L	21	1.0
Phenanthrene	ND		ug/L	1.0	1.0
Phenol	ND		ug/L	5.2	1.0
Pyrene	ND		ug/L	1.0	1.0
Pyridine	ND		ug/L	21	1.0
Surrogate				Acceptance Limits	
2,4,6-Tribromophenol	64		%	30 - 136	
2-Fluorobiphenyl	64		%	37 - 123	
2-Fluorophenol	44		%	20 - 110	
Nitrobenzene-d5	96		%	35 - 120	
Phenol-d5	5	X	%	10 - 115	
Terphenyl-d14	80		%	31 - 127	
Method: TCLP-6010B			Date Analyzed:	01/22/2008 1820	
Prep Method: 3010A			Date Prepared:	01/22/2008 0855	
Arsenic	ND		mg/L	0.050	1.0
Barium	ND		mg/L	0.50	1.0
Cadmium	ND		mg/L	0.0050	1.0
Chromium	ND		mg/L	0.025	1.0
Lead	ND		mg/L	0.0075	1.0
Selenium	ND		mg/L	0.050	1.0
Silver	ND		mg/L	0.025	1.0
Method: TCLP-7470A			Date Analyzed:	01/23/2008 1450	
Prep Method: 7470A			Date Prepared:	01/23/2008 1000	
Mercury	ND		mg/L	0.0020	1.0

.orge Mathes
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Job Number: 500-8991-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 500-8991-3

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B		Date Analyzed:	01/23/2008 0045	
Prep Method: 5030B		Date Prepared:	01/23/2008 0045	
Dichlorodifluoromethane	ND	ug/L	1.0	1.0
Chloromethane	ND	ug/L	1.0	1.0
Vinyl chloride	ND	ug/L	1.0	1.0
Bromomethane	ND	ug/L	1.0	1.0
Chloroethane	ND	ug/L	1.0	1.0
Trichlorofluoromethane	ND	ug/L	1.0	1.0
1,1-Dichloroethene	ND	ug/L	1.0	1.0
Carbon disulfide	ND	ug/L	5.0	1.0
Acetone	ND	ug/L	5.0	1.0
Methylene Chloride	ND	ug/L	2.0	1.0
trans-1,2-Dichloroethene	ND	ug/L	1.0	1.0
Methyl tert-butyl ether	ND	ug/L	1.0	1.0
1,1-Dichloroethane	ND	ug/L	1.0	1.0
2,2-Dichloropropane	ND	ug/L	1.0	1.0
cis-1,2-Dichloroethene	ND	ug/L	1.0	1.0
Methyl Ethyl Ketone	ND	ug/L	5.0	1.0
Bromochloromethane	ND	ug/L	1.0	1.0
Chloroform	ND	ug/L	1.0	1.0
1,1,1-Trichloroethane	ND	ug/L	1.0	1.0
1,1-Dichloropropene	ND	ug/L	1.0	1.0
Carbon tetrachloride	ND	ug/L	1.0	1.0
Benzene	ND	ug/L	1.0	1.0
1,2-Dichloroethane	ND	ug/L	1.0	1.0
Trichloroethene	ND	ug/L	1.0	1.0
1,2-Dichloropropane	ND	ug/L	1.0	1.0
Dibromomethane	ND	ug/L	1.0	1.0
Bromodichloromethane	ND	ug/L	1.0	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0	1.0
methyl isobutyl ketone	ND	ug/L	5.0	1.0
Toluene	ND	ug/L	1.0	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0	1.0
Tetrachloroethene	ND	ug/L	1.0	1.0
1,3-Dichloropropane	ND	ug/L	1.0	1.0
2-Hexanone	ND	ug/L	5.0	1.0
Dibromochloromethane	ND	ug/L	1.0	1.0
2-Dibromoethane	ND	ug/L	1.0	1.0
.lorobenzene	ND	ug/L	1.0	1.0
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1.0

George Mathes
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Job Number: 500-8991-1

Client Sample ID: TRIP BLANK
Lab Sample ID: 500-8991-3

Date Sampled: 01/17/2008 1100
Date Received: 01/17/2008 1730
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Ethylbenzene	ND	ug/L	1.0	1.0
m&p-Xylene	ND	ug/L	2.0	1.0
o-Xylene	ND	ug/L	1.0	1.0
Styrene	ND	ug/L	1.0	1.0
Bromoform	ND	ug/L	1.0	1.0
Isopropylbenzene	ND	ug/L	1.0	1.0
Bromobenzene	ND	ug/L	1.0	1.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1.0
1,2,3-Trichloropropane	ND	ug/L	1.0	1.0
N-Propylbenzene	ND	ug/L	1.0	1.0
2-Chlorotoluene	ND	ug/L	1.0	1.0
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1.0
4-Chlorotoluene	ND	ug/L	1.0	1.0
tert-Butylbenzene	ND	ug/L	1.0	1.0
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1.0
sec-Butylbenzene	ND	ug/L	1.0	1.0
p-Isopropyltoluene	ND	ug/L	1.0	1.0
n-Butylbenzene	ND	ug/L	1.0	1.0
1,2-Dibromo-3-Chloropropane	ND	ug/L	2.0	1.0
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1.0
Surrogate			Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)	106	%	70 - 125	
Toluene-d8 (Surr)	95	%	75 - 120	
4-Bromofluorobenzene (Surr)	90	%	75 - 120	
Dibromofluoromethane	101	%	75 - 120	

DATA REPORTING QUALIFIERS

Client: Trihydro Corporation

Job Number: 500-8991-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	*	RPD of the LCS and LCSD exceeds the control limits
	X	Surrogate exceeds the control limits

QUALITY CONTROL RESULTS

ent: Trihydro Corporation

Job Number: 500-8991-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:500-30636					
LCS 500-30636/5	Lab Control Spike	T	Water	8260B	
MB 500-30636/4	Method Blank	T	Water	8260B	
500-8991-1	TAP-1	T	Water	8260B	
500-8991-2	FR-1	T	Water	8260B	
500-8991-3	TRIP BLANK	T	Water	8260B	

Report Basis
T = Total

GC/MS Semi VOA					
Prep Batch: 500-30386					
LCS 500-30386/2-A	Lab Control Spike	T	Water	3510C	
LCSD 500-30386/3-A	Lab Control Spike Duplicate	T	Water	3510C	
MB 500-30386/1-A	Method Blank	T	Water	3510C	
500-8991-1	TAP-1	T	Water	3510C	
500-8991-2	FR-1	T	Water	3510C	
Analysis Batch:500-30839					
LCS 500-30386/2-A	Lab Control Spike	T	Water	8270C	500-30386
MB 500-30386/1-A	Method Blank	T	Water	8270C	500-30386
Analysis Batch:500-31021					
LCSD 500-30386/3-A	Lab Control Spike Duplicate	T	Water	8270C	500-30386
Analysis Batch:500-31224					
500-8991-1	TAP-1	T	Water	8270C	500-30386
500-8991-2	FR-1	T	Water	8270C	500-30386

Report Basis
T = Total

Client: Trihydro Corporation

Job Number: 500-8991-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 500-30437					
LB3 500-30437/1-C	Neutral Leach or MeOH Extraction	P	Water	1311	
LB3 500-30437/1-F	Neutral Leach or MeOH Extraction	P	Water	1311	
500-8991-1	TAP-1	P	Water	1311	
500-8991-2	FR-1	P	Water	1311	
Prep Batch: 500-30490					
LCS 500-30490/4-A	Lab Control Spike	T	Water	3010A	
LB3 500-30437/1-C	Neutral Leach or MeOH Extraction	P	Water	3010A	500-30437
500-8991-1	TAP-1	P	Water	3010A	500-30437
500-8991-2	FR-1	P	Water	3010A	500-30437
Analysis Batch:500-30570					
LCS 500-30490/4-A	Lab Control Spike	T	Water	6010B	500-30490
LB3 500-30437/1-C	Neutral Leach or MeOH Extraction	P	Water	6010B	500-30490
500-8991-1	TAP-1	P	Water	6010B	500-30490
500-8991-2	FR-1	P	Water	6010B	500-30490
Analysis Batch:500-30655					
LCS 500-30706/2-A	Lab Control Spike	T	Water	7470A	500-30706
MB 500-30706/1-A	Method Blank	T	Water	7470A	500-30706
LB3 500-30437/1-F	Neutral Leach or MeOH Extraction	P	Water	7470A	500-30706
500-8991-1	TAP-1	P	Water	7470A	500-30706
500-8991-2	FR-1	P	Water	7470A	500-30706
Prep Batch: 500-30706					
LCS 500-30706/2-A	Lab Control Spike	T	Water	7470A	
MB 500-30706/1-A	Method Blank	T	Water	7470A	
LB3 500-30437/1-F	Neutral Leach or MeOH Extraction	P	Water	7470A	500-30437
500-8991-1	TAP-1	P	Water	7470A	500-30437
500-8991-2	FR-1	P	Water	7470A	500-30437

Report Basis
P = TCLP
T = Total

Client: Trihydro Corporation

Job Number: 500-8991-1

,rrogate Recovery Report

8260B Volatile Organic Compounds by GC/MS

Client Matrix: Water

Lab Sample ID	Client Sample ID	12DCE %Rec	TOL %Rec	BFB %Rec	DBFM %Rec
500-8991-1	TAP-1	105	84	91	100
500-8991-2	FR-1	103	93	93	100
500-8991-3	TRIP BLANK	106	95	90	101
MB 500-30636/4		102	94	94	103
LCS 500-30636/5		98	97	99	98

Surrogate	Acceptance Limits
12DCE = 1,2-Dichloroethane-d4 (Surr)	70-125
TOL = Toluene-d8 (Surr)	75-120
BFB = 4-Bromofluorobenzene (Surr)	75-120
DBFM = Dibromofluoromethane	75-120

Client: Trihydro Corporation

Job Number: 500-8991-1

Surrogate Recovery Report

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	TBP %Rec	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPH %Rec
500-8991-1	TAP-1	76	77	34	78	1X	74
500-8991-2	FR-1	64	64	44	96	5X	80
MB 500-30386/1-A		78	71	59	73	41	76
LCS 500-30386/2-A		105	93	76	96	57	102
LCSD 500-30386/3-A		103	96	79	101	60	100

Surrogate	Acceptance Limits
TBP = 2,4,6-Tribromophenol	30-136
FBP = 2-Fluorobiphenyl	37-123
2FP = 2-Fluorophenol	20-110
NBZ = Nitrobenzene-d5	35-120
PHL = Phenol-d5	10-115
TPH = Terphenyl-d14	31-127

ent: Trihydro Corporation

Job Number: 500-8991-1

Method Blank - Batch: 500-30636

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 500-30636/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/22/2008 1753
Date Prepared: 01/22/2008 1753

Analysis Batch: 500-30636
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 6M0122.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
1,1-Dichloroethene	ND		1.0
1,1-Dichloroethane	ND		1.0
2,2-Dichloropropane	ND		1.0
1,1,1-Trichloroethane	ND		1.0
1,1-Dichloropropene	ND		1.0
Acetone	ND		5.0
Benzene	ND		1.0
1,2-Dichloroethane	ND		1.0
Bromochloromethane	ND		1.0
1,2-Dichloropropane	ND		1.0
Bromodichloromethane	ND		1.0
Bromomethane	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		1.0
Chloroethane	ND		1.0
1,1,2-Trichloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
1,3-Dichloropropane	ND		1.0
cis-1,2-Dichloroethene	ND		1.0
2-Hexanone	ND		5.0
cis-1,3-Dichloropropene	ND		1.0
Dibromochloromethane	ND		1.0
1,2-Dibromoethane	ND		1.0
Dibromomethane	ND		1.0
Chlorobenzene	ND		1.0
Dichlorodifluoromethane	ND		1.0
1,1,1,2-Tetrachloroethane	ND		1.0
Ethylbenzene	ND		1.0
m&p-Xylene	ND		2.0
Methyl Ethyl Ketone	ND		5.0
methyl isobutyl ketone	ND		5.0
Bromoform	ND		1.0
Methyl tert-butyl ether	ND		1.0
Isopropylbenzene	ND		1.0
Methylene Chloride	ND		2.0
Bromobenzene	ND		1.0
1,1,2,2-Tetrachloroethane	ND		1.0
1,2,3-Trichloropropane	ND		1.0
o-Xylene	ND		1.0
Propylbenzene	ND		1.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Trihydro Corporation

Job Number: 500-8991-1

Method Blank - Batch: 500-30636

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 500-30636/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/22/2008 1753
Date Prepared: 01/22/2008 1753

Analysis Batch: 500-30636
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 6M0122.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
2-Chlorotoluene	ND		1.0
1,3,5-Trimethylbenzene	ND		1.0
Styrene	ND		1.0
4-Chlorotoluene	ND		1.0
tert-Butylbenzene	ND		1.0
Tetrachloroethene	ND		1.0
1,2,4-Trimethylbenzene	ND		1.0
Toluene	ND		1.0
sec-Butylbenzene	ND		1.0
trans-1,2-Dichloroethene	ND		1.0
p-Isopropyltoluene	ND		1.0
trans-1,3-Dichloropropene	ND		1.0
n-Butylbenzene	ND		1.0
Trichloroethene	ND		1.0
1,2-Dibromo-3-Chloropropane	ND		2.0
Trichlorofluoromethane	ND		1.0
1,2,3-Trichlorobenzene	ND		1.0
Vinyl chloride	ND		1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	102	70 - 125
Toluene-d8 (Surr)	94	75 - 120
4-Bromofluorobenzene (Surr)	94	75 - 120
Dibromofluoromethane	103	75 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

ᵊnt: Trihydro Corporation

Job Number: 500-8991-1

Lab Control Spike - Batch: 500-30636

Method: 8260B
Preparation: 5030B

Lab Sample ID: LCS 500-30636/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/22/2008 1816
Date Prepared: 01/22/2008 1816

Analysis Batch: 500-30636
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 6S0122.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	25.0	24.1	96	50 - 121	
1,1-Dichloroethane	25.0	22.1	89	63 - 121	
2,2-Dichloropropane	25.0	21.8	87	56 - 134	
1,1,1-Trichloroethane	25.0	23.8	95	65 - 129	
1,1-Dichloropropene	25.0	23.8	95	62 - 122	
Acetone	25.0	19.8	79	22 - 175	
Benzene	25.0	22.5	90	68 - 120	
1,2-Dichloroethane	25.0	23.1	92	68 - 120	
Bromochloromethane	25.0	25.8	103	61 - 125	
1,2-Dichloropropane	25.0	23.4	94	72 - 120	
Bromodichloromethane	25.0	25.1	100	71 - 131	
Bromomethane	25.0	30.1	120	61 - 172	
Carbon disulfide	25.0	22.5	90	33 - 120	
Carbon tetrachloride	25.0	25.1	101	67 - 121	
Chloroethane	25.0	28.4	114	56 - 152	
1,1,2-Trichloroethane	25.0	24.1	96	59 - 135	
Chloroform	25.0	23.1	92	65 - 127	
Chloromethane	25.0	18.5	74	50 - 140	
1,3-Dichloropropane	25.0	23.9	95	73 - 120	
cis-1,2-Dichloroethene	25.0	23.9	96	62 - 127	
2-Hexanone	25.0	21.1	84	54 - 139	
cis-1,3-Dichloropropene	26.9	22.1	82	60 - 120	
Dibromochloromethane	25.0	23.0	92	57 - 132	
1,2-Dibromoethane	25.0	24.8	99	68 - 125	
Dibromomethane	25.0	23.4	93	71 - 120	
Chlorobenzene	25.0	22.9	91	75 - 120	
Dichlorodifluoromethane	25.0	18.1	72	21 - 178	
1,1,1,2-Tetrachloroethane	25.0	25.0	100	72 - 120	
Ethylbenzene	25.0	24.3	97	75 - 120	
m&p-Xylene	50.0	49.5	99	75 - 120	
Methyl Ethyl Ketone	25.0	27.9	112	36 - 157	
methyl isobutyl ketone	25.0	23.0	92	65 - 128	
Bromoform	25.0	22.7	91	55 - 120	
Methyl tert-butyl ether	25.0	24.0	96	54 - 140	
Isopropylbenzene	25.0	22.0	88	68 - 120	
Methylene Chloride	25.0	22.9	92	52 - 126	
Bromobenzene	25.0	23.8	95	76 - 120	
1,1,2,2-Tetrachloroethane	25.0	24.1	97	68 - 120	
1,2,3-Trichloropropane	25.0	23.7	95	70 - 120	
o-Xylene	25.0	25.3	101	75 - 120	
Propylbenzene	25.0	22.5	90	74 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Trihydro Corporation

Job Number: 500-8991-

Lab Control Spike - Batch: 500-30636

Method: 8260B
Preparation: 5030B

Lab Sample ID: LCS 500-30636/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/22/2008 1816
Date Prepared: 01/22/2008 1816

Analysis Batch: 500-30636
Prep Batch: N/A
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 6S0122.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2-Chlorotoluene	25.0	24.3	97	74 - 120	
1,3,5-Trimethylbenzene	25.0	22.7	91	76 - 120	
Styrene	25.0	22.9	92	77 - 120	
4-Chlorotoluene	25.0	24.2	97	75 - 120	
tert-Butylbenzene	25.0	22.4	90	75 - 120	
Tetrachloroethene	25.0	23.4	94	65 - 120	
1,2,4-Trimethylbenzene	25.0	22.7	91	76 - 120	
Toluene	25.0	24.1	96	75 - 120	
sec-Butylbenzene	25.0	23.9	96	73 - 120	
trans-1,2-Dichloroethene	25.0	23.4	94	57 - 122	
p-Isopropyltoluene	25.0	21.7	87	71 - 120	
trans-1,3-Dichloropropene	24.3	20.1	83	61 - 120	
n-Butylbenzene	25.0	24.4	98	68 - 120	
Trichloroethene	25.0	24.1	96	73 - 120	
1,2-Dibromo-3-Chloropropane	25.0	22.7	91	60 - 120	
Trichlorofluoromethane	25.0	22.9	92	58 - 147	
1,2,3-Trichlorobenzene	25.0	22.7	91	62 - 120	
Vinyl chloride	25.0	21.2	85	57 - 135	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	70 - 125
Toluene-d8 (Surr)	97	75 - 120
4-Bromofluorobenzene (Surr)	99	75 - 120
Dibromofluoromethane	98	75 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

nt: Trihydro Corporation

Job Number: 500-8991-1

Method Blank - Batch: 500-30386

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 500-30386/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/25/2008 1939
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-30839
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 30386M.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
1,2,4-Trichlorobenzene	ND		2.0
1,2-Dichlorobenzene	ND		2.0
1,3-Dichlorobenzene	ND		2.0
1,4-Dichlorobenzene	ND		2.0
2,2'-oxybis[1-chloropropane]	ND		2.0
2,4,5-Trichlorophenol	ND		10
2,4,6-Trichlorophenol	ND		5.0
2,4-Dichlorophenol	ND		10
2,4-Dimethylphenol	ND		10
2,4-Dinitrophenol	ND		20
2,4-Dinitrotoluene	ND		1.0
2,6-Dinitrotoluene	ND		0.50
2-Chloronaphthalene	ND		2.0
2-Chlorophenol	ND		5.0
2-Methylnaphthalene	ND		0.50
2-Nitroaniline	ND		5.0
2-Nitrophenol	ND		10
3,3'-Dichlorobenzidine	ND		5.0
3-Nitroaniline	ND		10
4,6-Dinitro-2-methylphenol	ND		20
4-Bromophenyl phenyl ether	ND		5.0
4-Chloro-3-methylphenol	ND		10
4-Chloroaniline	ND		10
4-Chlorophenyl phenyl ether	ND		5.0
4-Nitroaniline	ND		10
4-Nitrophenol	ND		20
Acenaphthene	ND		1.0
Acenaphthylene	ND		1.0
Anthracene	ND		1.0
Benzidine	ND		40
Benzo[a]anthracene	ND		0.20
Benzo[a]pyrene	ND		0.20
Benzo[b]fluoranthene	ND		0.20
Benzo[g,h,i]perylene	ND		1.0
Benzo[k]fluoranthene	ND		0.20
Benzoic acid	ND		20
Benzyl alcohol	ND		20
Bis(2-chloroethoxy)methane	ND		2.0
Bis(2-chloroethyl)ether	ND		2.0
Bis(2-ethylhexyl) phthalate	ND		10
Butyl benzyl phthalate	ND		2.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Trihydro Corporation

Job Number: 500-8991-

Method Blank - Batch: 500-30386

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 500-30386/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/25/2008 1939
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-30839
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 30386M.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
Carbazole	ND		5.0
Chrysene	ND		0.50
Dibenz(a,h)anthracene	ND		0.30
Dibenzofuran	ND		2.0
Diethyl phthalate	ND		2.0
Dimethyl phthalate	ND		2.0
Di-n-butyl phthalate	ND		5.0
Di-n-octyl phthalate	ND		10
Fluoranthene	ND		1.0
Fluorene	ND		1.0
Hexachloro-1,3-butadiene	ND		5.0
Hexachlorobenzene	ND		0.50
Hexachlorocyclopentadiene	ND		20
Hexachloroethane	ND		5.0
Indeno[1,2,3-cd]pyrene	ND		0.20
Isophorone	ND		2.0
m & p - Cresol	ND		2.0
Naphthalene	ND		1.0
Nitrobenzene	ND		1.0
N-Nitrosodi-n-propylamine	ND		0.50
N-Nitrosodiphenylamine	ND		1.0
o-Cresol	ND		2.0
Pentachlorophenol	ND		20
Phenanthrene	ND		1.0
Phenol	ND		5.0
Pyrene	ND		1.0
Pyridine	ND		20

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol	78	30 - 136
2-Fluorobiphenyl	71	37 - 123
2-Fluorophenol	59	20 - 110
Nitrobenzene-d5	73	35 - 120
Phenol-d5	41	10 - 115
Terphenyl-d14	76	31 - 127

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Trihydro Corporation

Job Number: 500-8991-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 500-30386

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 500-30386/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/25/2008 2241
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-30839
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 30386BS.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

LCSD Lab Sample ID: LCSD 500-30386/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/28/2008 1658
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-31021
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973I
Lab File ID: 30386BD.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
1,2,4-Trichlorobenzene	87	89	41 - 110	2	20		
1,2-Dichlorobenzene	90	93	41 - 110	3	20		
1,3-Dichlorobenzene	87	90	37 - 110	3	20		
1,4-Dichlorobenzene	86	90	39 - 110	5	20		
2,2'-oxybis[1-chloropropane]	79	80	47 - 111	1	20		
2,4,5-Trichlorophenol	102	96	63 - 118	5	20		
2,4,6-Trichlorophenol	95	97	58 - 116	2	20		
2,4-Dichlorophenol	95	95	58 - 110	1	20		
2,4-Dimethylphenol	86	86	20 - 135	0	20		
2,4-Dinitrophenol	108	117	24 - 147	8	20		
2,4-Dinitrotoluene	104	99	64 - 119	5	20		
2,6-Dinitrotoluene	99	98	64 - 119	1	20		
2-Chloronaphthalene	89	90	53 - 110	2	20		
2-Chlorophenol	94	97	55 - 110	4	20		
2-Methylnaphthalene	87	88	48 - 110	2	20		
2-Nitroaniline	96	93	53 - 125	2	20		
2-Nitrophenol	106	110	60 - 112	3	20		
3,3'-Dichlorobenzidine	96	77	45 - 124	22	20		*
3-Nitroaniline	113	99	59 - 126	13	20		
4,6-Dinitro-2-methylphenol	99	108	52 - 127	9	20		
4-Bromophenyl phenyl ether	98	98	61 - 116	0	20		
4-Chloro-3-methylphenol	88	88	57 - 110	0	20		
4-Chloroaniline	102	86	49 - 117	17	20		
4-Chlorophenyl phenyl ether	86	86	62 - 111	0	20		
4-Nitroaniline	104	96	48 - 125	7	20		
4-Nitrophenol	53	47	20 - 110	12	20		
Acenaphthene	87	91	54 - 110	5	20		
Acenaphthylene	86	87	56 - 110	1	20		
Anthracene	89	89	57 - 110	0	20		
Benzidine	74	24	5 - 142	101	20		*
Benzo[a]anthracene	83	79	55 - 112	5	20		
Benzo[a]pyrene	108	106	48 - 112	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

ent: Trihydro Corporation

Job Number: 500-8991-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 500-30386

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 500-30386/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/25/2008 2241
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-30839
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 30386BS.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

LCSD Lab Sample ID: LCSD 500-30386/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/28/2008 1658
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-31021
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973I
Lab File ID: 30386BD.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzo[b]fluoranthene	107	109	46 - 122	2	20		
Benzo[g,h,i]perylene	113	117	47 - 121	4	20		
Benzo[k]fluoranthene	105	95	42 - 120	10	20		
Benzoic acid	22	30	10 - 110	32	20		*
Benzyl alcohol	88	93	46 - 110	6	20		
Bis(2-chloroethoxy)methane	92	94	59 - 110	2	20		
Bis(2-chloroethyl)ether	87	85	55 - 110	2	20		
Bis(2-ethylhexyl) phthalate	97	89	60 - 121	9	20		
Butyl benzyl phthalate	92	88	63 - 115	4	20		
Carbazole	96	94	59 - 114	2	20		
Chrysene	80	76	53 - 121	6	20		
Dibenz(a,h)anthracene	113	116	48 - 117	3	20		
Dibenzofuran	85	86	60 - 110	1	20		
Diethyl phthalate	88	86	67 - 110	2	20		
Dimethyl phthalate	89	88	67 - 110	1	20		
Di-n-butyl phthalate	91	91	65 - 115	0	20		
Di-n-octyl phthalate	116	114	52 - 123	2	20		
Fluoranthene	86	86	61 - 110	0	20		
Fluorene	84	84	57 - 110	0	20		
Hexachloro-1,3-butadiene	89	91	34 - 110	2	20		
Hexachlorobenzene	98	96	57 - 116	1	20		
Hexachlorocyclopentadiene	63	79	18 - 110	23	20		*
Hexachloroethane	89	91	34 - 110	2	20		
Indeno[1,2,3-cd]pyrene	109	112	43 - 119	3	20		
Isophorone	81	83	59 - 110	2	20		
m & p - Cresol	88	87	35 - 110	2	20		
Naphthalene	84	85	48 - 110	1	20		
Nitrobenzene	94	96	54 - 111	2	20		
N-Nitrosodi-n-propylamine	90	91	50 - 110	1	20		
N-Nitrosodiphenylamine	96	95	58 - 110	0	20		
Cresol	86	89	39 - 110	4	20		
entachlorophenol	90	90	32 - 124	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Trihydro Corporation

Job Number: 500-8991-

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 500-30386

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 500-30386/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/25/2008 2241
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-30839
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973N
Lab File ID: 30386BS.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

LCSD Lab Sample ID: LCSD 500-30386/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/28/2008 1658
Date Prepared: 01/21/2008 0555

Analysis Batch: 500-31021
Prep Batch: 500-30386
Units: ug/L

Instrument ID: Agilent 6890N GC - 5973I
Lab File ID: 30386BD.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1.0 mL
Injection Volume: 1 uL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Phenanthrene	93	96	62 - 110	4	20		
Phenol	53	55	23 - 110	4	20		
Pyrene	77	77	58 - 119	0	20		
Pyridine	37	33	10 - 110	11	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2,4,6-Tribromophenol	105	103	30 - 136
2-Fluorobiphenyl	93	96	37 - 123
2-Fluorophenol	76	79	20 - 110
Nitrobenzene-d5	96	101	35 - 120
Phenol-d5	57	60	10 - 115
Terphenyl-d14	102	100	31 - 127

Calculations are performed before rounding to avoid round-off errors in calculated results.

ent: Trihydro Corporation

Job Number: 500-8991-1

Neutral Leach or MeOH Extraction Blank - Batch: 500-30490

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID: LB3 500-30437/1-C
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/22/2008 1715
Date Prepared: 01/22/2008 0855
Date Leached: 01/21/2008 1443

Analysis Batch: 500-30570
Prep Batch: 500-30490
Units: mg/L

Leachate Batch: 500-30437

Instrument ID: TJA ICAP 61E Trace Analy
Lab File ID: P50122B
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Arsenic	ND		0.050
Barium	ND		0.50
Cadmium	ND		0.0050
Chromium	ND		0.025
Lead	ND		0.0075
Selenium	ND		0.050
Silver	ND		0.025

Lab Control Spike - Batch: 500-30490

Method: 6010B
Preparation: 3010A

Lab Sample ID: LCS 500-30490/4-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/22/2008 1755
Date Prepared: 01/22/2008 0855

Analysis Batch: 500-30570
Prep Batch: 500-30490
Units: mg/L

Instrument ID: TJA ICAP 61E Trace Analy
Lab File ID: P50122B
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	0.100	0.0954	95	80 - 120	
Barium	2.00	1.95	97	80 - 120	
Cadmium	0.0500	0.0478	96	80 - 120	
Chromium	0.200	0.199	99	80 - 120	
Lead	0.100	0.0985	98	80 - 120	
Selenium	0.100	0.0898	90	80 - 120	
Silver	0.0500	0.0502	100	80 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Trihydro Corporation

Job Number: 500-8991-

Method Blank - Batch: 500-30706

Method: 7470A
Preparation: 7470A

Lab Sample ID: MB 500-30706/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/23/2008 1402
Date Prepared: 01/23/2008 1000

Analysis Batch: 500-30655
Prep Batch: 500-30706
Units: mg/L

Instrument ID: Leeman Labs PS200 Merc
Lab File ID: N/A
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Result	Qual	RL
Mercury	ND		0.00020

Neutral Leach or MeOH Extraction Blank - Batch: 500-30706

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID: LB3 500-30437/1-F
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/23/2008 1446
Date Prepared: 01/23/2008 1000
Date Leached: 01/21/2008 1443

Analysis Batch: 500-30655
Prep Batch: 500-30706
Units: mg/L

Leachate Batch: 500-30437

Instrument ID: Leeman Labs PS200 Merc
Lab File ID: N/A
Initial Weight/Volume: 2.5 mL
Final Weight/Volume: 25 mL

Analyte	Result	Qual	RL
Mercury	ND		0.0020

Lab Control Spike - Batch: 500-30706

Method: 7470A
Preparation: 7470A

Lab Sample ID: LCS 500-30706/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/23/2008 1404
Date Prepared: 01/23/2008 1000

Analysis Batch: 500-30655
Prep Batch: 500-30706
Units: mg/L

Instrument ID: Leeman Labs PS200 Merc
Lab File ID: N/A
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00200	0.00217	109	80 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica
2417 Bond Street
University Park, IL 60466
708.534.5200

Sampler ID _____
Temperature on Receipt _____
Drinking Water? Yes ☐ No ☐

Chain of Custody Record

500-8991

AL-4124-500 (1107)

Client: ~~Safety-Kleen~~ / Trihydro Corporation
Project Manager: Jack Bedessem or George Mathes
Date: 1/17/08
Chain of Custody Number: 11708-1
Address: 1252 Commerce Drive
Telephone Number (Area Code)/Fax Number: 307-745-7474 or 307-760-9966
Lab Number:
Page 1 of 1
City: Laramie
State: WY
Zip Code: 82070
Site Contact: Jack Bedessem
Lab Contact: Bonnie
Project Name and Location (State): Safety-Kleen Chicago RC T17
Carrier/Waybill Number:
Contract/Purchase Order/Quote No.:

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	8260 VOCs	8270 SVOCs	TCLP RCRA Metals	Special Instructions/ Conditions of Receipt
Tap 1 (VOA) 3	1/17/08	1100		X						X			X			
FR-1 (VOA) 3				X						X			X			
Tap-1 (1 liter Amber) 2				X										X		
FR-1 (1 liter Amber) 2				X										X		
Tap-1 (1 liter Clear) 1				X											X	
FR-1 (1 liter Clear) 1				X											X	
Trip Blank (VOA) 3				X									X			

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☒ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other Normal Turn

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Jack Bedessem	1/17/08	1730	1. Received By: [signature] (2 Coolers).	1/17/08	1730
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments:

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Login Sample Receipt Check List

Client: Trihydro Corporation

Job Number: 500-89

Login Number: 8991
Creator: Lunt, Jeff T
List Number: 1

List Source: TestAmerica Chicago

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	3.4,3.2
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Trihydro CORPORATION

Tier 2 Data Validation Report

Client: Safety-Kleen	Laboratory: Test America – University Park
Project Name: Chicago Recycle Center Closure	Sample Matrix: Water
Project Number: 083-001-001	Sample Start Date: January 17, 2008
Date Validated: February 6, 2008	Sample End Date: January 17, 2008
Samples Analyzed: TAP-1, FR-1, and Trip Blank	
Parameters: Method 8260B for VOCs, Method 8270C for SVOCs, Method 6010B TCLP, and Method 7470A for Mercury	
Laboratory Project ID: 500-8991	
Data Validator: Christina Hiegel, Civil Engineer, E.I.T.	

Precision, Accuracy, Method Compliance, Completeness Assessment

Precision — Acceptable

Comments: Precision is the measure of variability of sample measurements. Field precision is determined by a comparison of field duplicate sample results. Laboratory precision is determined by examining the laboratory duplicate results. Evaluation of both the field and laboratory duplicates for precision was accomplished using the relative percent difference (RPD). The RPD is defined as the difference between the primary and duplicate samples divided by the mean and expressed as a percentage. No laboratory duplicates were collected during this sampling event. Laboratory precision was evaluated by checking the LCS/LCSD results. The constituents 3,3-dichlorobenzidine (22%), benzidene (101%), benzoic acid (32%), and hexachlorocyclopentadiene (23%) were recovered above the upper RPD limit of 20%. As a result of this occurrence, all associated data points were qualified.

Accuracy — Acceptable

Comments: Accuracy is a measure of sampling and analysis bias. Field accuracy is determined by collecting field, trip and equipment blanks to monitor for possible ambient or cross contamination during sampling. One trip blank was collected and no detections were reported in the trip blank.

Laboratory accuracy is measured by evaluating laboratory control sample (LCS) and matrix spike/matrix spike duplicate (MS/MSD) recoveries. No MS/MSD recoveries were reported with this data set. However, LCS and LCSD recoveries were compared to laboratory control limits. All LCS/LCSD recoveries were acceptable; however, some RPDs between the LCS and LCSD were above the upper limit of 20% as noted above.

Method Compliance — Acceptable

Comments: Method compliance was determined by reviewing the holding times, detection limits, surrogate recoveries, method blanks, and laboratory control samples against method specific requirements. The surrogate phenol-d5 was recovered below the acceptable lower limits in samples TAP-1 and FR-1. No data were qualified as a result of this occurrence as discussed in Section #18.

Completeness — Acceptable

Comments: Completeness is the overall ratio of the number of samples planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody and laboratory analytical methods. Completeness also includes a review of the analytical reports and QC summary report. All data were presented in a clear and complete manner. No data were qualified or rejected; therefore, these data sets are 100% complete.

Validation Criteria Checklist	
Data validation flags used in this review: J – Estimated value; UJ – Estimated value below the reporting limit	
1. Did the laboratory identify any non-conformances related to the analytical data? Comments: The laboratory reported that for Method 8270C, the surrogate recovery for the associated samples were outside control limits. Evidence of matrix interference is present; therefore, re-extraction and/or re-analyses was not performed.	Yes
2. Were sample chain-of-custody forms complete? Comments: All chain-of-custody forms were complete from the field to the laboratory.	Yes
3. Were detection limits in accordance with the QAPP, permit, or method? Comments: The project manager stated that total organic constituents should be less than 10 mg/L. Total detected organic constituents were 0.0065 mg/L in FC-1, which met the project objectives. Additionally, the detection limits were less than characteristically hazardous waste TCLP levels.	Yes
4. Were the requested analytical methods in compliance with the QAPP, permit, or COC? Comments: All reported analytical methods were in compliance with those noted on the chain-of-custody.	Yes
5. Were samples received in good condition? Comments: All samples were received in good condition at temperatures of 3.2 and 3.4 degrees Celsius.	Yes
6. Were sample holding times met? Comments: All samples were analyzed within the acceptable holding times.	Yes
7. Were correct concentration units reported? Comments: All VOC and SVOC concentrations were reported in units of ug/L. Additionally, all metals concentrations were reported in units of mg/L. These are acceptable units for the water matrix.	Yes
8. Do the laboratory reports include all constituents requested to be reported for a specific analytical method? Comments: The laboratory appeared to have reported all constituents as requested.	Yes
9. Were the reporting requirements for flagged data met? Comments: Data were flagged with a "*" indicating the RPD of the LCS and LCSD exceeds the control limits. Additionally, some surrogate recoveries were flagged with an "X" indicating that the surrogate exceeds the control limits.	Yes
10. Is there indication that the continuous calibration verification was within acceptable limits? Comments: There were no continuous calibration results noted in the data sets associated with the water samples; however, it is assumed that all results were acceptable based on other QC data.	Yes

11. Were the instrument calibrations within method control limits? Comments: There were no instrument calibration results noted in the data sets associated with the water samples; however, it is assumed that all results were acceptable based on other QC data.	Yes
12. Were method blank samples analyzed on a 5% basis? Comments: Method blank samples were analyzed on a 5% basis for all analyses.	Yes
13. Were method blank detections reported for this data set? Comments: There were no detections reported in the method blanks.	No
14. Were matrix spike samples prepared on a 5% basis? Comments: No matrix spike samples were included with this data report.	No
15. Were matrix spike recoveries within acceptable limits? Comments: N/A	N/A
16. Were laboratory control samples analyzed on a 5% basis? Comments: Laboratory control samples were collected on a 5% basis for all analyses.	Yes
17. Were laboratory control recoveries within acceptable limits? Comments: Laboratory control samples RPDs were outside of acceptable limits for several constituents analyzed by Method 8270C. The RPD for 3,3-dichlorobenzidine (22%), benzidene (101%), benzoic acid (32%), and hexachlorocyclopentadiene (23%) were above the upper RPD limit of 20%. As a result, all associated results will be qualified "J" since the high RPD indicates poor repeatability in the laboratory.	No
18. Were surrogate recoveries within control limits? Comments: Surrogate recoveries were acceptable with the following exceptions. For SVOCs and sample TAP-1, the surrogate recovery for phenol-d5 (1%; acceptable range 10-115%) was below the acceptable recovery limits. Additionally, for SVOCs and sample FR-1, the surrogate recovery for phenol-d5 (5%; acceptable recovery 10-115%) was below the acceptable recovery limits. The laboratory reported that these occurrences were due to interferences within the sample. No data were qualified since only one of the six surrogates was out of range for the respective samples and since the out of range recovery was due to interferences within the sample.	No
19. Were equipment blanks and field blanks collected on a 10% basis? Comments: One trip blank (Trip Blank) was collected during this sampling event.	Yes
20. Were detections found in trip blanks, equipment blanks, or field blanks? Comments: No constituents were detected in the trip blank.	No
21. Were field duplicates collected on a 10% basis? Comments: No field duplicates were collected as part of this sampling event.	No
22. Were field duplicate RPD values less than 30%? Comments: N/A	N/A
23. General Comments: Data were presented in a clear and complete manner. No data were qualified or rejected; therefore these data sets are 100% complete.	

TABLE 1. DATA QUALIFICATION, CHICAGO RECYCLE CENTER CLOSURE
SAFETY-KLEEN SYSTEMS, INC. (500-8991)

Analyte	Sample ID	Laboratory Assigned ID	Laboratory Result (mg/L)	Flag	Reason
3,3-Dichlorobenzidine	TAP-1	500-8991-1	ND(0.005)	UJ	Indication of poor repeatability
3,3-Dichlorobenzidine	FR-1	500-8991-2	ND(0.0052)	UJ	Indication of poor repeatability
Benzidene	TAP-1	500-8991-1	ND(0.04)	UJ	Indication of poor repeatability
Benzidene	FR-1	500-8991-2	ND(0.041)	UJ	Indication of poor repeatability
Benzoic acid	TAP-1	500-8991-1	ND(0.02)	UJ	Indication of poor repeatability
Benzoic acid	FR-1	500-8991-2	ND(0.021)	UJ	Indication of poor repeatability
Hexachlorocyclopentadiene	TAP-1	500-8991-1	ND(0.02)	UJ	Indication of poor repeatability
Hexachlorocyclopentadiene	FR-1	500-8991-2	ND(0.021)	UJ	Indication of poor repeatability

J – Indicates estimated detection
UJ – Indicates estimated detection below the reporting limit

ATTACHMENT E

CERTIFICATE OF DESTRUCTION

United Scrap

CERTIFICATE OF DESTRUCTION

DRIVER'S TICKET # 37540

In consideration of the transfer to United Scrap Metal Inc, of the property covered by referenced Sales Agreement, a value based upon its being used as Scrap, the undersigned represents and warrants that all material identified as Safety-Kleen designated as "Tank T-17" (Material Requiring Destruction), and all components thereof purchased under current contract between Safety-Kleen and United Scrap Metal Inc., shall be rendered unusable.

This destruction activity is hereby witnessed by Tony Siebert on said date at the United Scrap Metal, Inc. facility located at 1545 South Cicero Avenue, Cicero, Illinois, 60804. All materials will be either be destroyed on-site at United Scrap Metal or shipped directly to a designated mill or foundry for direct shredding and/or remelt.

Any unauthorized access to the container/s designated as "Tank T-17" (Material Requiring Destruction) during transportation and/or storage from Safety-Kleen to the United Scrap Metal Inc. facility was reported to Frank Ortega within 48 hours of the occurrence.

Safety-Kleen Representative _____

United Scrap Metal Representative _____

Date 3/10/08

Driver's Ticket # 37540

ATTACHMENT F

CLOSURE CERTIFICATION STATEMENT

CERTIFICATION STATEMENT
SAFETY-KLEEN SYSTEMS, INC.
CLEAN HARBORS ENVIRONMENTAL SERVICES
TANK T-17 CLOSURE CERTIFICATION

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

5/1/08

Alfred Aghapour — Date
Clean Harbors Environmental Services
Chicago Recycle Center - Facility Manager

LICENSED PROFESSIONAL ENGINEER
JACK G. BEDESSEM
062-049091
STATE OF ILLINOIS

4/21/08

Jack Bedessem — Date
Trihydro Corporation
Illinois Professional Engineer (No. 062049091)

signature

4/21/08
date

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 -- COOK COUNTY)
(ILD 005450697--RCRA CLOSURE)

Prepared for:

Safety-Kleen Corp.
777 Big Timber Road
Elgin, Illinois 60123

Submitted to:

Illinois Environmental Protection Agency

Prepared by:

WANG ENGINEERING, INC.
1000 W. Hawthorne Drive
Itasca, Illinois, 60143
WEI Job No. 312-6202

January 7, 1991

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Appendix A Triple Rinse Field Data

Appendix B Photo Documentation

Appendix C Tank T199 Disposal Certification

Appendix D Waste Manifests

Appendix E Hazardous Waste Tank Assessment -- 1988 Report

Appendix F Chronological Summary

LIST OF EXHIBITS

Exhibit 1 General Location Map
Exhibit 2 General Site Location Plan
Exhibit 3 Tank Location Plan
Exhibit 4 Tank Inventory

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 -- COOK COUNTY)
(ILD 00540697--RCRA CLOSURE)

1.0 INTRODUCTION

This report summarizes the results of the closure activities performed for above-ground storage tanks Nos. T105 to T114 and T199 at the Safety-Kleen Corp., Chicago Recycle Center. The facility is located at 1445 West 42nd Street, Chicago, Illinois, as shown in Exhibit 1, General Location Map.

Safety-Kleen Corp. has closed eleven above-ground hazardous waste storage tanks (S02). Of the eleven tanks, ten tanks (T105 to T114) have changed in status and remain in use as non-regulated tanks. Tank T199 was closed, removed, and disposed of according to the referenced closure plan. The tank locations are shown on Exhibit 2, General Site Location Plan. The closure was based on a partial closure plan submitted and approved on October 18, 1990, by the Illinois Environmental Protection Agency (IEPA).

2.0 SCOPE OF CLOSURE ACTIVITIES AND GENERAL CLOSURE PLAN PROCEDURES

The objectives of the closure certification activities were to:

A. Document the volume of waste and waste residues removed. Waste includes material resulting from decontamination.

B. Document the method of waste handling and transport.

C. Obtain the waste manifest numbers.

D. Obtain copies of the waste manifests.

E. Provide a chronological summary of closure activities and the cost involved.

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F. Take color photo documentation of closure. Document conditions before, during, and after closure.

G. Provide a revised cost estimate and financial assurance instruments.

H. Obtain Tank T199 Disposal Certification.

I. Provide data for structural integrity of the tanks (T105-T114) and the chemical compatibility of the tanks (T105-T114).

J. No analytical data was required for this closure plan.

Wang Engineering, Inc. (WEI) staff observed those events necessary to assure that the closure was performed in accordance with the consent directive. Other activities during the closure were performed by Safety-Kleen Corp. personnel.

The closure activities included the following major categories:

1. Transfer non-regulated materials or removal and disposal of waste from each unit;

2. Decontamination of tank and piping and disposition of decontamination liquid;

3. Removal and disposition of tank. Piping removal and disposition was not required.

In performing the closure activities, health and safety measures were carried out under the provisions of 29 CFR 1910 (51 FR 15,654, December 19, 1986). In addition, cleanup operations met the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard.

The following sections are a detailed summary of the procedures and results of these closure activities.

3.0 CONTENT REMOVAL AND DECONTAMINATION PROCEDURES

At the time of the tank contents removal, the majority of the tanks were used for the storage of non-hazardous material. Prior to tank cleaning, each tank was opened and a volume estimate of the tank contents was taken. The non-regulated tank contents were transferred to other on-line tanks. The two tanks

that contained hazardous wastes had their contents transferred to another Safety-Kleen facility for processing. After each tank and lines were drained, each tank system was pressure washed until clean and free of all solids and dirt.

Triple rinsing was used as a final decontamination procedure for all of the tanks. A WEI staff member or Safety-Kleen staff supervisor was present to document the triple rinse activities. The triple rinse consisted of pressure washing the entire tank interior. A special rinse spray attachment was inserted into the manway and allowed to spray continuously for ten minute wash intervals. The tank was allowed to drain for several minutes between wash intervals. Tank T199 was triple rinsed from the inside by a WEI staff member in OSHA level "B" protection.

Upon completion of the triple rinse, A WEI staff member or a Safety-Kleen supervisor witnessed a wipe test for each tank. Each inspection consisted of taking two wipe samples. The wipe samples were taken with clean cloths on the side wall and bottom of the tank. The towels were visually inspected by a WEI staff member for signs of free sludge and solvent residue. The wipe sample cloths have been placed into labeled plastic bags and are currently being stored at the Safety-Kleen facility.

4.0 T199 CLOSURE BY REMOVAL

Tank T199 was a 8,200 gallon above-ground, horizontal stainless steel tank used to store the following wastes:

D001
F001
F002
F003
F005

Tank T199 was cleaned by CMC of Portage, Indiana, on December 21, 1988, and was taken out of service.

On August 4, 1990, tank T199 was triple rinsed by a WEI staff member. The initial cleaning (sludge/fluid) and pipe removal took place prior to the approval of the closure plan. The tank was triple rinsed according to the procedure described in Section 3.0 of this report. The waste water was intermittently removed from a floor drain located at the center of the tank.

When tank T199 was in use the contents were accessed via protable overhead piping. This piping was and is used at other

locations through out the site. As result pipe decontamination was not necessary.

Upon completion of the triple rinse, the WEI staff member took two wipe tests from the inside of the tank. The results of the wipe test showed that the tank was free of sludge and solvent residue. The triple rinse field data are presented in Appendix A. The photo documentation is organized chronologically and presented in Appendix B.

Approximately 265 gallons of decontamination fluid was collected. The triple rinse fluid was treated under permit on site and discharged to the Metropolitan Water Reclamation District of Greater Chicago system.

After the tank was cleaned and triple rinsed, it was removed from the site. The tank was received at the Brandenburg Industrial Service Company on November 2, 1990, where it was cut up for scrap. Appendix C contains the tank T199 Disposal Certification.

The secondary containment system associated with tank T199 did not need to be decontaminated since it will be utilized as part of the area where hazardous wastes are to be stored in containers in accordance with 35 IAC 724 and 725.

5.0 TANKS T105 TO T114 CLOSURE

Tanks T105 to T114 were 12,500 gallon stainless steel hazardous waste storage tanks. These tanks were used to store the following waste material:

D001
F001
F002
F003
F005

These ten upright tanks were located within a secondary containment system that was referred to as Tank Farm 1. Exhibit 3 shows the location of these tanks. At the time of the closure, tanks T105, T106, and T108 to T113 were being used to store non-regulated materials. Tanks T107 and T114 were used to store hazardous waste.

Prior to cleaning, each tank was opened at the manway in order to obtain an estimate of the volume of fluid contained in the tank. The fluid volumes and types of materials stored in

each tank are listed in Exhibit 4, Tank Inventory.

At the time of the closure, tank T107 contained 11,648 gallons of non-chlorinated hazardous waste material. The tank T107 contents were blended with oil to increase the BTU and manifested to Holman Inc. -- Safety-Kleen Corp. at Clarksville, Mo. Tank T114 contained 3,712 gallons of process bottoms waste. The contents of tank T114 were manifested to Holman Inc. -- Safety-Kleen Corp. at Clarksville, Mo. See Appendix D for Waste Manifests for T107 and T114. The non-hazardous materials stored in the other tanks were transferred to in-process tanks.

From the end of October, 1990, to the end of November, 1990, tanks T105 to T114 were opened and their contents transfered to other on site tanks or disposed of/manifested to Holman Inc. -- Safety-Kleen Corp. The tanks and associated pipes were then cleaned by the Safety-Kleen Chicago Recycle Center staff. The tank systems were initially cleaned with a pressure washer to remove any fluid and or sludge residue. During the following months, the tanks were triple rinsed according to the procedure previously described in Section 3.0 of this report. In general, the triple rinse for these tanks consisted of three, ten minute washes followed by brief periods between washes to allow the water to drain from the tank. Appendix A, Triple Rinse Field Data Documentation, presents the triple rinse data for each individual tank and the amount of rinse decontamination water generated per tank.

Upon completion of the triple rinse, a WEI staff member or Safety-Kleen supervisor performed a wipe test on each tank. The results of the triple rinse data indicated that tanks T105 to T114 were free from sludge and solvent residue. The triple rinse was confirmed by WEI staff member or Safety-Kleen supervisor visual inspection through the manway. No cracks were observed on the tank bottoms during the wipe test by either the Safety-Kleen or WEI. See Appendix B, Photo Documentation.

Approximately 4,200 gallons of decontamination fluid was collected from T105 to T114. The decontamination fluid was treated under permit on site and discharged to the Metropolitan Water Reclamation District of Greater Chicago system.

5.1 T105 to T114 CHANGE IN STATUS

Tanks T105 to T114 have been closed according the the approved IEPA closure plan. Pursuant to the requirements of 35 IAC 725.219, as to the structural integrity of the tanks (T105-T114) and the compatibility of the tanks (T105-T114) with the

materials in these tanks, information has been provided by an independent registered professional engineer. The written assessment indicates that the tanks are in excellent condition and that they can continue to be used for the storage of organic chemicals. In addition the approved closure plan for the tank assessments must include the results of a leak test. At the time of the assessments a leak test was not required and therefore was not included in the 1988 assessment report.The results of the structural integrity and chemical compatibility assessments for T105-T114 were not included in the closure plan, but are included herein as Appendix E.

6.0 SECONDARY CONTAINMENT TANK FARM NO. 1

On August 8, 1990, a WEI staff member inspected the secondary containment system for cracks or joints. The visual inspection did not reveal any open, displaced or fully penetrating cracks or joints in the secondary containment system. See Appendix B Photo Documentation (chronologically organized).

The containment system was triple rinsed on December 7 and 8, 1990. The triple rinse consisted of two sets of three wash intervals. The east dike south side was triple rinsed on December 7, while the east dike north side was triple rinsed on the December 8. Each rinse cycle lasted approximately three hours. Approximately 600 gallons of decontamination fluid was collected. The decontamination fluid was treated under Safety-Kleen Corp.'s permit on site and discharged to the Metropolitan Water Reclamation District of Greater Chicago system.

The containment system was visually inspected for signs of free sludge and solvent residue on December 12, 1990. The Photo Documentation is presented in Appendix B in chronological order.

7.0 SUMMARY

This report summarizes the closure activities at the Safety-Kleen Recycle Center Chicago, Illinois. The dates and major activities as they occurred are presented in Appendix F Chronological Summary. A total of eleven above- ground tanks were closed. Tanks T105 to T114 were located within the secondary containment system referred to as Tank Farm No. 1. Tank T199 was located south of Tank Farm No. 1.

Tanks T105 to T114 have achieved clean closures and will change status and remain in service as non-regulated tanks. Pursuant to the requirements of 35 IAC 725.291, information on

structural integrity and compatibility of tanks T105 to T114 has been completed by an independent registered professional engineer. The tanks were found to be structurally sound as well as compatible with the materials they will contain. The results of this assessment is included as Appendix E. of this report.

Tank T199 has also achieved a clean closure and has been closed in accordance with the approved closure plan. The secondary containment system associated with tank T199 need not be decontaminated since it will continue to be utilized as part of the area in which hazardous wastes are to be stored in accordance with 35 IAC 724 and 725.

The tank cleaning and decontamination were performed in-house by the Safety-Kleen staff. The hazardous waste generated by the closure was processed at another Safety-Kleen Facility. As a result of the tank closure the outside cost that Safety-Kleen incurred was form the Wang Engineering, Inc. at a cost of $4,500.

9.0 TANK FARM NO. 1 CLOSURE CERTIFICATION STATEMENT

Closure Log C-501

The secondary containment system known as Tank Farm No. 1, at the time of the visual inspection did not reveal any open, displaced or fully penetrating cracks or joints. Tank Farm No. 1 at the facility described in this document have been closed in accordance with the specifications in the approved closure plan. 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 evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

0316000053 -- Cook County
USEPA ID Number

Safety-Kleen Corp.
Chicago Recycling Center
Facility Name

Signature of Owner/Operator

Scott Fore, Vice President
Name and Title

91-038

Signature of Registered P.E.

062-031-437
Name of Registered P.E.
Illinois Registration Number

LAWRENCE L. HOLISH
6231437
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

1-14-91
Date

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8.0 TANK CLOSURE CERTIFICATION STATEMENT

Closure Log C-501

The eleven (11) hazardous waste management storage tanks (Tanks T105-T114 and T199) at the facility described in this document have been closed in accordance with the specifications in the approved closure plan. 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 evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

0316000053 -- Cook County
USEPA ID Number

Safety-Kleen Corp.
Chicago Recycling Center
Facility Name

Scott Fore
Signature of Owner/Operator

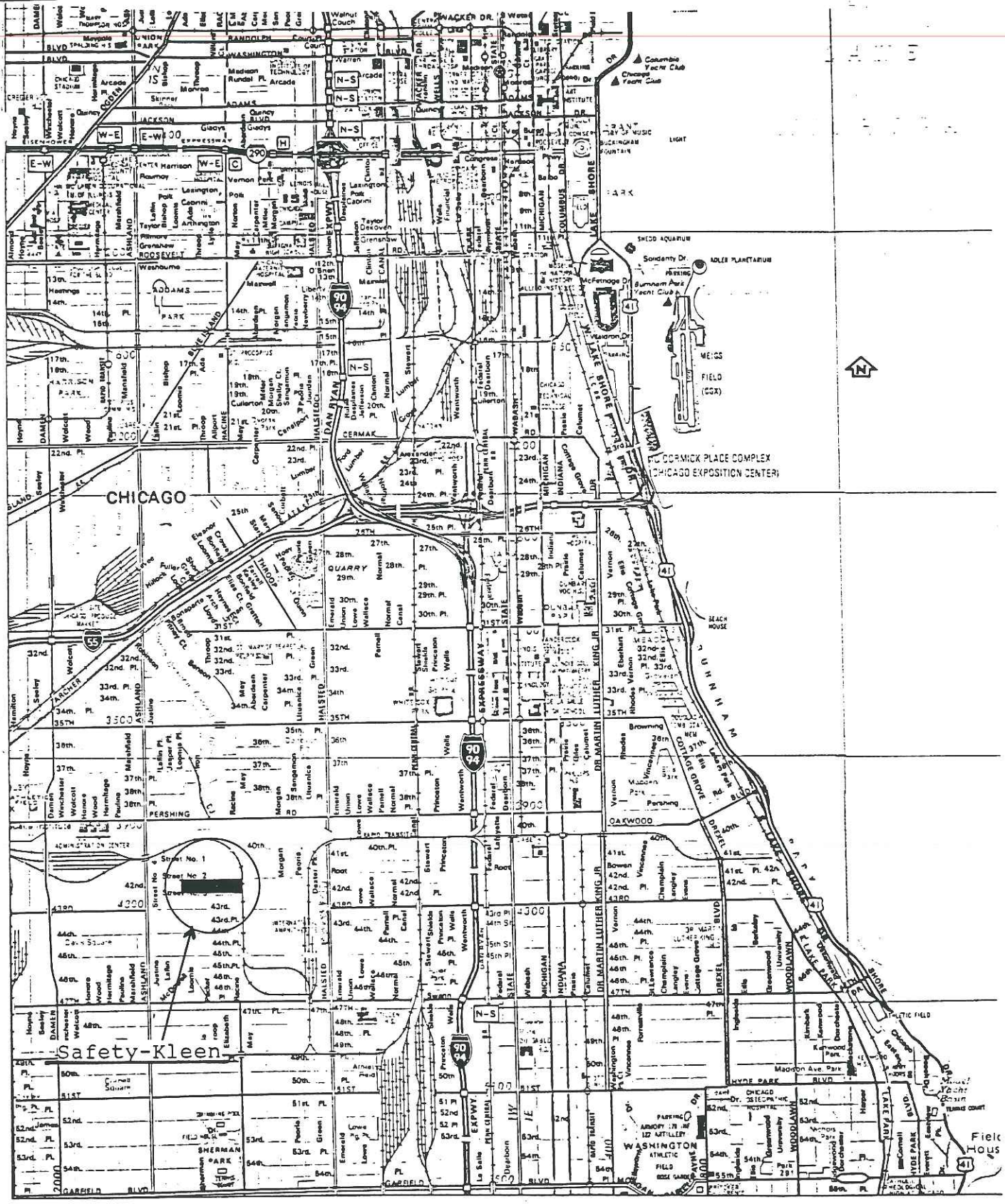
Scott Fore, Vice President
Name and Title

Lawrence L Holish
Signature of Registered P.E.

062-031-437
Name of Registered P.E.
Illinois Registration Number

1-14-91
Date

LAWRENCE L. HOLISH
6231437
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

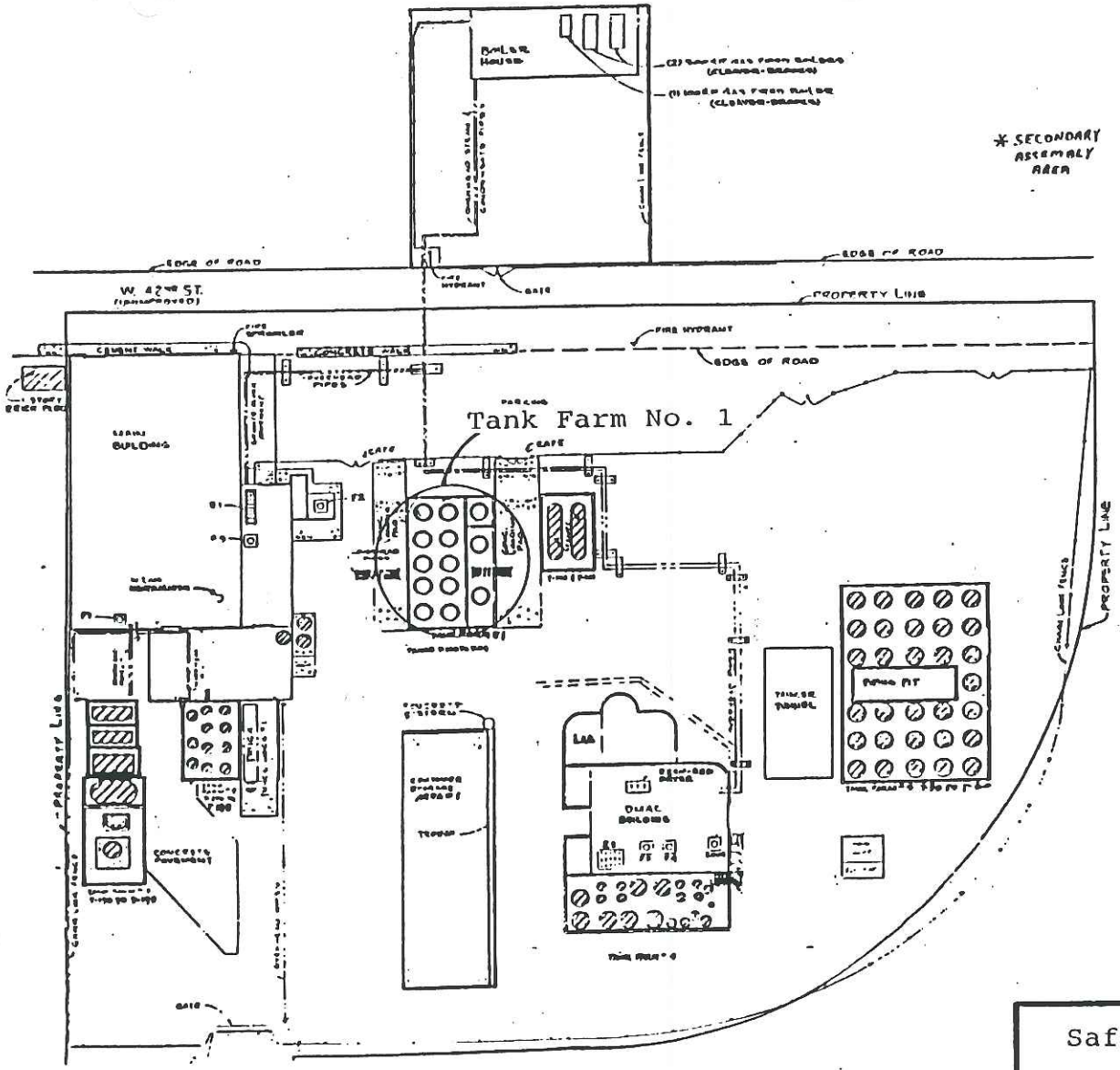


Safety-Kleen, Chicago, IL

SCALE:	General Location Map	DRAWN BY: Exhibit 1

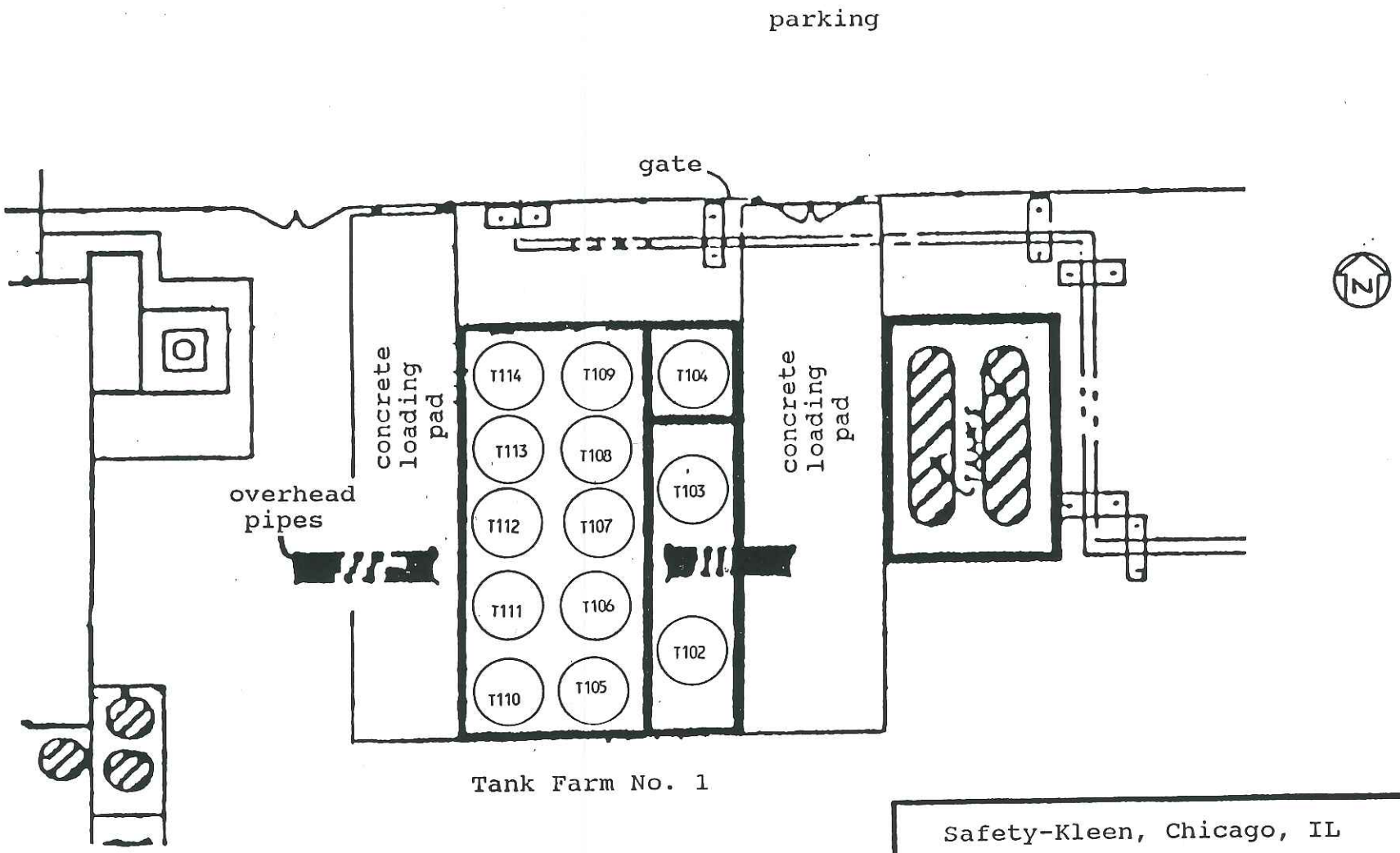
Wang Engineering, INC.
Consulting Geotechnical & Environmental Engineers
1000 West Hawthorne Drive
Itasca, Illinois 60143
(312) 250-0707

1-3-91	312-6202



Safety-Kleen, Chicago, IL

SCALE:	General Site Location Plan	DRAWN BY: Exhibit 2
	Wang Engineering, INC. Consulting Geotechnical & Environmental Engineers	1000 West Hawthorne Drive Itasca, Illinois 60143 (312) 250-0707
1-3-91		312-6202



Safety-Kleen, Chicago, IL

SCALE:	Tank Location Plan	DRAWN BY: Exhibit 3
Wang Engineering, INC. Consulting Geotechnical & Environmental Engineers	1000 West Hawthorne Drive Itasca, Illinois 60143 (312) 250-0707	
1-3-91		312-6202

EXHIBIT 4
TANK INVENTORY
TANK NO. T105 TO T114
SAFETY-KLEEN - RECYCLE CENTER
CHICAGO, ILLINOIS

TANK NUMBER	DATE OPENED	DATE INVENTORIED	VOLUME GALLONS	MATERIAL STORED IN TANK
T105	11-14-90	11-13-90	4544	TETRAHYDROFURAN TOLUENE PRODUCT
T106	11-21-90	11-20-90	5376	TOLUENE DISTILLATE PRODUCT
T107*	11-22-90	11-21-90	11648	NON-CHLOR. WASTE
T108	11-14-90	11-13-90	2240	TETRAHYDROFURAN DISTILLATE
T109	11-14-90	11-13-90	832	TETRAHYDROFURAN PRODUCT
T110	11-15-90	11-14-90	9728	TETRAHYDROFURAN FINAL PRODUCT
T111	11-22-90	11-21-90	5184	DIAMETHYLACETAMIDE PRODUCT
T112	11-20-90	11-19-90	10176	TOLUENE DISTILLATIE PRODUCT
T113	11-12-90	11-11-90	1728	DIAMETHYLACETAMIDE PRODUCT
T114*	10-29-90	10-25-90	3712	PROCESS BOTTOMS WASTE

* - Stored waste at the time of closure.

APPENDICES

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 - COOK COUNTY)
(ILD 00540697 - RCRA CLOSURE)

APPENDIX A

Triple Rinse Field Data For Tanks T105 to T114

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #30316000053 - COOK COUNTY)
ILD 00540697 - RCRA CLOSURE)

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: T105

Date Tank Opened For Cleaning: 11-14-90

Date Tank Passed Wipe Test: 11-15-90

Date Tank Was Rinsed: 11-15-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	11:15	11:30	100
Second Rinse	11:40	11:50	100
Third Rinse	12:00	12:10	100

Date Tank Passed Final Wipe Test: 11-15-90

Supervisors Signature: [illegible]

Date Tank Returned to Non-Hazardous Service: 11-19-90

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: ~~#112~~ #106

Date Tank Opened For Cleaning: 11-21-90

Date Tank Passed Wipe Test: 11-26-90

Date Tank Was Rinsed: 11-21-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	19:00	1930	200 gal's MM
Second Rinse	20:30	2115	200 gal's MM
Third Rinse	(11-25-90) 05:00	06:00	~200 gal's

Date Tank Passed Final Wipe Test: 11-26-90

Supervisors Signature: John C. Zimai

Date Tank Returned to Non-Hazardous Service: _____

11-28-9

Third Rinse 300 GAL

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: T-107

Date Tank Opened For Cleaning: 11-22-90

Date Tank Passed Wipe Test: 11-25-90

Date Tank Was Rinsed: 11-25-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	9:50	10:00	200 GAL
Second Rinse	10:00	10:10	200 GAL
Third Rinse	10:15	10:25	200 GAL

Date Tank Passed Final Wipe Test: 11-25-90

Supervisors Signature: John C. Simon

Date Tank Returned to Non-Hazardous Service: _____

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: T-108

Date Tank Opened For Cleaning: 11-14-90

Date Tank Passed Wipe Test: 11-17-90

Date Tank Was Rinsed: 11-17-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	11:00	11:10	100
Second Rinse	11:15	11:25	100
Third Rinse	11:30	11:40	100

Date Tank Passed Final Wipe Test: 11-17-90

Supervisors Signature: [illegible]

Date Tank Returned to Non-Hazardous Service: 11-19-90

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: T-109

Date Tank Opened For Cleaning: 11-14-90

Date Tank Passed Wipe Test: 11-17-90

Date Tank Was Rinsed: 11-17-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	11:50	12:00	100
Second Rinse	12:05	12:15	100
Third Rinse	12:20	12:30	100

Date Tank Passed Final Wipe Test: 11:17-90

Supervisors Signature: [illegible]

Date Tank Returned to Non-Hazardous Service: 11-19-90

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: T-110

Date Tank Opened For Cleaning: 11-15-90

Date Tank Passed Wipe Test: 11-17-90

Date Tank Was Rinsed: 11-17-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	10:00	10:10	100
Second Rinse	10:15	10:25	100
Third Rinse	10:30	10:40	100

Date Tank Passed Final Wipe Test: 11-17-90

Supervisors Signature: [illegible]

Date Tank Returned to Non-Hazardous Service: 11-19-90

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: T-111

Date Tank Opened For Cleaning: 11-22-90

Date Tank Passed Wipe Test: 11-26-90

Date Tank Was Rinsed: 11-25-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	9:10	9:20	200 GAL
Second Rinse	9:25	9:35	200 GAL
Third Rinse	9:40	9:50	200 GAL

Date Tank Passed Final Wipe Test: 11-26-90

Supervisors Signature: John C. Simon

Date Tank Returned to Non-Hazardous Service: _____

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: t113

Date Tank Opened For Cleaning: 11-20-90

Date Tank Passed Wipe Test: 11-20-90

Date Tank Was Rinsed: 11-20-90

RINSE DATA	TIME START	TIME END	RINSE WATER VOLUME
First Rinse - Also - Bottom Sampled	700	1900	Est. 150 gals
Second Rinse	1930	1945	150 Est
Third Rinse	20:00	20:20	150 Gal

Date Tank Passed Final Wipe Test: 11-21-90

Supervisors Signature: [signature]

Date Tank Returned to Non-Hazardous Service: _____

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: I-113

Date Tank Opened For Cleaning: 11-12-90

Date Tank Passed Wipe Test: 11-13-90

Date Tank Was Rinsed: 11-13-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	9:30	9:40	150
Second Rinse	10:00	10:10	150
Third Rinse	10:30	10:40	150

Date Tank Passed Final Wipe Test: 11-13-90

Supervisors Signature: Ken Matt

Date Tank Returned to Non-Hazardous Service: 11-13-90

Memo From:

Alfred Aghaiepour

Closure 11/1/90

T-194

(1) Washed and cleaned the tank From 10/29 → 10/31

(2) On Nov. 1, 1990 we triple rinsed T-114 with the presence of Wang Eng. Personnel.

(3) 260 gals waste water was generated which was pumped into waste water tanks for treatment and Disposal. ON SITE

→ METRO . WATER RECLAMATION DIST of GREATER CHIC. AND OTHERS

safety-kleen corp.
1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 PHONE 312/247-2828

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

12-8-90

Tank Number: EAST DIKE NORTH SIDE

Date Tank Opened For Cleaning: 12-8-90

Date Tank Passed Wipe Test: N/A

Date ~~Tank~~ DIKE Was Rinsed: 12-8-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	8:00 AM	9:30 AM	~ 100 GAL
Second Rinse	10:15 AM	11:00 AM	~ 100 GAL
Third Rinse	11:30	12:30	~ 100 GAL

Date Tank Passed Final Wipe Test: N/A

Supervisors Signature: [signature]

Date Tank Returned to Non-Hazardous Service: 12-8-90

12-7-90

HAZARDOUS WASTE CLOSURE
OF TANK FARM #1

Tank Number: EAST DIKE SOUTH SIDE

Date Tank Opened For Cleaning: N/A

Date Tank Passed Wipe Test: N/A

Date ~~Tank~~ DIKE Was Rinsed: 12-7-90

RINSE DATA	TIME		RINSE WATER
	START	END	VOLUME
First Rinse	10:00 AM	11:00	~100 GAL
Second Rinse	11:30 AM	12:15	~100 GAL
Third Rinse	1:00 PM	2:00PM	~100 GAL

Date ~~Tank~~ DIKE Passed Final Wipe Test: N/A

Supervisors Signature: [signature]

Date ~~Tank~~ DIKE Returned to Non-Hazardous Service: 12-7-90

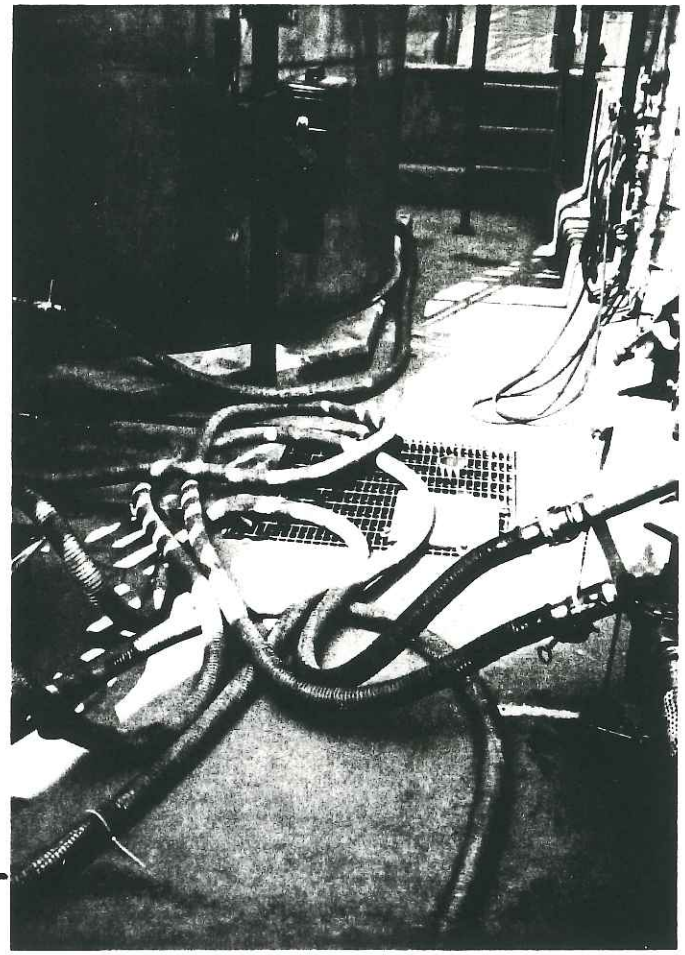
APPENDIX B

Photo Documentation

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 - COOK COUNTY)
(ILD 00540697 - RCRA CLOSURE)

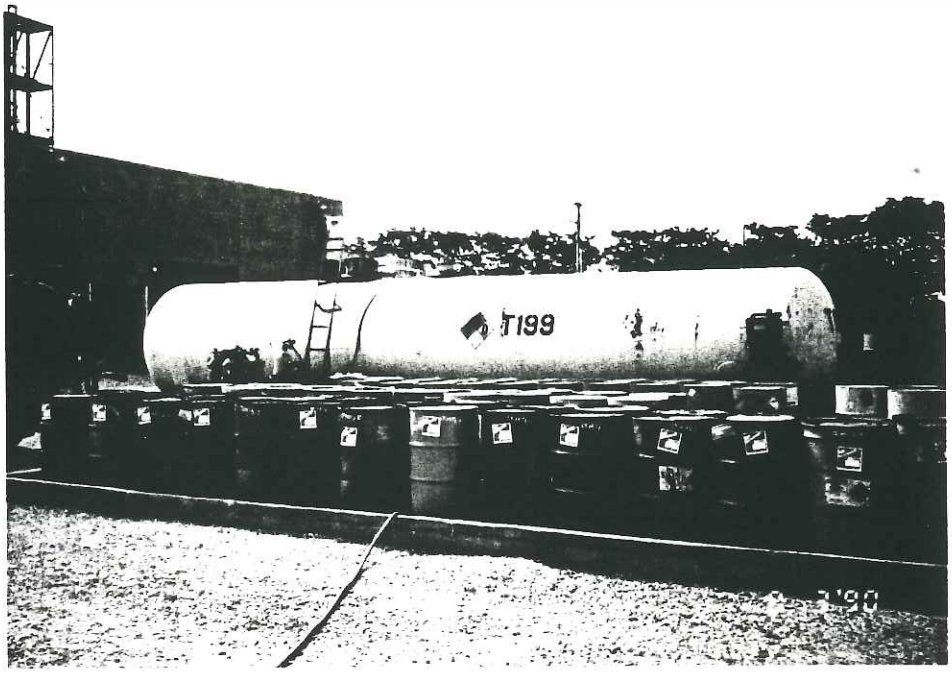
North End of Tank Farm No. 1 Looking west.. Tank T114 pictured in the background.

8/3/90



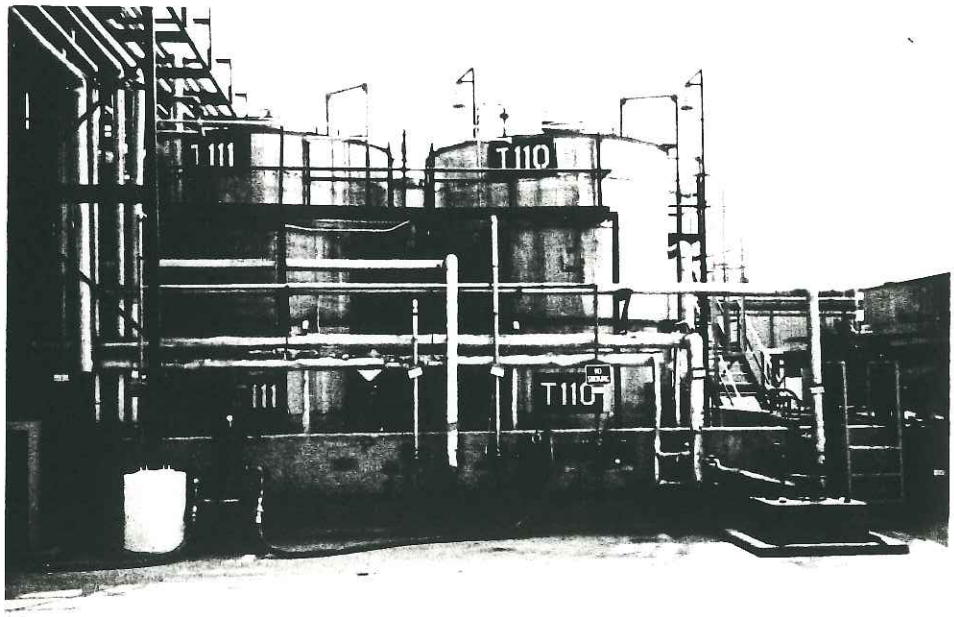
Tank T199 West End

8/3/90



Tank T199 Looking Southeast Prior to Triple Rinse.

8/3/90

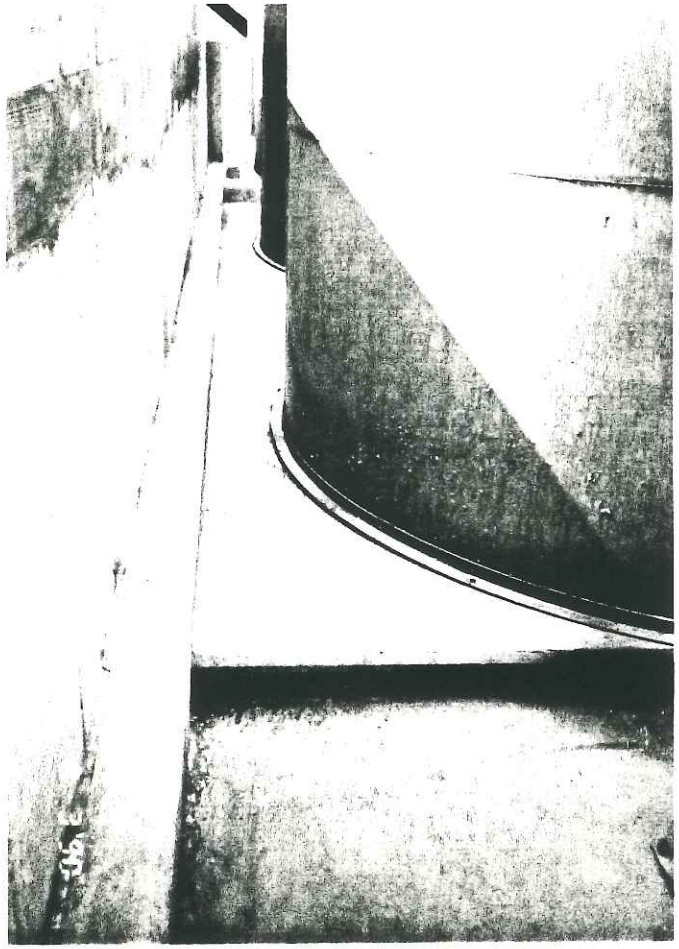


East View of Tank Farm No. 1. Tanks T105 to T114.

8/3/90

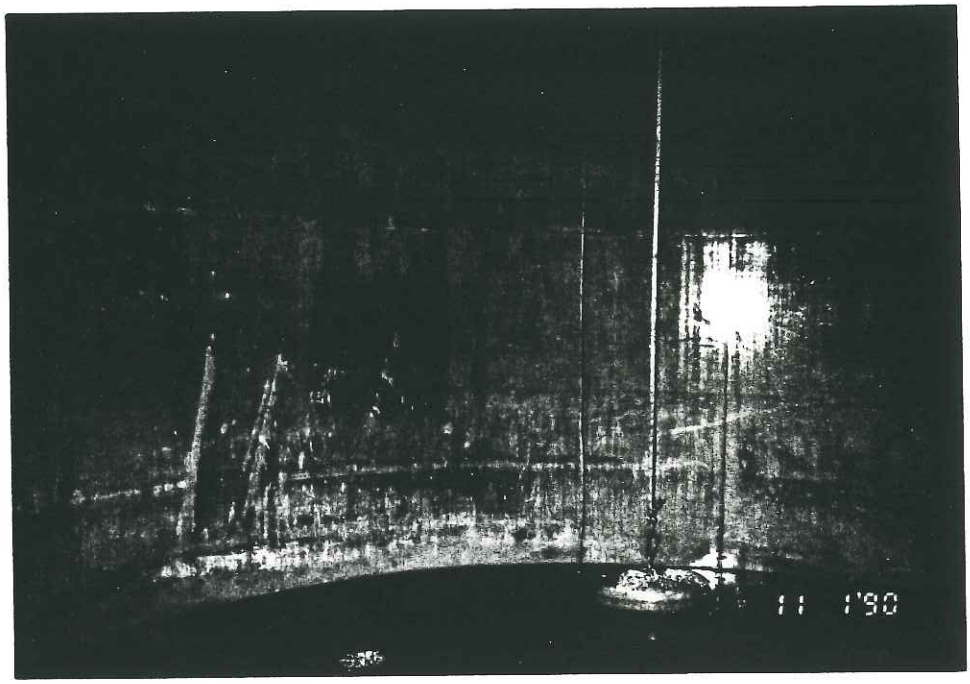
Looking north along center line of Tank Farm No. 1. T106 and T109 right (east) and T110 to T114 left (west).

8/3/90



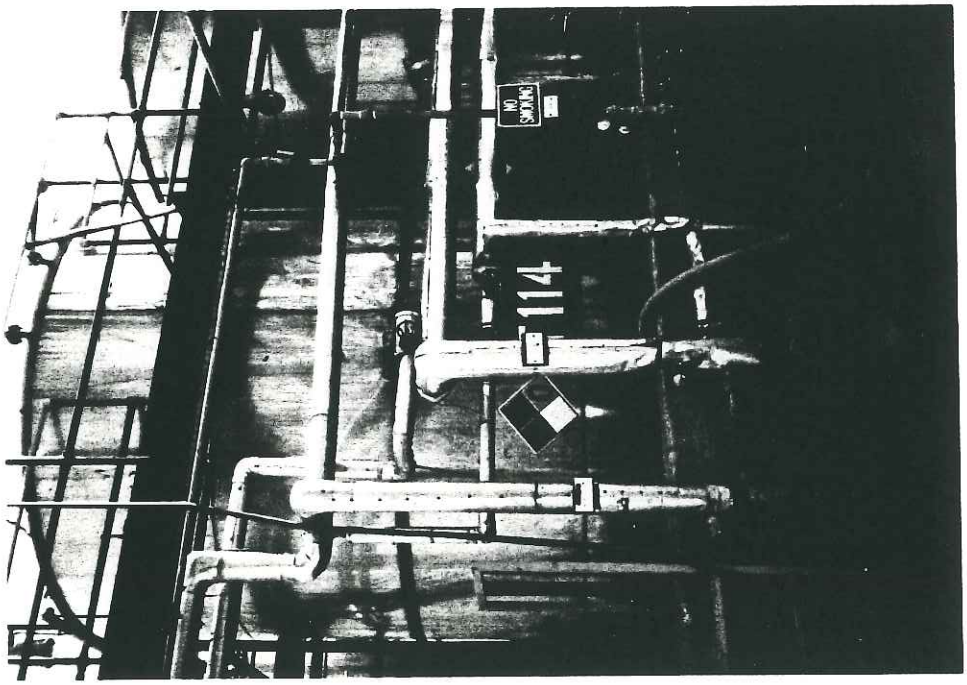
East Wall of Tank Farm No. 1. Tanks T108 to T109 west.

8/3/90



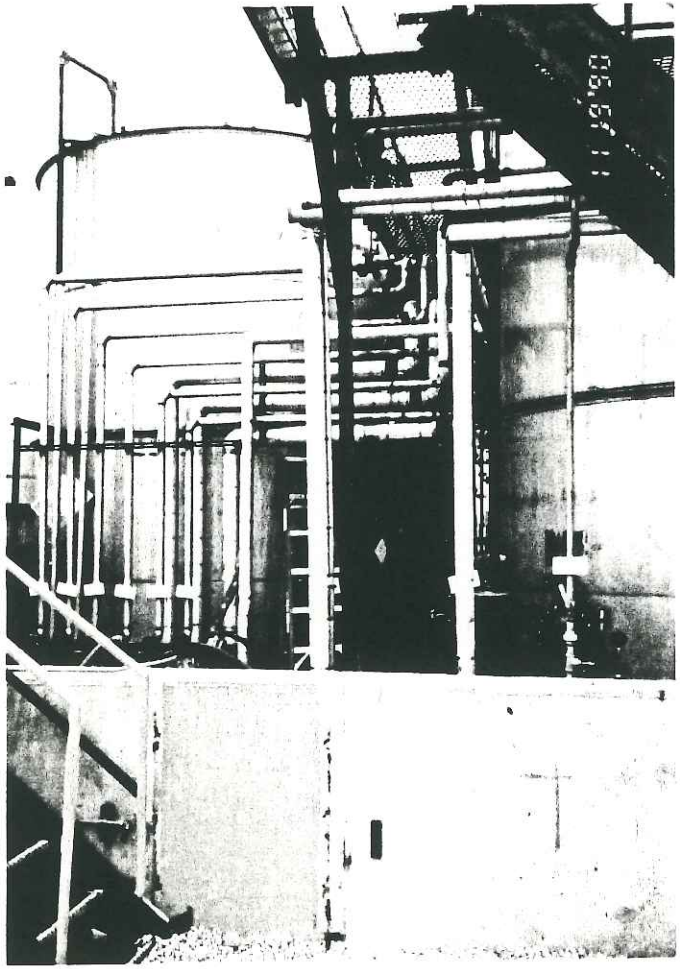
Inside Tank T114 after Triple Rinse.

11/1/90



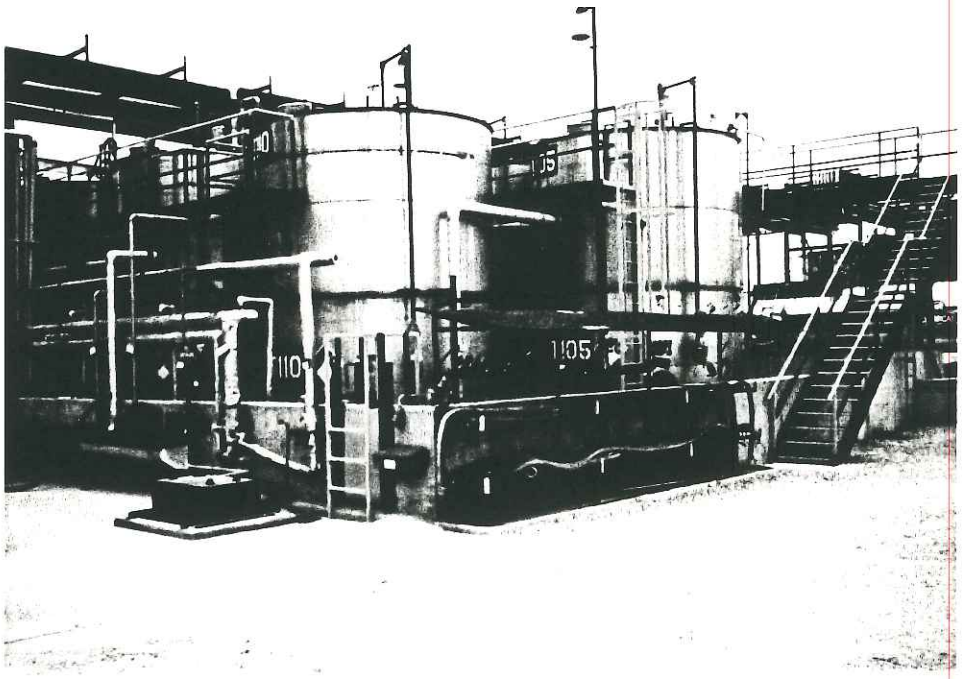
Tank T114 Looking Southeast.

11/1/90



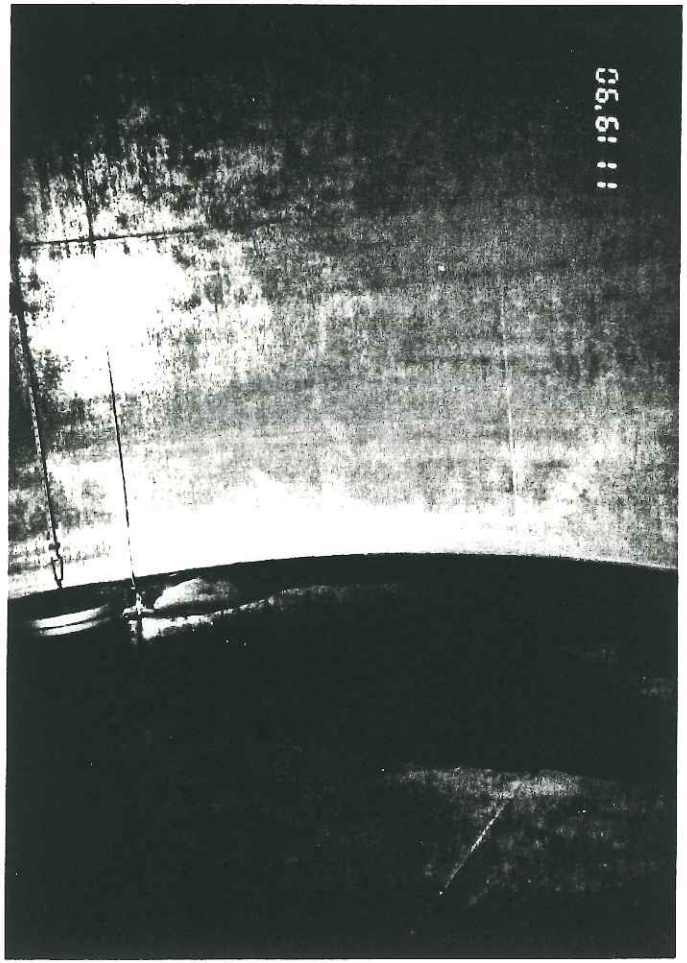
Facing South Looking at T109 foreground with T108 behind.

11/19/90



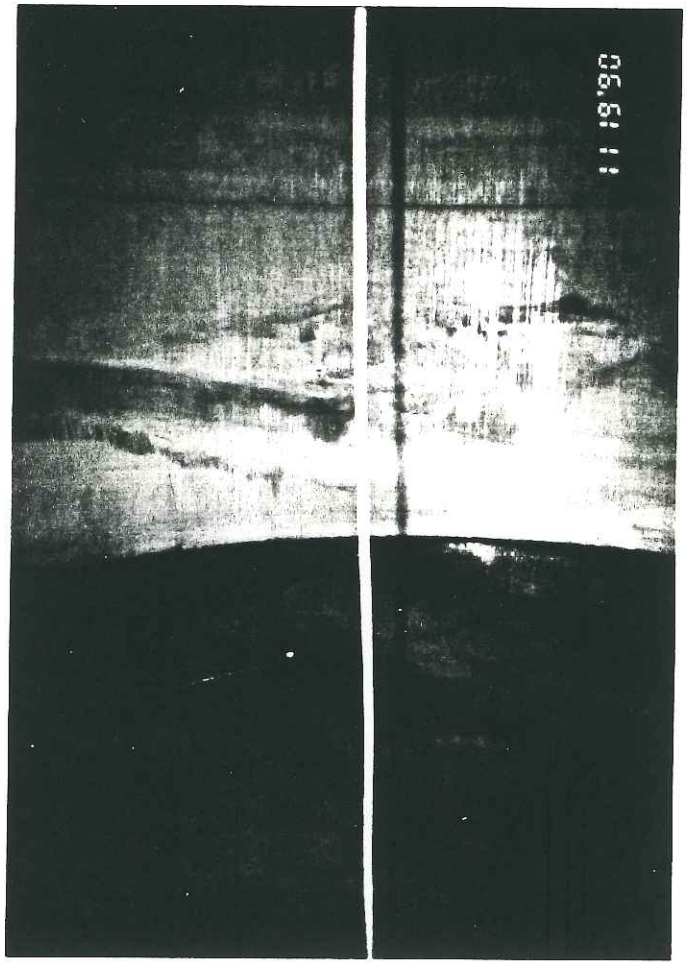
Looking east at T110 & T105.

11/19/90



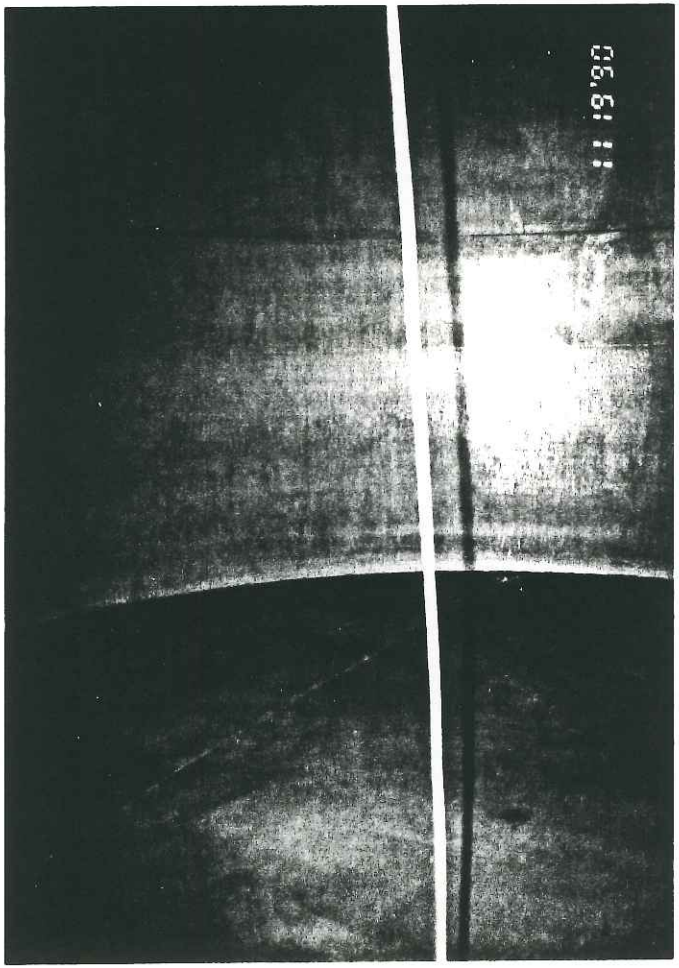
Inside T108 after Triple Rinse.

11/19/90



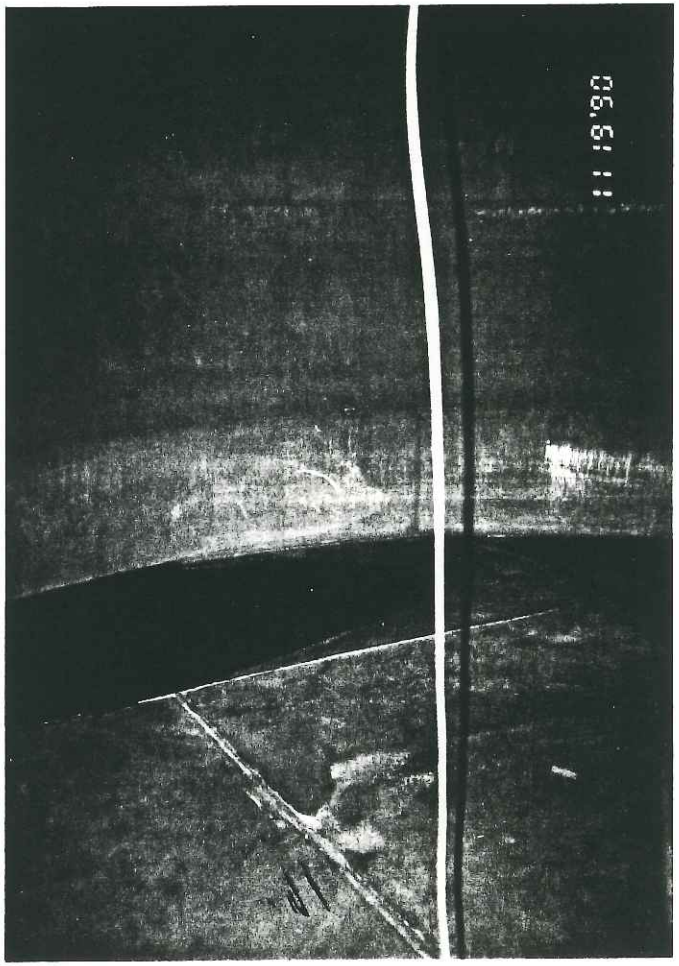
Inside T109 After Triple Rinse.

11/19/90



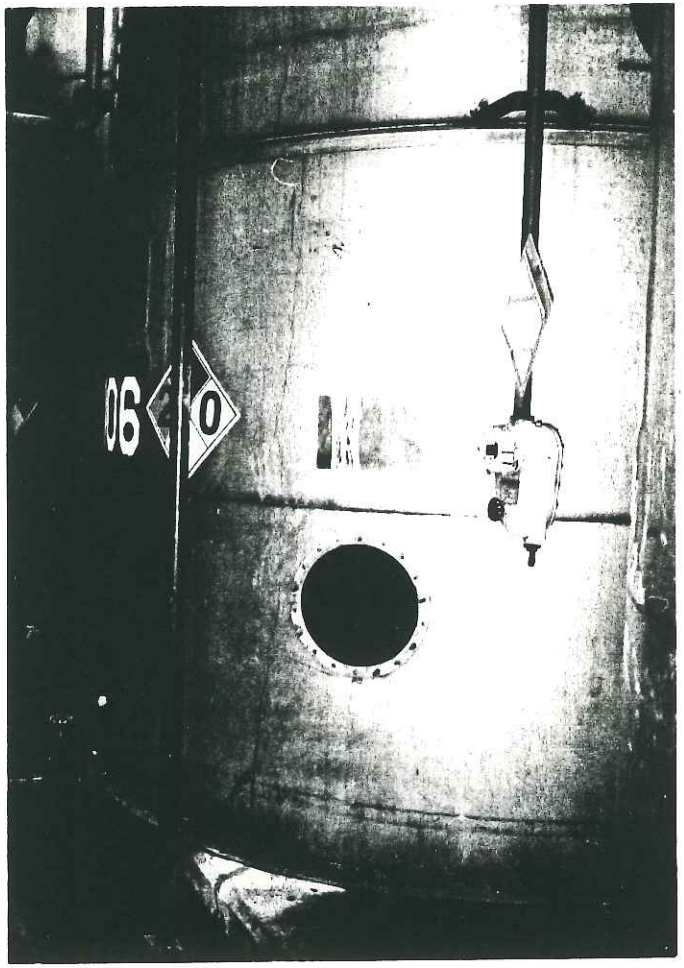
Inside Tank T105 after triple Rinse.

11/19/90



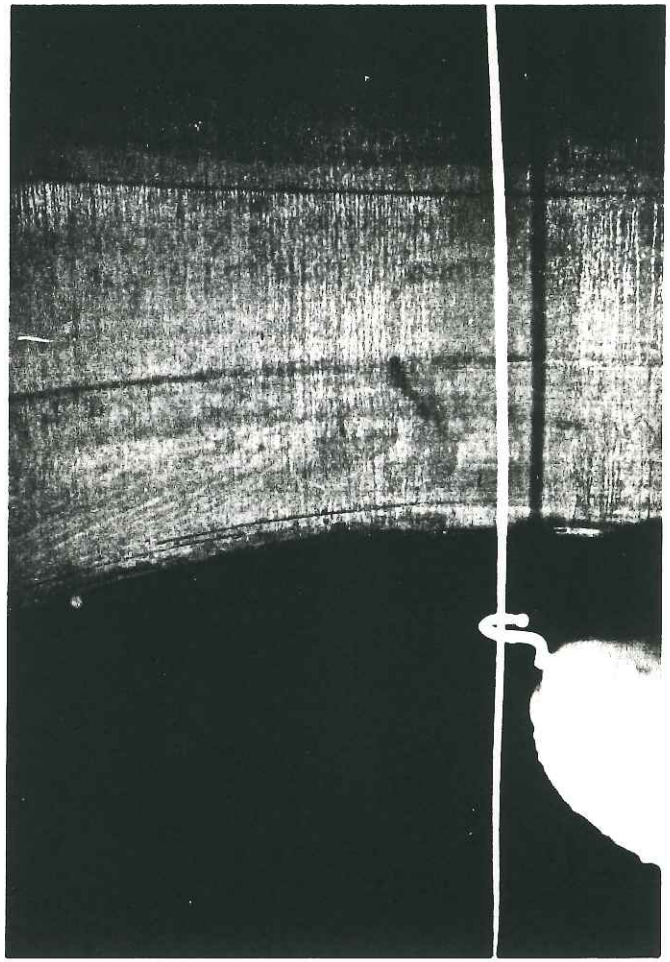
Inside Tank T110 After Triple Rinse.

11/19/90



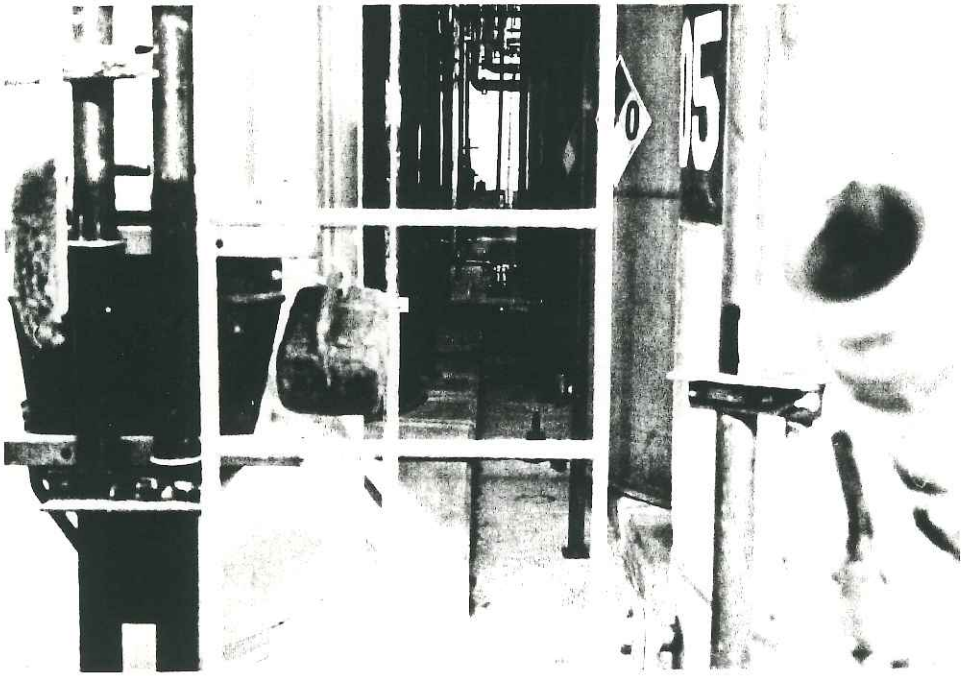
Tank T106 during Triple Rinse

11/28/90



Inside Tank T106 after Triple Rinse

11/28/90

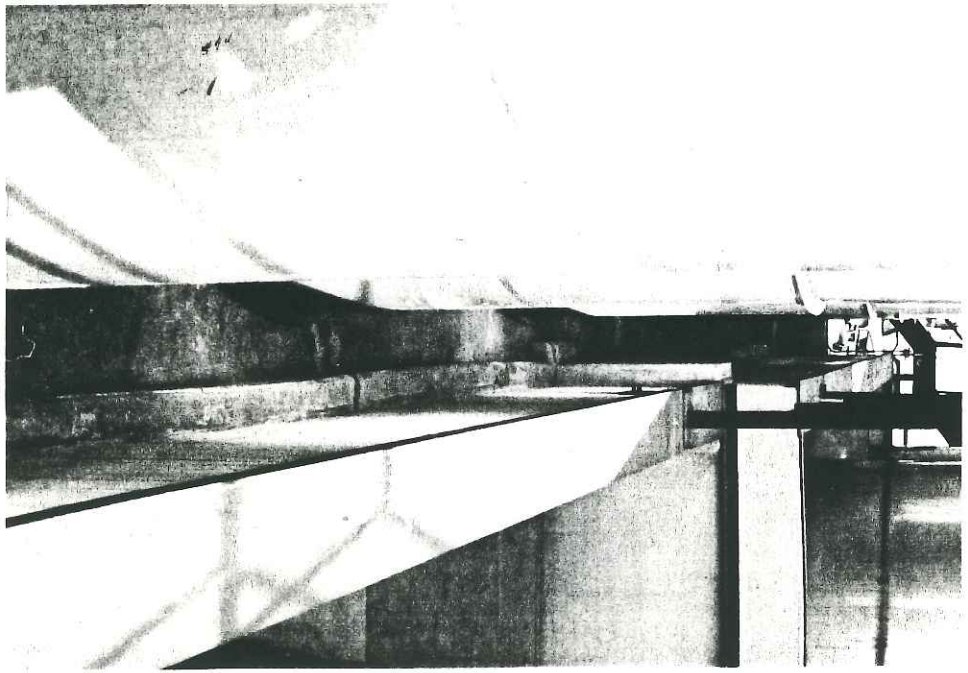


Looking north along Tank Farm No. 1

12/14/90

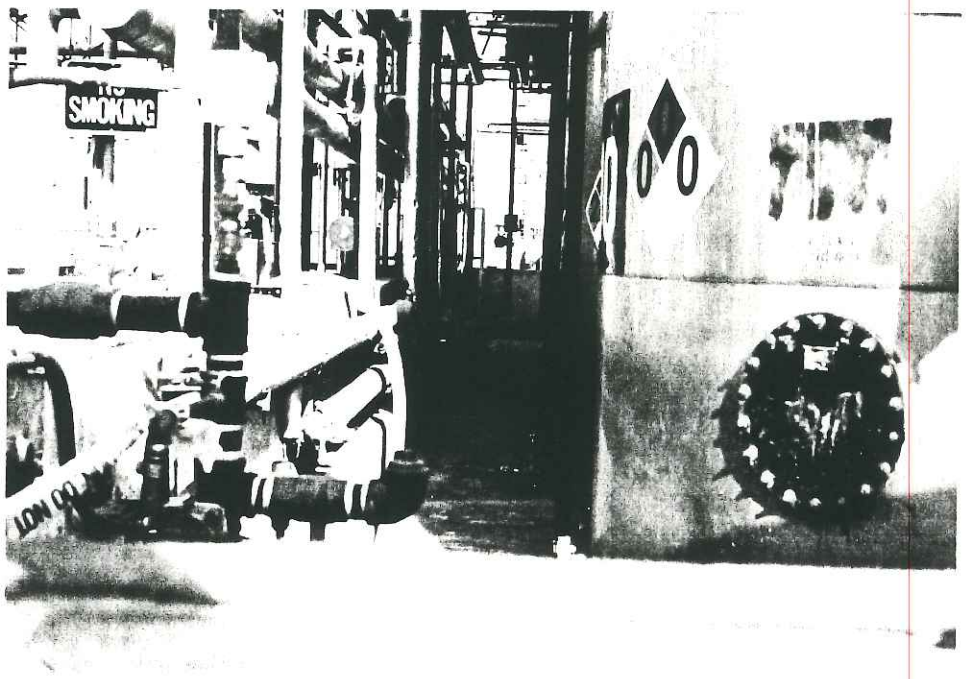
Looking south along the west side of Tank Farm No. 1

12/14/90



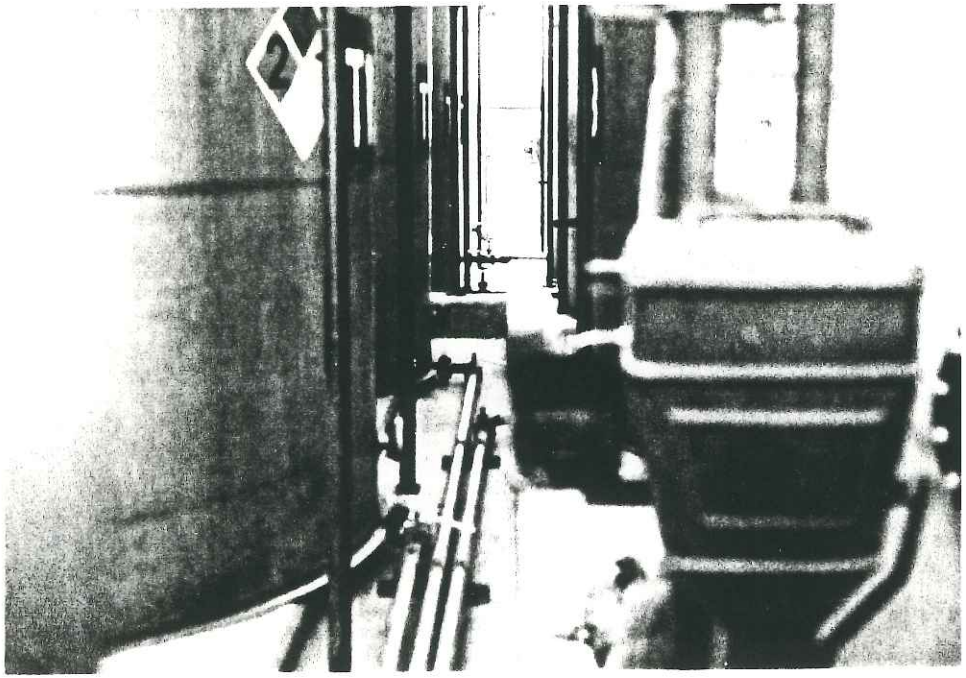
Looking north along the west side of
Tank Farm No. 1

12/14/90



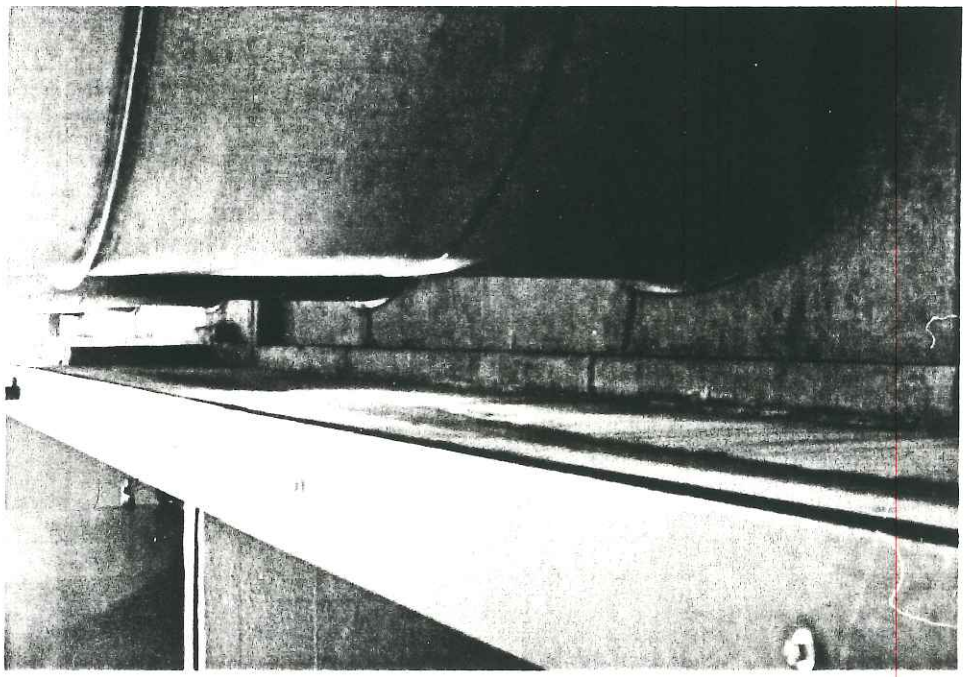
Looking north along west side of
Tank Farm No. 1

12/14/90



Looking south along the center line
of Tank Farm No. 1

12/14/90



Looking south along the east side of
Tank Farm No. 1

12/14/90

APPPENDIX C

Tank T199 Disposal Certification

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 - COOK COUNTY)
(ILD 00540697 - RCRA CLOSURE)

Brandenburg
Industrial Service Company

November 9, 1990

Mr. Alfred Aghaiepour
Safety-Kleen
1445 West 42nd St.
Chicago, Illinois 60609

re: Tank T-199

Mr. Aghaiepour:

I write to verify that Brandenburg Industrial Service has removed tank no. T-199 from Safety-Kleen located at 1445 W. 42nd St in Chicago, Illinois under P.O. #9-15506 as scrap and to verify that we cut up the tank and sent it to U.S.S.S.W. and Astromet.

Yours:

Robert Hesotian
Brandenburg Industrial Service Company

Enclosure
cc:
file

2625 South Loomis Street, Chicago, Illinois 60608-5414
312-326-5800 FAX 312-326-5055

ORIGINAL—NOT NEGOTIABLE

STRAIGHT BILL OF LADING — SHORT FORM

BTSC (Name of Carrier)

Shipper's No. 138917

RECEIVED, subject to the classifications and tariffs in effect on the date of issue of this Bill of Lading,

From BRANDENBURG INDUSTRIAL SERVICE CO.
2625 S. Loomis
at Chicago, IL 60608-5414

6043

Carrier's No. 8650

Date 11-2- 19 90

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of the said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications on file on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back hereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

TK 635

Consigned to ASTROMET
(Mail or street address of consignee—For purpose of notification only)

Destination _____ State Ind County _____

Route _____ Delivery Address ★ Schererville
(★To be filled in only when shipper desires and governing tariffs provide for delivery thereof.)

Delivering Carrier _____ Car or Vehicle Initials _____ No. _____

Collect On Delivery $ _____ and remit to: _____
Street _____ City _____ State _____

C. O. D. charge to be paid by: Shipper ☐ Consignee ☐

No. Packages	Kind of Packages, Description of Articles, Special Marks, and Exceptions	*Weight (Sub. to Correction)	Class or Rate	Check Column
1	UNP-STAINLESS TANK	G 42980		
	Returned	T 36720		
		N 6260		
	SAFETY KLEEN			

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____
(The signature here acknowledges only the amount prepaid.)

Charges Advanced:
$ _____

*Boxes used for this shipment conform to the specifications set forth in the box maker's certificate thereon and all other requirements of Consolidated Freight Classification.

†This is to certify that the above named articles are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

...'s imprint in lieu of stamp; not a part of bill of lading approved by the Department of Transportation."

...shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

BRANDENBURG INDUSTRIAL SERVICE CO.
2625 S. Loomis
Chicago, IL 60608-5414

Permanent Post Office address of Shipper.

Shipper, BTSC
Per _____

Agent COOTER
Per 6043

1

PHONE 865-8500

A·A·A SUPPLY CORPORATION

610 ROUTE 41
SCHERERVILLE, INDIANA 46375
YOUR STEEL SUPPLY CENTER

Date 11/3/90

WEIGHT

28020 lbs. GROSS

14960 lbs. TARE

Gross 42980 lbs. NET

tare 36720

@ 6260 per lb.

Driver On ☑ Off ☐

Load No.

Weigher Joe Jones

Brandenburg
for attorney

ORIGINAL—NOT NEGOTIABLE

STRAIGHT BILL OF LADING — SHORT FORM

(Name of Carrier) Shipper's No. 136423

RECEIVED, subject to the classifications and tariffs in effect on the date of issue of this Bill of Lading,

From BRANDENBURG INDUSTRIAL SERVICE CO.

2625 S. Loomis

Chicago, IL 60608-5414 #6043

Carrier's No. 5652 6552

Date 11 2 19 90

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of the said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back hereof, set forth in the classification or tariff which governs the transportation of this nt, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

C ned to USSSW Dismantle #7006

(Mail or street address of consignee—For purposes of notification only)

estination _____ State _____ County _____

Route _____ Delivery Address ☆ _____

(☆To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

elivering Carrier _____ Car or Vehicle Initials _____ No. #6552

Collect On Delivery $ _____ and remit to: _____

Street _____ City _____ State _____

C. O. D. charge to be paid by { Shipper ☐ Consignee ☐

No. Packages	Kind of Packages, Description of Articles, Special Marks, and Exceptions	*Weight (Sub. to Correction)	Class or Rate	Check Column
1	Load UNPS	74000		
		45000		
		29000		

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____

(The signature here acknowledges only the amount prepaid.)

Charges Advanced:

$ _____

†T re Boxes used for this shipment conform to the specifications set forth in th aker's certificate thereon and all other requirements of Consolidated Freight Clas on.

†This is to certify that the above named articles are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

"y's imprint in lieu of stamp; not a part of bill of lading approved by the Department of Transportation."

shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

E—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

BRANDENBURG INDUSTRIAL SERVICE CO.

2625 S. Loomis

Chicago, IL 60608-5414

Shipper, Per BISC

Agent [signature]

Per #6043

Permanent Post Office address of Shipper.

1

APPENDIX D

Waste Manifests
Prepared and Supplied by
Safety-Kleen Corp.
Chicago Recycle Center Site Personnel

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 - COOK COUNTY
(ILD 00540697 - RCRA CLOSURE)

12/18/90

T107 CLOSURE

1.) On 11/20/90 T107 contained 11,648 gals of non-chlor waste. This was pumped to T-3. T107 was MT by 11/21/90 and was opened to begin cleaning on 11/22/90.

2.) The waste from T-3 (T107) was blended w/oil to increase BTU and shipped to Holman-SK, Clarksville for processing

a. 12/12 MO. man #10477-0133
Schneider #21039 3045 of T3 +2013 oil.

b. 12/12 MO. man #10477-0134
Schneider #21034 2975 of T3 +1985 of oil.

c. 12/13 MO. man #10477 0136 Schneider 21012
3004 T-3 + 2020 oil.

d. 12/14 MO. man #10477 -0137 Schneider # (N/A)
2630 of T3 + 1830 of oil.

3.) Approximately 30 gals of solids were removed from T107 and put into a plastic incinerator drum for onsite storage and disposal at a later date.

4.) T107 was rinsed on 11/25/90 3 times for a total of 600 gals H2O which was put into waste H2O storage and subsequent release to Greater Chicago MSD.

The tank then passed the white towel wipe test with no free sludge or residuals.

T-114 Last day it held waste 10-25. MT 10-2.
rain H_2O 11-6.
NETHF 11-8.
and again 11-29-90.

T114 closure.

1.) The tank last held waste on 10-25 3,647 gals of combustible waste was shipped 10-25 under MO waste manifest #10477-0111. via Schneider Tank lines to Holnam SK Clarksville.

2.) The tank was opened for cleaning on 10-29. approximately 25 gals of solids were removed and placed into an appropriately labeled 30 gal plastic incinerator drum for on site storage.

3.) Between 10-29 and 10-31 260 gallons of waste H_2O was generated and placed into a waste H_2O holding tank for treatment and release to the Greater Chicago Metropolitan Area ~~San~~ Water reclamation district

(over)

4.) T114 was triple rinsed internally w/ high pressure H_2O and wipe tested with white towels. Initially the tank was inspected by in-house personnel and then inspected by a professional Engineer.

5.) The tank was again put into service on 11-6 when it was used to hold warm H_2O. It was out'd the 7th. Then on 11-8 it was used for NOTHE crude (not waste) and that has been its status till 12-18.

12-18

21012

INSTRUCTIONS FOR THE COMPLETION OF THIS FORM ARE ON REVERSE SIDE.
THIS DOCUMENT MUST BE USED FOR MISSOURI-DESTINED SHIPMENTS.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
Division of Environmental Quality
Waste Management Program
P.O. Box 176 Jefferson City, Missouri 65102
314-751-3176

HAZARDOUS WASTE MANIFEST

EMERGENCY RESPONSE
U.S. COAST GUARD
1-800-424-8802
CHEM TREC
1-800-424-9300
DEPT. OF NATURAL RESOURCES
314-634-2436

Please print or type (Form designed for use on elite (12-Pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD005450697
Manifest Document No.: 01493
2. Page 1 of 1
Information in the shaded areas is required by State Law.

3. Generator's Name and Mailing Address
Safety Kleen Corporation
1445 West 42nd Street; Chicago, IL 60609
4. Generator's Phone (312) 247-2828

A. Missouri Manifest Document Number: 1 0 4 9 7 1 3 [redacted] 0 1 3 6
B. State Generator's ID - other: 0316000053
C. MO. Transporter's ID: H1431
D. Transporter's Phone: 800-558-5091
E. MO. Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID: RR0184
H. Facility's Phone: 314-242-3551

5. Transporter 1 Company Name: Schneider Tank Lines
6. US EPA ID Number: Wid980904742
7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Holnam Inc. - Safety Kleen Corporation
Highway 79 North
Clarksville, MO 63336
10. US EPA ID Number: MOD029729688

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER)	12. Containers		13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
a. RQ Waste Flammable Liquid N.O.S. Flammable Liquid UN1993 (EPA F001)	001	TT	~~5064~~ 5043	1	EPA WASTE CODE F001
b.					EPA WASTE CODE
c.					EPA WASTE CODE
d.					EPA WASTE CODE

J. Additional Descriptions for Materials Listed Above
a. Also F002, F003, F005, P001
b.
c.
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Intercompany #01493
Illinois Transporter ID #1266
SKI D# 22663900

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and applicable state regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: James Taylor
Signature:
Month Day Year: 12 13 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: THOMAS E. GOAR
Signature: Thomas E. Goar
Date: Month Day Year: 12 13 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

19. Discrepancy Indication Space
correct vol. not accepted 5043 gallons. 39990 lbs
1 1/2" full 43 gallons returned to generator.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jennie L. Radford
Signature: Jennie L. Radford
Month Day Year: 12 14 90

Form 8700-22 (Rev. 9-88) MDNR-HWG 10 PREVIOUS EDITIONS ARE OBSOLETE

MISSOURI DNR FINAL COPY — PART 1

THIS COPY MUST BE SENT BACK TO THE GENERATOR BY THE DESIGNATED FACILITY THEN TRANSMITTED TO THE DEPARTMENT BY THE GENERATOR.

21034

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Waste Management Program
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HAZARDOUS WASTE MANIFEST

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD005450697 — Manifest Document No.: 01490
2. Page 1 of 1 — Information in the shaded areas is required by State Law.

3. Generator's Name and Mailing Address
Safety Kleen Corporation
1445 West 42nd Street; Chicago, IL 60609
4. Generator's Phone (312) 247-2828

A. Missouri Manifest Document Number: 1 0 4 7 7 [redacted] 0 1 1 3 4
B. State Generator's ID: 0316000053

5. Transporter 1 Company Name: Schneider Tank Lines
6. US EPA ID Number: WID980904742

C. MO. Transporter's ID: 01731
D. Transporter's Phone: 800-558-5091

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. MO. Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Holnam Inc. - Safety Kleen Corporation
Highway 79 North
Clarksville, MO 63336
10. US EPA ID Number: MOD029729688

G. State Facility's ID: RR0184
H. Facility's Phone: 314-242-3551

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER)	12. Containers		13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
a. RQ Waste Flammable Liquid N.OS. Flammable Liquid UN1993 (EPA F001)	001	TT	4909 Re ~~5094~~	1	EPA WASTE CODE F001
b.					EPA WASTE CODE
c.					EPA WASTE CODE
d.					EPA WASTE CODE

J. Additional Descriptions for Materials Listed Above
a. ALSO CONTAINS F002 F003 F005 D001
b.
c.
d.

K. Handling Codes for Wastes Listed Above
T16 - S02

15. Special Handling Instructions and Additional Information
Intercompany #01458
Illinois Transporter ID #1266
SICIA# 22604573
0503
0504

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Printed/Typed Name: KEN MATTHIESEN — Signature: [signature] — Month Day Year: 12 12 90

17. Transporter 1 Acknowledgement of Receipt of Materials — Date
Printed/Typed Name: D.H. Cool — Signature: [signature] — Month Day Year: 12 12 90

18. Transporter 2 Acknowledgement of Receipt of Materials — Date
Printed/Typed Name: — Signature: — Month Day Year:

19. Discrepancy Indication Space
CORRECT VOLUME ACCEPTED 4909 Gallons - 38,680 Pounds

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: JEANNIE L. Radford — Signature: Jeannie L Radford — Month Day Year: 12 13 90

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD005450697
Manifest Document No.: 01489
2. Page 1 of 1
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3. Generator's Name and Mailing Address
Safety Kleen Corporation
1445 West 42nd Street; Chicago, IL 60609

4. Generator's Phone (312) 247-2828

A. Missouri Manifest Document Number: 1 0 4 7 7 [redacted] 0 1 3 3
B. State Generator's ID, other: 0316000053

5. Transporter 1 Company Name: Schneider Tank Lines
6. US EPA ID Number: WID980904742
C. MO. Transporter's ID: [illegible]431
D. Transporter's Phone: 800-558-5091

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. MO. Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Holnam Inc. - Safety Kleen Corporation
Highway 79 North
Clarksville, MO 63336
10. US EPA ID Number: MOD029729688
G. State Facility's ID: RR0184
H. Facility's Phone: 314-242-8551

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER)	12. Containers		13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
a. RQ Waste Flammable Liquid N.O.S. Flammable Liquid UN1993(EPA F001)	001	TT	4910 ~~5311~~	1	EPA WASTE CODE F001
b.					EPA WASTE CODE
c.					EPA WASTE CODE
d.					EPA WASTE CODE

J. Additional Descriptions for Materials Listed Above
a. 0557
b. 0558
c.
d.

K. Handling Codes for Wastes Listed Above: 776 502

15. Special Handling Instructions and Additional Information
Intercompany #01489
Illinois Transporter ID #1266 SKID#22601769
SEAL # 0557 0558

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Printed/Typed Name: KEN MATTHIESEN
Signature: Ken Matthiesen
Month Day Year: 12 12 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Mike Weber
Signature: Mike Weber
Month Day Year: 12 12 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

Discrepancy Indication Space
Correct vol. wt accepted 4910 gallons, 38694 lbs.

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: M-GHOLSON
Signature: M Gholson
Month Day Year: 12 12 90

GENERATOR

TRANSPORTER

FACILITY

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD005450697
Manifest Document No.: 01494
2. Page 1 of 1
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3. Generator's Name and Mailing Address
Safety Kleen Corporation
1445 West 42nd Street; Chicago, IL 60609
4. Generator's Phone (312) 247-2828

A. Missouri Manifest Document Number: 1 0 4 7 7 [redacted] 0 1 3 7
B. State Generator's ID + other: 0316000053

5. Transporter 1 Company Name: Schneider Tank Lines
6. US EPA ID Number: WID980904742

C. MO. Transporter's ID: HT431
D. Transporter's Phone: 800-558-5091

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. MO. Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Holnam Inc. - Safety Kleen Corporation
Highway 79 North
Clarksville, MO 63336
10. US EPA ID Number: MOD029729688

G. State Facility's ID: RR0184
H. Facility's Phone: 314-242-3551

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER)	12. Containers		13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
a. RQ Waste Flammable Liquid N.O.S. Flammable Liquid UN1993(EPA F001)	001	TT	4323 ~~4343~~	1	EPA WASTE CODE F001
b.					EPA WASTE CODE
c.					EPA WASTE CODE
d.					EPA WASTE CODE

J. Additional Descriptions for Materials Listed Above
a. ALSO CONTAIN F002 F003 F005 ~~D001~~
b.
c. 512
d.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Intercompany #01494
Illinois Transporter ID #1266
SKID# 22d038 68
SEALS 586 512

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GENERATOR

Printed/Typed Name	Signature	Month Day Year
KEN MATTHIESEN	[signature]	12/14/90

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Chuck Sanders	[signature]	12/14/90

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

TRANSPORTER

19. Discrepancy Indication Space
Correct vol - wt accepted 4323 gallons, 34424 lbs
13" full 372 gallons returned to generator.

FACILITY

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year
M. GHOLSON	M. Gholson	12/21/90

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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: ILD005450697
Manifest Document No.: 01455
2. Page 1 of 1
Information in the shaded areas is required by State Law.

3. Generator's Name and Mailing Address
Safety Kleen Corporation
1445 West 42nd Street; Chicago, IL 60609
4. Generator's Phone (312) 247-2828

A. Missouri Manifest Document Number: 1 0 4 7 7 1 [redacted] 0 1 1 1
B. State Generator's ID - other: 0316000053

5. Transporter 1 Company Name: Schneider Tank Lines
6. US EPA ID Number: WID980904742
C. MO. Transporter's ID: H1431
D. Transporter's Phone: 800-558-5091

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. MO. Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
Holnam Inc. - Safety Kleen Corporation
Highway 79 North
Clarksville, MO 63336
10. US EPA ID Number: MOD029729688
G. State Facility's ID: RR0184
H. Facility's Phone: 314-242-3551

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER)	12. Containers		13. Total Quantity	14. Unit Wt/Vol.	I. Waste No.
a. RQ Waste ~~Flammable~~ COMBUSTIBLE Liquid N.OS. ~~Flammable~~ COMBUSTIBLE liquid UN1993 (EPA F001)	001	TT	3647 ~~03720~~	1	EPA WASTE CODE F001
b.					EPA WASTE CODE
c.					EPA WASTE CODE
					EPA WASTE CODE

J. Additional Descriptions for Materials Listed Above
a. Also contains F002, F003, F005, D001
b.
c.
d.

K. Handling Codes for Wastes Listed Above: T16 502

15. Special Handling Instructions and Additional Information

SKID# 21110994

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Printed/Typed Name: KEN MATTHIESEN
Signature: [signature]
Month Day Year: 10 25 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Joe Chiatello
Signature: Joe Chiatello
Date: Month Day Year: 10 25 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year:

19. Discrepancy Indication Space
CHANGE ON LINE 11a MADE BY GENERATOR
Heel 56 gallons returned to Generator
correct vol-up accepted 3647 gallon - 35,393 pounds
[signature]

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: JEANNIE L. RADFORD
Signature: Jeannie L Radford
Month Day Year: 10 25 90

GENERATOR
TRANSPORTER
FACILITY

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APPENDIX E

Hazardous Waste Tank Assessment
Report -- 1988
Safety-Kleen Corp. Chicago Recycle Center
Structural Integrity/Compatibility Data
for Tanks T105 to T114

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 - COOK COUNTY)
(ILD 00540697 - RCRA CLOSURE)

REPORT
HAZARDOUS WASTE TANK ASSESSMENT
SAFETY-KLEEN CORP. CHICAGO RECYCLE CENTER
CHICAGO, IL
COOK COUNTY 0316000053
(ILD000805911)

Prepared for:
Safety-Kleen Corp.
777 Big Timber Rd.
Elgin, IL 60123

Prepared By:

WANG ENGINEERING, INC.
1000 West Hawthorne Drive
Itasca, Illinois 60143
(312) 250-0707

WEI Job No. 312-62
November 4, 1988

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Appendices

Wang Engineering, INC.
Consulting Geotechnical & Environmental Engineers

1000 West Hawthorne Drive
Itasca, Illinois 60143
(312) 250-0707

REPORT
HAZARDOUS WASTE TANK ASSESSMENT
SAFETY-KLEEN CORP. CHICAGO RECYCLE CENTER
CHICAGO, IL
COOK COUNTY 0316000053
(ILD000805911)

1.0 INTRODUCTION

Wang Engineering, Inc. (WEI) is pleased to submit this assessment report for the hazardous waste storage tanks at the Chicago Recycle Center located at 1445 West 42nd Street, Chicago, Illinois. This assessment was performed to fulfill the Illinois Administrative Code Sections 724.291 Assessment of Existing Tank System's Integrity; 724.292 Design and Installation of New Tank Systems or Components; and 724.293 Containment and Detection of Release.

The hazardous waste storage tanks are located in three tank farms and in a container storage area, the total number of waste tanks constructed is 41. In addition, Safety-Kleen has recently completed a new tank farm and is planning to construct four new tank farms which will contain another 41 aboveground hazardous waste tanks. Thus, a total of 82 waste tanks is to be assessed in this report. Given the large number of tanks (existing and new) in this facility, WEI organizes this tank systems assessment report on a tank farm by tank farm basis as described below.

Existing tanks were assessed under IAC Section 724.291 -- Assessment of Existing Tank System's Integrity. Three tank farms and one container area fall under this category. They are:

1. Existing Tank Farm No. 1 including Tanks Nos. T105 through T114, for a total of 10 tanks.
2. Existing Tank Farm No. 2 including Tank Nos. T170 through T180 for a total of 11 tanks.
3. Existing Tank Farm No. 4, including Tank Nos. T1 through T6 and T11 through T23 for a total of 19 tanks.
4. Container Area No. 1 including Tank No. T199.
5. There were six waste tanks in Tank Farm No. 3. According to Safety-Kleen, all the tanks in this tank farm will be closed and a closure plan will be submitted. This unit is, therefore, not assessed in this program.

Tanks constructed after January, 1987 and tanks yet to be constructed were assessed under IAC Section 724.292 - Assessment of New Tank System's Integrity. Five tank farms falls under this category. They are:

1. New Tank Farm No. 5, including Tank Nos. T33 through T35; T39 through T41; T46; T47; and T51 through T53 for a total of 11 tanks.
2. Proposed Tank Farm No. 6 including Tank No. T61 through T70

for a total of 10 tanks.

3. Proposed Tank Farm No. 7 including Tank No. T85 through T94 for a total of 10 tanks.
4. Proposed Tank Farm No. 8 including Tank No. T182 through T185 for a total of 4 tanks.
5. Proposed Tank Farm No. 9 including Tank No. T115 through T120 for a total of 6 tanks.

All waste tanks in this facility were placed inside secondary containments. The condition of all but one (Tank Farm No. 4) of these containments was assessed under IAC Section 724.293 -- Containment and Detection of Release. To facilitate the data collection and evaluation process, WEI designed four forms for data collection and evaluation. These forms are:

1. Tank Inspection/Design Form
2. Tank Evaluation Form
3. Secondary Containment Inspection/Design Form
4. Secondary Containment Evaluation Form

We want to emphasize, however, that the main purpose of the inspection/design forms is for data collection and compilation, as well as for documentation purpose. In an effort to be inclusive, these forms are somewhat generic in nature and under some specific circumstances, they may contain

information not critical for tank assessment.

The assessment of tank systems included review of design drawings, site visits, and gathering other appropriate information from Safety-Kleen Corp. Prior to the site visit, WEI personnel reviewed appropriate design drawings and transferred pertinent information from the drawings to the inspection forms. Site visits were conducted on August 23, 25, and 26 1988. Confirmatory visits were conducted on September 19 and 20, 1988. During the visits, WEI personnel met with the Assistant Plant Manager to obtain general information about the plant, as well as safety rules and other information that we should be aware of. Then WEI inspected each tank and tank farm individually, and recorded information onto the inspection forms. In addition, selected tank thickness measurements were performed during the inspection using an ultrasonic device. Subsequently, more extensive thickness measurements were performed by Calumet Testing Services, Inc. of Griffith, IN on October 7, 1988. Pertinent information previously recorded from reviewing the design drawings was field verified. After the visits, the Tank Evaluation and Secondary Containment Evaluation Forms were prepared based on the information contained in the inspection forms. The inspection and evaluation forms are attached as Appendix 1 of this report.

Drawings and documents reviewed by WEI for the tank systems assessment are as follows:

- o Overall Facility
  - Safety-Kleen Drawing No. 87-62000-001
  - Safety-Kleen Drawing No. 88-62000-002
  - Results of tank thickness measurement conducted by Calumet Testing, October 7, 1988

- o Tank Farm No. 1
  - Safety-Kleen Drawing No. 87-62000-152 for tank designs.

- o Tank Farm No. 2
  - For tank designs:
  - Safety-Kleen Drawing No. 86-62000-153.
  - Safety-Kleen Drawing No. 86-62000-154.
  - Safety-Kleen Drawing No. 86-62000-155.
  - Safety-Kleen Drawing No. 86-62000-156.
  - Certified Equipment and Manufacturing Co. Drawing No. 5268
  - For secondary containment design:
  - Safety-Kleen Drawing No. 86-62001-203.

- o Tank Farm No. 4
  - For tank design:
  - Safety-Kleen Drawing No. 87-62000-151
  - Chicago Boiler Co. Drawing No. 2068-83
  - Paul Mueller Co. Drawing No. PC03263D
  - Paul Mueller Co. Drawing No. PC03260D
  - Certified Equipment & Mfg. Co. Drawing No. 5267M
  - Certified Equipment & Mfg. Co. Drawing No. 5266M

  - For secondary containment design:
  - Safety-Kleen Drawing No. 87-62000-504

- o Tank Farm No. 5
  - For tank design:
  - Safety-Kleen Drawing No. 86-62005-153
  - Certified Equipment & Mfg. Co. Drawing No. 86-62005-153.

  - For secondary containment design:
  - Safety-Kleen Drawing No. 86-62005-501.

- o Container Area 1
  - Safety-Kleen Drawing No. 87-62000-163

- o Tank Farm No. 6
  - For tank design:
  - Safety-Kleen Drawing No. 86-621150

  - For secondary containment design:
  - Safety-Kleen Drawing No. 86-62508

- o Tank Farm No. 7
  - For tank design:
  - Safety-Kleen Drawing No. 86-62150

  - For secondary containment design:
  - Safety-Kleen Drawing No. 86-62509

- o Tank Farm No. 8
  - For tank design:
  - Safety-Kleen Drawing No. 86-62150

  - For secondary containment design:
  - Safety-Kleen Drawing No. 86-62510

- o Tank Farm No. 9
  - For tank design:
  - Safety-Kleen Drawing No. 86-62199

  - For secondary containment design:
  - Safety-Kleen Drawing No. 86-62511

The results of our review and inspection, as summarized on the tank and secondary containment inspection and evaluation forms are attached as Appendix 1 to this report on a tank farm by tank farm basis. The following presents the summary of the tank system's integrity assessment.

2.0 ASSESSMENT OF TANKS

2.1 EVALUATION OF EXISTING TANKS

Existing hazardous waste storage tanks in Safety-Kleen Corporation's Chicago Recycle Center include ten tanks in Tank Farm No. 1; eleven tanks in Tank Farm No. 2; nineteen tanks in Tank Farm No. 4 and one tank in Container Area No. 1.

The integrity of these tanks were evaluated based on the information compiled in the Tank Inspection and Evaluation Forms (attached as Appendix 1), and according to the criteria stipulated in IAC 724.291 -- Assessment of Existing Tank System's Integrity.

IAC Section 724.291(b)(1) -- Design Standards if available according to which the tanks and ancillary equipment were constructed.

- The hazardous waste tanks in Chicago Recycle Center were manufactured by several companies including Chicago Boiler, Certified Equipment Manufacturing Company, and Paul Mueller Company. Some of the equipment manufacturers cannot be identified from the design drawings, particularly for Tank Farms Nos. 1 and 2. Since the design standards ar not indicated on the drawings, the structural integrity of these tanks was evaluated using the current field measured tank thickness, and under full-load and 100 mile-per-hour wind conditions. The maximum stress on the tank is calculated at the bottom of the tank

based on the full weight of the tank and wind moment. The formula used for this calculation is shown in the Tank Evaluation Forms. The calculated stress for all tanks was found to be well within the allowable stress for carbon steel or stainless steel, as shown in the Tank Evaluation Forms provided in Appendix 1.

IAC Section 724.291(b)(2) -- Hazardous characteristics of the waste(s) that have been and will be handled.

- The waste materials handled by Safety-Kleen in this recycle center are trichlorotrifluoroethane, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, perchloroethylene, mineral spirits and bottoms oil. According to the U.S. EPA document, none of these chemicals were cited as incompatible with stainless steel*. All the tanks in Tank Farm No. 1, 2, and 4 and in the Container Area are made of stainless steel. However as a separate checking of the compatibility of tank content and tank materials, tank thickness measurements were made on all tanks and the results are summarized as follows:

* U.S. EPA, "Technical Resource Document for the storage and treatment of Hazardous Waste in Tank Systems" PB87-134391, NTIS, Springfield, VA.

- Tank Farm No. 1 (11 stainless tanks) - Field measured thickness ranges from 0.061 inches to 0.076 inches. Taking the worst case situation (i.e., the lowest field measured value), the corrosion rate is estimated to be less than 0.002 inches per year.
- Tank Farm No. 2 (11 stainless steel tanks) - There was essentially no corrosion on the bottom plate after nearly 20 years of service. The maximum corrosion rate on the bottom measured in this group of tanks was less than one thousandth of an inch per year. Shell thinning was non-existent or less than one thousandth of an inch per year.
- Tank Farm No. 4 (19 stainless steel tanks) - There was no measurable amount of shell thinning in these tanks. The maximum corrosion rates for both the bottom plate and the shell were less than .001 inch per year.
- Container Area 1 (1 double-wall tank) - The inner shell of this tank is made of stainless steel. It is not possible to obtain a thickness measurement of the inner shell. The outer shell, however, is 3/4 inch thick, and is in good condition.
- Thus, based on the results of tank thickness measurements and calculated corrosion rate, we concluded that the waste stored in these tanks were compatible with the tank material.

IAC Section 724.291(b)(3) -- Existing corrosion protection measures.

- All tanks in the tank farms are above ground and do not have any metallic components in direct contact with soil or water. All tanks are made of stainless steel which is known to be highly resistant to oxidation and corrosion.

IAC Section 724.291(b)(4) -- Documented age of the tank system, if available (otherwise an estimate of the age).

- According to the Safety-Kleen record, the age of the tanks ranges from 2 to 22 years. The estimated age of each individual tank is recorded in the Tank Inspection Forms. Some of the tanks were used tanks when purchased. Consequently, the exact age of these tanks cannot be determined. WEI, therefore, conservatively assumes that all used tanks have an age greater than 15 years. The following summarizes the age ranges of tanks in these tank farms:
- Tank Farm No. 1 - All tanks were purchased used in 1981, and thus, the age of these tanks is considered to be over 15 years.
- Tank Farm No. 2 - Tank Nos. T170 through T177 were purchased used in 1981, others were ordered new in 1986. Thus, the age range of the tanks in this tank farm is 2 to over 15 years.
- Tank Farm No. 4 - All tanks in this tank farm were ordered new in 1983

to 1986. Thus, the age range is 2-5 years.

- Container Area No. 1 - Tank No. T199 was purchased used in 1979, thus, the age of this tank was considered to be over 15 years.

IAC Section 724.291(b)(5) -- Results of leak test, internal inspection or other tank integrity examination.

- Tank integrity examinations were performed on all waste tanks in the tank farms. The following presents the results of our inspection on a tank farm by tank farm basis.
- All tanks in Tank Farm No. 1 are vertical tanks constructed of stainless steel, with a capacity of 12,500 gallons. All tanks are in good condition. For Tank No. T109, there was a small dent at the top. However, in our opinion, this distortion should not affect the integrity of the tank. Consequently, all tanks in this tank farm are considered fit to use.
- All tanks in Tank Farm No. 2 are stainless steel tanks. Eight of these tanks are supported on legs, while the other 3 are cone bottom tanks supported by skirts. All tanks are in good condition except that small dents were observed on Tank Nos. 170 and 174. In addition, the level indicators for Tank Nos. 171, 172, 173, 176 and 177 appeared not to be functioning properly.

- All tanks in Tank Farm No. 4 are constructed of stainless steel. Four of the 19 waste tanks in this tank farm are insulated. However, the condition of welds, joints and seams for all the uninsulated tanks appeared to be in good condition. In addition, no major corrosion was observed on these tanks. In our opinion, all tanks in this tank farm are fit to use.
- Tank T199 in Container Area No. 1 is in good condition.
- In summary, of the 41 tanks inspected and evaluated under IAC 724.291(b)(5), all the tanks in Tank Farm Nos. 1, 2, 4 and container area No. 1 are fit to use. However, scratches, small dents and other imperfections do exist on these tanks. In our opinion, these are minor maintenance items and should not compromise the integrity of the tanks.

2.2 EVALUATION OF NEW TANKS

Newly constructed and proposed (yet to be constructed) hazardous waste storage tanks in the Chicago Recycle Center include eleven tanks in Tank Farm No. 5; ten tanks in Tank Farm No. 6; ten tanks in Tank Farm No. 7; four tanks in Tank Farm No. 8; and six tanks in Tank Farm No. 9.

The integrity of these tanks were evaluated based on the information compiled in the Tank Inspection and Evaluation Forms (attached as Appendix 2),

and according to the criteria stipulated in IAC 724.292 -- Design and Installation of New Tank Systems or Components.

IAC Section 724.292(a)(1) -- Design Standard(s) according to which the tanks and ancillary equipment were constructed.

- All tanks in Tank Farm No. 5 were manufactured by Certified Equipment Company or Modern Welding Company. According to these two companies, the tanks were designed and constructed according to UL Standard 142 for aboveground atmospheric tanks for flammable liquids. Copies of these letters are provided in Appendix 3. The structural integrity of all tanks was checked using the specified tank thickness and under full load and 100 mile-per-hour wind conditions. The maximum stress on the tank is calculated at the bottom of the tank based on the full weight of the tank and wind moment. The formula used for this calculation is shown in the Tank Evaluation Forms. The calculated stresses for all tanks were found to be well within the allowable stress for carbon steel as shown in the Tank Evaluation Forms provided in Appendix 2.
- All tanks in Tank Farm Nos. 6, 7, 8 and 9 are stainless steel, dished bottom tanks, and are designed according to UL Standard 142. All tanks will be leak tested prior to installation.

IAC Section 724.292(a)(2) -- Hazardous characteristics of the waste(s) to be handled.

- Tanks in Tank Farm No. 5 were made of carbon steel and were designed to handle chlorinated solvents, such as methylene chloride, 1,1,1-trichloroethane, trichloroethylene, perchloroethylene, and trichlorotrifluoroethane. According to the U.S. EPA, perchloroethylene is considered to be not compatible with carbon steel. However, none other chemicals cited above were considered to be incompatible with stainless or carbon steel*. Based on Safety-Kleen's 20 years of operational experience with chlorinated solvents and tanks constructed of carbon steel, these two materials are compatible.
- Specifically, the results of thickness measurements of carbon steel in tanks in other Safety-Kleen recycle centers show that after years of continuous usage, shell thinning was found to be on the order of 0.002 to 0.003 inch per year.
- Thickness measurements have been made for tanks in Tank Farm No. 5, the results showed no measurable amount of shell thinning.

* U.S. EPA, "Technical Resource Document for the storage and treatment of Hazardous Waste in Tank Systems" PB87-134391, NTIS, Springfield, VA.

- Tanks in Tank Farm Nos. 6, 7, 8 and 9 will be constructed with stainless steel, which is believed to be more durable and corrosive resistant than carbon steel.
- WEI recommends that if chlorinated solvents are to be used in these tanks, Safety-Kleen should measure the shell thickness of the new tanks once every 2 years for the first 10 years of usage to assure that thinning of shell will not occur.

IAC Section 724.292(a)(3) -- For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, determination by a corrosion expert will be required.

- All tanks in this Tank Farm No. 5 are painted. Tanks in Tank Farm No. 6, 7, 8 and 9 will also be painted. They are aboveground tanks and do not have any metallic components in direct contact with soil or water.

IAC Section 724.292(a)(4) -- For underground tank system component that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage.

- There are no underground tanks in this tank farm, and thus, this provision does not apply.

IAC Section 724.292(a)(5) -- Design considerations to ensure that a) Tank foundation will maintain the load of a full tank; B) Tank system will be

anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or located within a seismic fault zone subject to standards of Section 724.118(a); and C) Tank system will withstand the effects of frost heave.

- All cone bottom tanks are supported by skirts which will have at least the same strength as the tank shell. The skirts as well as the flat bottom tanks will be supported and anchored on the reinforced concrete base. The concrete base is part of the secondary containment system, which are designed by licensed Professional Engineers. The fully loaded tanks are estimated to generate average loads of less than 1000 pounds per square foot. A report summarizing the findings of a subsurface soil exploration performed specifically for this tank farm was prepared by STS Consultants, Ltd. of Northbrook, Illinois in May, 1986. Because of existing site subsurface conditions, STS recommended a specific dynamic compaction procedure for improving the foundation soils before tank construction. After application of their recommended action, the report suggests that the soils would be capable of supporting a soil contact pressure of 4000 pounds per square foot.
- An STS follow-up report of December, 1986 documents the implementation and results of the site improvement activities. This report concludes that dynamic compaction had been effectively applied at this site, and

that the foundation conditions were adequate for construction of the proposed tank farm. All of the new tank systems will be aboveground and will not be subjected to flotation, dislodgment, or frost heave. The Safety-Kleen Corporation Chicago Recycle Center is not known to be located within a seismic fault zone.

IAC Section 724.292(b) - The owner or operator of a new tank system shall ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing or placing a new tank system or component in use, an independent qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items: 1) weld breaks; 2) punctures; 3) scrapes of protective coatings; 4) cracks; 5) corrosion; 6) other structural damage or inadequate construction/installation.

- WEI understands that the piping system for the tanks in Tank Farm No. 5 was leak tested after installation. The tanks were air tested at the fabricator's locations after fabrication and before painting and shipment to the site.
- The piping for this Tank Farm is situated aboveground and supported on pipe racks to protect against physical damage.
- The proposed tanks and their associated piping systems for Tank Farm No. 6, 7, 8 and 9 will also be leak tested prior to installation.

3.0 ASSESSMENT OF SECONDARY CONTAINMENT SYSTEMS

All the tanks in this recycle facility have secondary containment systems. IAC Section 724.293 (a)(3) states that "Secondary containment that meets the requirement of this section must be provided for those existing tank systems of known and documented age, within two years after January 12, 1987 or when the tank system has reached 15 years of age, whichever comes later". The existing tanks in Tank Farm No. 4 of the Safety-Kleen Corp. Chicago Recycle Center have been rated to be fit to use, and the age of the tanks ranges from 2-5 years. Therefore, a secondary containment system, meeting the requirements of IAC Section 724.293 is not required. All other tank farms, Including Tank T199 in Container Area 1 will require secondary containment systems operating up to the specification of IAC Section 724.293, because 1) the tanks in Tank Farm Nos. 5, 6, 7, 8 and 9 were constructed or will be constructed after January 12, 1987, and 2) at least one of the tanks in Tank Farm Nos. 1 and 2 could be over 15 years old.

Tank No. T199 is a double wall tank located in Container Area No. 1 and was evaluated as a double wall tank system. All the other secondary containment systems for all the tank farms are considered as a vault. Therefore, these tank farms were evaluated as vault systems.

3.1 EVALUATION OF VAULT SYSTEMS

The secondary containment systems for Tank Farm Nos. 1, 2, 5, 6, 7, 8 and 9 were evaluated under IAC Section 724.293 as described below:

IAC Section 724.293 (b) -- Secondary containment systems must be: 1. Designed, installed and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during the use of the tank system; and 2. Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

- Based on site investigations, the concrete dikes and bases of Tank Farm No. 1 are in good condition and will contain any liquid which may accumulate in the dike area. There are some small cracks in Tank Farm No. 2. It is our understanding that containment systems in Tank Farm Nos. 1, 2, 5, 6, 7, 8 and 9 will be coated impermeable sealer to prevent migration of waste into the concrete. Any observable cracks will be resurfaced prior to the application of a sealer.
- For the secondary containments to be used in Tank Farm Nos. 6 through 9, it was specified in the design drawings that "internal dike containment surfaces to be coated with a chemically resistant compound".
- All tanks in these tank farms are supported on legs or skirts, or if they are flat bottom tanks, they are supported by elevated concrete

pads. Consequently, any leaks can be visually inspected and collected.

<u>IAC Section 724.293(c)(1)</u> -- To meet the requirements of subsection (b), secondary containment systems must be at a minimum: 1. Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions and the stress of daily operation (including stresses from nearby vehicular traffic);

- The secondary containment base and walls of all tank farms were constructed of reinforced concrete. It is our understanding that all secondary containments for Tank Farm Nos. 1, 2, 5, 6, 7, 8 and 9 will be coated with resistant coating on the concrete to prevent migration of liquid into the concrete. The dikes for Tank Farm Nos. 1 and 2 are about a foot thick, and under the worst condition (i.e., 25-year, 24-hour storm and spillage of the entire contents of the largest tank), the liquid levels in these containment areas would be about 1 foot 10 inches for Tank Farm No. 1; 1 foot 3 inches for Tank Farm No. 2. The containment structure should be capable of sustaining these hydrostatic pressures.
- The secondary containment systems for the new (Tank Farm No. 5) and proposed tank farms (Nos. 6, 7, 8 and 9) were constructed or to be constructed with monolithically poured concrete and the dikes have

thickness ranges from 6 inches to one foot. It is our understanding that the secondary containment systems were designed by licensed professional engineers who have taken into consideration pressure gradients from within the outside of the containment areas under the worst conditions. Thus, we feel that the dikes, as they are designed, would be strong enough to withhold the pressure gradients from within the containment area.

IAC Section 724.293(c)(2) -- To meet the requirements of subsection (b), secondary containment systems must be at a minimum: 2. Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression or uplift:

- For both the older and newer secondary containment systems, all these systems are supported directly on soil. The foundation system for the secondary containment structure is part of the structure system designed by a licensed professional engineer. In addition, the conditions of the secondary containments for Tank Farm Nos. 1 and 2 appeared to be good after many years of usage.

IAC Section 724.293(c)(3) -- To meet the requirements of subsection (b), secondary containment systems must be at a minimum: 3. Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours,

- All flat-bottom waste tanks were placed on tank pads to allow leaks to be visually inspected within 24 hours. Cone bottom tanks and dish bottom tanks are supported by skirts so that any release can be detected within 24 hours through daily inspection.

IAC Section 724.293(c)(4) -- To meet the requirements of subsection (b), secondary containment systems must be at a minimum: 4. Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours.

- All the containment systems are designed with trenches and is sloped in a manner that spilled materials and/or precipitation will flow into a depressed area or sump, from which the liquid can be removed within 24 hours.

IAC Section 724.293(d) -- Secondary containment for tanks must include one or more of the following devices: 1. A liner (external to the tank); 2. A vault; 3. A double-walled tank; or 4. An equivalent device as approved by the Board in an adjusted standards proceeding.

- All the tank farms have secondary containment systems constructed of reinforced concrete base and dikes. These containment systems are classified as vaults. The concrete surface also will be coated with a chemical-resistant impermeable materials.

IAC Section 724.293(e) -- Part 2 of this section includes specific design requirements pertaining to vault systems. 2. Vault systems must be: a)

Designed or operated to contain 100 percent of the capacity of the largest tank within the vault system's boundary;

- Based on the design drawings, all secondary containment systems will have excess capacity to hold 100 percent of the volume of the largest tank plus the precipitation from a 25-year, 24-hour rainfall event within its boundary. The largest tank, in Tank Farms Nos. 1 and 2, and 5 through 9 are 12,500; 6,500; 15,000; 18;500; 18,500 and 18,500 and 15,000 gallons, respectively.

<u>IAC Section 724.293(e)</u> -- Part 2 of this section includes specific design requirements pertaining to vault systems. 2. Vault systems must be: b) Designed or operated to prevent run on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

- The containment systems are designed to prevent run-on or infiltration. The dike system was designed to hold 100 percent of the volume of the largest tank and the amount of precipitation during a 25-year, 24-hour event, which is 5 inches for the Chicago area (See Appendix 4).
- For all the tank farms, there is excess capacity to handle the volume from a 25-year, 24-hour storm event plus the content of the largest tank. The capacity of the secondary containments are provided in the

Part B permit application.

IAC Section 724.293(e) -- Part 2 of this section includes specific design requirements pertaining to vault systems. 2. Vault systems must be: c) Constructed with chemical resistant water stops in place at all joints.

- Based on site inspection, all joints in the secondary containment systems in Tank Farms Nos. 1, 2 and 5 have been sealed.
- For the proposed tank farms, it was specified in the design drawings that a servicable water-stop joints to be filled with closed cell polyethylene "Backer Rod" rope. A layer of Sonolastic NP1 sealant material will be placed over the "Backer Rod".

IAC Section 724.293(e) -- Part 2 of this section includes specific design requirements pertaining to vault systems. 2. Vault systems must be: d) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete:

- It is our understanding that Safety-Kleen plans to use a chemical resistant coating on the concrete dikes and base of all the vault systems.

IAC Section 724.293(e) -- Part 2 of this section includes specific design requirements pertaining to vault systems. 2. Vault systems must be: e) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored is considered as ignitable.

- The secondary containment systems are not enclosed. There will be no accumulation of vapor from any potential liquid spills.

<u>IAC Section 724.293(e)</u> -- Part 2 of this section includes specific design requirements pertaining to vault systems. 2. Vault systems must be: f) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

- The secondary containment systems were located above the static ground water level and is not likely to be subject to external hydraulic pressure, and therefore, no exterior moisture barrier is needed.

<u>IAC Section 724.293(f)</u> --Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of subsections (b) and (c), except for: 1) Aboveground piping (exclusive of flanges, joints, valves and other connections) that are visually inspected for leaks on a daily basis; 2) Welded flanges, welded joints and welded connections, that are visually inspected for leaks on a daily basis;

- There are no underground pipes in any of the proposed tank farms. All pumps and valves are located within the secondary containment structure and they will be inspected daily for leaks. All pipe joints and connections outside of the containment areas were welded.

3.2 EVALUATION OF THE DOUBLE WALL TANK

Tank T199 is a double-wall tank staged in Container Area No. 1. The design, construction and operation of this tank meet the general requirements of the provisions in IAC Section 724.293(b),(c), and (d). Additional requirements on double-wall tanks are described in Section 724.293 Subsection (e)(3). This tank is, therefore, further evaluated in accordance with the provisions in this subsection as described below:

IAC Section 724.293(e)(3)(A) - Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell.

- According to the design drawing, Tank T199 has an inner shell made of stainless steel completely enclosed in an outer shell made of carbon steel. Given the fact that the volume of the outer tank is greater than the volume of the inner tank, any spill from the inner tank will be completely contained by the outer tank.

IAC Section 724.293(e)(3)(B) - Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell.

- Since the inner shell is constructed of stainless steel, it is not expected to corrode during the operational life of the tank. The outer shell is made of carbon steel and is painted. In addition, this tank is located aboveground and is not in direct contact with soil and

water. Thus, if properly maintained, corrosion on the external surface of the outer shell is expected to be minimal.

IAC Section 724.293(e)(3)(C) - Provided with a built in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time.

- There is no built-in continuous leak detection system capable of detecting a release from the inner tank. However, since the tank is located in another containment area, any leaks from the outer shell can be visually detected. Container Area No. 1 is in good condition and has excess capacity to contain the entire contents of this tank plus a 25-year 24-hour rainfall event.

4.0 CONCLUSION

Based on the results of the tank systems assessment, WEI concluded the following:

- All existing tanks are in good condition and fit to use.
- All new and proposed tanks are designed according to UL Standard 142 and thus, conform to the requirements of IAC Section 724.292 for new tanks.
- All the existing secondary containment systems (vaults) are in good condition. After they are coated with a chemical resistant coating

material, they will conform to the requirements of IAC Section 724.293.

- All the new and proposed secondary containment system are properly designed and are to be coated with a chemical resistant material.

Respectfully submitted,

WANG ENGINEERING, INC.

Jerry W. H. Wang, Ph.D., P.E.

JWHW/slm

CERTIFICATION STATEMENT

I, Michael S. Wei, have supervised the assessment of the existing above-ground tank system located at 1445 West 42nd Street, Chicago, Illinois which is owned and operated by Safety-Kleen Corporation. My duty was an evaluation of the tanks and their concrete secondary containment structure, as required by the Illinois Administrative Code Sections 724.291, 724.292, and 724.293.

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 is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Michael S. Wei

I, Jerry W. H. Wang, certify under penalty of law that I have personally examined the information submitted in this document and all attachments for the above ground tank system located at 1445 West 42nd Street, Chicago, Illinois which is owned and operated by Safety-Kleen Corporation. Based on my inquiry of Michael S. Wei, my associate who is immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting the false information, including the possibility of fine and imprisonment.

JERRY W. H. WANG
062-034375
REGISTERED
ENGINEER
OF
ILLINOIS

Jerry W. H. Wang, P. E.
Illinois Professional Engineer
License Number 62-34375

APPENDIX 1

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D
TANK NO./FARM 105/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: Waste solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: _____ ROOF PLATE: _____ BTM PLATE: _____
.073/.061/.061
YEAR BUILT OR ESTIMATED AGE: 1981 MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [ ]

TANK VENT SIZE: Open Vent 2" Closed Vent _____ Emergency Vent 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G ✓ U/G_____
TYPE OF CONNECTIONS: Flanged [✓] Welded [✓] Screwed [✓]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: GOOD CONDITION
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [✓] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 106/10" CONTAINMENT WALL (Approx.) 2' ft
PROPERTY LINE (Approx.) >50 ft
LEAK TEST RESULTS_____ CORROSION PROTECTION MEASURES_____

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 105/1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: <0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D
TANK NO./FARM 106/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: waste solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: .073/.061/.061 ROOF PLATE: 1981 BTM PLATE:
YEAR BUILT OR ESTIMATED AGE: NA MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [ ]

TANK VENT SIZE: Open Vent 2" Closed Vent _____ Emergency Vent manhole 1-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [✓] Welded [✓] Screwed [✓]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: NO LEAKS
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [✓] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 105/10" CONTAINMENT WALL (Approx.) 3 ft
PROPERTY LINE (Approx.) > 50 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: 87-62050-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 106/#1 Chicago DATE: 9/30/88 BY: TD
IS THIS AN EXISTING [✓] OR A NEW TANK [ ]
SUFFICIENT STRUCTURAL STRENGTH:
BY MANUFACTURER DATA OR DESIGN STANDARDS:
BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]
COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]
CORROSION RATE: <0.002 Inches Per Year
CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]
STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]
FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]
CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]
PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]
ANY PUNCTURES OR DENTS: Yes [ ] No [✓]
SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]
CRACKS Yes [ ] No [✓]
CORROSION Yes [ ] No [✓]
OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED Michael S. Wa

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D.
TANK NO./FARM 107/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [ ] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: Waste Solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: .076/.061/.061 ROOF PLATE:_____ BTM PLATE:_____
YEAR BUILT OR ESTIMATED AGE: 1981 MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [ ]

TANK VENT SIZE: Open Vent 2" Closed Vent_____ Emergency Vent manhole 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [ ] Welded [ ] Screwed [ ]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: no leaks,
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes[✓] No[ ]
DISTANCE TO NEAREST TANK/NO 107/10" CONTAINMENT WALL (Approx.) 2 ft
PROPERTY LINE (Approx.) > 50 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes[✓] No[ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 107/#1 Chicago DATE: 9/30/88 BY: TD
IS THIS AN EXISTING [✓] OR A NEW TANK [ ]
SUFFICIENT STRUCTURAL STRENGTH:
BY MANUFACTURER DATA OR DESIGN STANDARDS:
BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{a\,M}{\pi R^2 T} + \frac{W}{2\pi R T}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]
COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]
CORROSION RATE: < 0.002 Inches Per Year
CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]
STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]
FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]
CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]
PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]
ANY PUNCTURES OR DENTS: Yes [ ] No [✓]
SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]
CRACKS Yes [ ] No [✓]
CORROSION Yes [ ] No [✓]
OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D
TANK NO./FARM 108/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: waste solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB in good Condition

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL:_____ ROOF PLATE:_____ BTM PLATE:_____
.076/.061/.061
YEAR BUILT OR ESTIMATED AGE: NA 1981 MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [ ]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [ ] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent 2" Closed Vent_____ Emergency Vent manhole 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [ ] Welded [ ] Screwed [ ]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: no leaks
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO_____ CONTAINMENT WALL (Approx.) 2'
PROPERTY LINE (Approx.)_____
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 108/#1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: <0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C, IL DATE 8/26/88 BY T.D.
TANK NO./FARM 109/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: waste solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: _____ ROOF PLATE: _____ BTM PLATE: _____
.076/.061/.061
YEAR BUILT OR ESTIMATED AGE: 1981 MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent 2" Closed Vent _____ Emergency Vent manhole 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [ ] Welded [ ] Screwed [ ]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: good
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [✓] No [ ]
IF YES, STATE EXACT LOCATION Tank shell distorted at welding to catwalk

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO_____ CONTAINMENT WALL (Approx.) 3 ft
PROPERTY LINE (Approx.)_____
LEAK TEST RESULTS_____ CORROSION PROTECTION MEASURES_____

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 109/#1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{a\,M}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: <0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED: [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D
TANK NO./FARM 110/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: waste Solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB, good condition

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: _____ ROOF PLATE: _____ BTM PLATE: _____
.073/.061/.061
YEAR BUILT OR ESTIMATED AGE: 1981 NA MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent ✓ 2" Closed Vent _____ Emergency Vent manhole 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [ ] Welded [ ] Screwed [ ]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: good
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [✓] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 111 15ft CONTAINMENT WALL (Approx.) 2ft
PROPERTY LINE (Approx.) 1750 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 110/#1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: <0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C. IL DATE 8/26/88 BY T.D
TANK NO./FARM 111/#1 TANK HT/LENGTH: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [ ] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: Waste Solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL:_____ ROOF PLATE:_____ BTM PLATE:_____
.073/.061/.061 1981
YEAR BUILT OR ESTIMATED AGE: NA MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent 2" Closed Vent_____ Emergency Vent open manhole 1-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [✓] Welded [ ] Screwed [ ]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: GOOD
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 110/18 CONTAINMENT WALL (Approx.) 3 ft
PROPERTY LINE (Approx.) >50 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES none

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [ ] No [ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 111/#1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: <0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D.
TANK NO./FARM 112/#1 TANK HT/~~LENGTH~~ 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: Waste Solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL:_____ ROOF PLATE:_____ BTM PLATE:_____
.073/.061/.061
YEAR BUILT OR ESTIMATED AGE: 1981 NA MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent 2" Closed Vent _____ Emergency Vent open manhole 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [✓] Welded [✓] Screwed [✓]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: GOOD
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 111/12" CONTAINMENT WALL (Approx.) 3 ft
PROPERTY LINE (Approx.) >750 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 1/2/ #I chicago DATE: 9/30/88 BY: TD
IS THIS AN EXISTING [✓] OR A NEW TANK [ ]
SUFFICIENT STRUCTURAL STRENGTH:
BY MANUFACTURER DATA OR DESIGN STANDARDS:
BY CALCULATION:
1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory.

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]
COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]
CORROSION RATE: <0.002 Inches Per Year
CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]
STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]
FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]
CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]
PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]
ANY PUNCTURES OR DENTS: Yes [ ] No [✓]
SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]
CRACKS Yes [ ] No [✓]
CORROSION Yes [ ] No [✓]
OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED [signature]

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE 8/26/88 BY T.D
TANK NO./FARM 113 / #1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: Waste Solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT._____ SKIRT THK:_____ SHAPE/SIZE/HT OF LEG SUPPORT:_____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
Concrete slab

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: .073/.061/.061 ROOF PLATE:_____ BTM PLATE:_____
YEAR BUILT OR ESTIMATED AGE: 1981 MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK:_____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent 2" Closed Vent_____ Emergency Vent manhole 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G_____ U/G_____
TYPE OF CONNECTIONS: Flanged [ ] Welded [ ] Screwed [ ]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: good
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION_____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 112/18" CONTAINMENT WALL (Approx.) 2 ft
PROPERTY LINE (Approx.) >50 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: ~~87~~ 87-62000-152
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS:_____

TANK EVALUATION FORM

TANK NO./FARM: 113/#1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: <0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED Michael Sul

TANK INSPECTION FORM

FACILITY NAME AND LOCATION CHICAGO R.C., IL DATE _____ BY _____
TANK NO./FARM 114/#1 TANK HT/~~LENGTH~~: 16'-0" DIA: 11'-6"
TYPE OF TANK: Vertical [✓] Horizontal [ ] A/G [✓] U/G [ ]
CAPACITY: 12,500 gal. MATERIAL STORED/CHARACTERISTICS: waste solvent

TOP HEAD: Dished [ ] Cone [✓] Flat [ ] Open Top [ ]
BTM HEAD: Dished [ ] Cone [ ] Flat [✓]
TYPE OF SUPPORT: Skirt [ ] Legs [ ] Saddles [ ] Slab [✓]

SKIRT HT. _____ SKIRT THK: _____ SHAPE/SIZE/HT OF LEG SUPPORT: _____

TYPE AND CONDITIONS OF FOUNDATION SUPPORT:
CONCRETE SLAB IN GOOD CONDITION

MATERIAL OF TANK CONSTRUCTION: Stainless Steel T-304 [✓] Carbon Steel [ ]
TANK THICKNESS (DWG) SHELL: 0.075" ROOF PLATE: 0.080" BTM PLATE: 0.085"
(FIELD MEAS.): SHELL: _____ ROOF PLATE: _____ BTM PLATE: _____
.073/.061/.061
YEAR BUILT OR ESTIMATED AGE: 1981 MANUFACTURER'S NAME: NA
DESIGN STANDARDS: NA
IS THIS CLASSIFIED AS A NEW TANK? Yes [ ] No [✓]

INFORMATION OF NAME PLATE ATTACHED TO THE TANK: _____
LEVEL INDICATOR: Yes [✓] No [ ] HIGH LEVEL ALARMS: Yes [ ] No [✓]
TANK CONNECTIONS: Flanged [✓] Screwed [✓]

TANK VENT SIZE: Open Vent 2" Closed Vent _____ Emergency Vent 1'-6"
IS THE TANK INSULATED: Yes [ ] No [✓] TANK PAINTED: Yes [ ] No [✓]
PIPING: FROM THE TANK TO PROCESS UNIT: A/G _____ U/G _____
TYPE OF CONNECTIONS: Flanged [✓] Welded [✓] Screwed [✓]

CONDITIONS OF CONNECTIONS, SEAMS, WELDS: IN GOOD CONDITION
CAN THE PIPING, CONNECTION & SEAMS BE VISUALLY INSPECTED DAILY: Yes [ ] No [ ]
ARE THERE ANY VISIBLE DENTS, SCRAPES, CORROSIONS ON TANK: Yes [ ] No [✓]
IF YES, STATE EXACT LOCATION _____

DOES THE TANK HAVE ANY CONTAINMENTS TO CATCH LEAKS OR SPILLAGE: Yes [✓] No [ ]
DISTANCE TO NEAREST TANK/NO 113/12" CONTAINMENT WALL (Approx.) 2ft
PROPERTY LINE (Approx.) >50 ft
LEAK TEST RESULTS NA CORROSION PROTECTION MEASURES None

DOES THE TANK APPEAR TO BE STRUCTURALLY SOUND & IN GOOD CONDITION: Yes [✓] No [ ]
REFERENCE DRAWING NO./Date: _____
CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ]

REMARKS: _____

TANK EVALUATION FORM

TANK NO./FARM: 114/#1 Chicago DATE: 9/30/88 BY: TD

IS THIS AN EXISTING [✓] OR A NEW TANK [ ]

SUFFICIENT STRUCTURAL STRENGTH:

BY MANUFACTURER DATA OR DESIGN STANDARDS:

BY CALCULATION:

1. Stress at the bottom head joints for tanks

$$S = \frac{aM}{\pi R^2 T} + \frac{W}{2\pi RT}$$

a = Conversion factor (12 in./foot)
M = wind moment at bottom weld joint, in pound-feet.
W = weight of full tank in pounds (steel wt. and content)
R = tank radius in inches
T = tank thickness in inches
Allowable stress: 14662 psi for SS
10795 psi for CS

$$M = b\,DH^2$$

b = 16.5 psf, for a wind velocity of 100 mph
D = tank diameter in feet
H = tank height in ft (excl. skirt)

If the calculated stress is less than or equal to the allowable stress, the tank thickness is satisfactory

S = 3500 psi

2. If the ratio of the tank height to tank diameter is more than 1.5, the tank support should be anchored.

CONCLUSION: Stress < Allowable Stress [✓] Stress > Allowable Stress [ ]

COMPATIBILITY WITH THE WASTE: Yes [✓] No [ ]

CORROSION RATE: < 0.002 Inches Per Year

CORROSION PROTECTION MEASURE: Adequate [✓] Not Adequate [ ]

STRUCTURAL SUPPORT: Adequate [✓] Not Adequate [ ]

FOUNDATION SUPPORT: Adequate [✓] Not Adequate [ ]

CONDITIONS OF SEAMS OR WELDS: Good [✓] Defective [ ] If defective, describe:

CONNECTIONS: In Good Condition [✓] Not in Good Condition [ ]

PRESSURE CONTROL: In Good Condition [✓] Not in Good Condition [ ]

ANY PUNCTURES OR DENTS: Yes [ ] No [✓]

SCRAPES ON TANK OR ON PROTECTIVE COATINGS: Yes [ ] No [✓]

CRACKS Yes [ ] No [✓]

CORROSION Yes [ ] No [✓]

OTHER STRUCTURAL DAMAGES Yes [ ] No [✓]

CONCLUSIONS - IS THIS TANK FIT FOR USE: Yes [✓] No [ ] If no, explain:

SIGNED Michael E. W

Wang Engineering, INC.

SECONDARY CONTAINMENT STRUCTURE INSPECTION FORM

FACILITY NAME AND LOCATION: CHICAGO R.C. IL

TANKFARM # #1 DATE: 9/30/88 NAME: T.D

CONDITIONS OF LADDERS AND STAIRWAYS, PLATFORMS, WALKWAYS: (wear, corrosion) Good

CONTAINMENT STRUCTURE:

Type (SLAB): Earth [ ] P.C. Concrete [✓] Reinforced [ ] Cement Block [ ]
(WALL): Earth [ ] P.C. Concrete [✓] Reinforced [ ] Cement Block [ ]
Other: Describe Tanks are on elevated slabs above the main slab.

Dimensions and wall thickness: 32' x 75' x 3'-10" width wall 12"

Seal Coating Yes [ ] No [ ] ?

Cracks and gaps: Hairline cracks only (west wall)

Resistance water stops at all joints: Yes [✓] No [ ]

Leak and spillage collection system: YES (2 SUMPS) S-W. corner and North

Leak detection system: Yes [ ] No [ ] ?

Capable of detecting and collecting leaks and releases on a daily basis, (including ancillary equipment): YES

Capability of preventing run-on: Yes [✓] No [ ]

Structural design drawing (date, number): NA

REFERENCE FOUNDATION INVESTIGATIONS REPORT: NA

FIRE FIGHTING EQUIPMENT: Fire extinguisher S-W corner

MINIMUM DISTANCE: Tank to wall 3 ft

Wall to property boundary > 50 ft

AVAILABILITY OF AUTOMATIC SHUT-OFF DEVICES: Yes [ ] No [ ] ?

GENERAL CONDITION/ADEQUACY: Good [✓] Not satisfactory [ ]

REMARKS:

SECONDARY CONTAINMENT STRUCTURE EVALUATION FORM Tank Farm No 1

AVAILABILITY OF SECONDARY CONTAINMENT STRUCTURE: Yes [✓] No [ ]

SUFFICIENT STRENGTH: Yes [✓] No [ ]

COMPATIBILITY WITH WASTE: Yes [✓] No [ ]

ADEQUACY OF FOUNDATION SUPPORT: Yes [✓] No [ ]

CONTAINMENT CAPACITY:

DESIGNED: _____

CALCULATED: ~~26,560 gallon~~ 39,015

LARGEST TANK CAPACITY: 12,500 gallon

25-YEAR, 24-HOUR RAINFALL VOLUME: 7,480

ADEQUATE: Yes [✓] No [ ] 49% . cap.

CAPABLE OF DETECTING AND COLLECTING LEAKS OR RELEASES ON A DAILY BASIS:

Yes [✓] No [ ]

CAPABILITY OF PREVENTING RUN-ON: Yes [✓] No [ ]

FREE OF CRACK, GAPS, OR LEAKY JOINTS: Yes [ ] No [✓] Small cracks but sealed

AVAILABILITY OF IMPERMEABLE COATING OR LINING OVER CONCRETE: Yes [ ] No [✓]

OVERALL ADEQUACY OF THE SECONDARY CONTAINMENT STRUCTURE:

1. Volume of containment = $32' \times 75' \times 3.83' \times 7.48 = 68,755$
2. Volume of Tank Base = $(\pi \times 5.75^2 \times 3.83) 10 \times 7.48 = 29,740$
3. Available volume = ① − ② = 39,015

4. 25-yr. 24-hr. rainfall vol. = $(5/12 \times 32 \times 75) \times 7.48$
= 7480

APPENDIX 2

APENDIX 3

Certified quality products and services since 1946

IPMENT & MFG. CO. ■ P.O. BOX 298 ■ SPRINGFIELD, ILLINOIS 62705 ■ 217/525-1433 TWX 910-242-0508

May 5, 1988

SAFETY-KLEEN CORP.
777 Big Timber Rd.
Elgin, IL. 60123
Attn: Bob Chopp

Dear Bob,

In response to our recent phone conversation I am confirming the design and construction criteria for the 15,000 Gal., 10'-6 x 32'-0 cone bottom tank and 10'-6 x 32'-0 double cone bottom tank.

The (2) tanks were quoted 9-15-86, quote #04897 per Safety-Kleen drg. #SD-151-D and SD-153-D. These drawings specified 1/4 shell and skirt material and 3/16" roof material, but at an unknown point in time this was changed to 5/16 and 1/4", and was approved by Safety Kleen. All circumference and longitudinal shell welds were butt welds with longitudinal joints staggered. Tolerance on all nozzle orienatation shall be + or - 2°.

The tanks were constructed per Certified Equip. & Mfg. Co. drg. #5304-5305. Fabrication of the tanks was to follow UL 142 for construction of steel aboveground atmospheric storage tanks for flammable and combustable liquids as a guideline for those details that applied. Tanks were tested with soap suds and air with no visible signs of leaks allowed. Specific gravity of product was 1.62.

Sincerely,

Michael W Zeitler

Mike W. Zeitler
Engineering Dept.

MEMBER PEI PETROLEUM EQUIPMENT INSTITUTE
MEMBER STI STEEL TANK INSTITUTE
NFSA NATIONAL FUEL SPILL SOLUTIONS ASSOCIATION

modern welding company INCORPORATED
BOX 806 • BURLINGTON, IOWA, 52601
FABRICATORS OF METAL PRODUCTS

MAY 4, 1988

SAFETY KLEEN CORPORATION
777 BIG TIMBER ROAD
ELGIN, IL 60123

ATTN: MR. BOB CHOP
REFERENCE: PURCHASE ORDER 60892 OF 11/6/86 & PURCHASE ORDER 63142 OF 3/9/87

MR. CHOP,

IN RESPONSE TO YOUR REQUEST OF 5/3/88, I HAVE ANALYZED THE TANK DRAWINGS FOR THE ABOVE REFERENCED PURCHASE ORDERS AND YOUR DESIGN LETTER OF SEPTEMBER 17, 1986 AND I FIND WE DESIGNED THESE TANKS BASED ON THE INFORMATION AS SHOWN ON OUR DRAWINGS 8-2863, 8-2864, 8-4605, & 8-4606. MODERN WELDING CO. DOES CERTIFY THESE DRAWINGS BY APPROVAL AND WE GUARANTEE OUR PRODUCTS AS STATED IN OUR TERMS AND CONDITIONS.

AS NO REQUEST WAS MADE FOR A THIRD PARTY ANALYSIS (E.G.UL, ENGINEERING FIRM ETC.) WE PERFORMED THE DESIGN AND FABRICATED THE VESSELS TO OUR STANDARD MANUFACTURING PRACTICES. IN THE DESIGN OF THE SKIRT SUPPORTS WE DID INCLUDE AN ANALYSIS OF SEISMIC LOAD IN ZONE #1 AND A WIND LOAD ING OF 20 PSF IN ADDITION TO THE INTERNAL DESIGN PRESSURE OF 16 OZ/IN PLUS STATIC PRODUCT LOAD BASED ON THE SPECIFIC GRAVITY OF 1.62.

I FEEL CONFIDENT THAT OUR CERTIFICATION OF THESE TANKS WILL PROVIDE SAFETY KLEEN WITH SERVICEABLE TANKS THAT WILL PERFORM ADEQUATELY FOR THE DESIGN CONDITIONS REQUESTED. I HOPE THIS LETTER AND ITS CONTENTS MEETS YOUR REQUIREMENTS. WE WOULD LIKE TO CONTINUE TO BE A PRIME FABRICATOR FOR SAFETY KLEEN FOR YOUR FUTURE NEEDS. THANK YOU

CORDIALLY,

Patrick D. Ohanlon

PATRICK D. OHANLON
MODERN WELDING CO.
2818 MT. PLEASANT ST.
BURLINGTON, IA 52601
P# 1-319-754-6577
FAX# 1-319-754-8428

APPENDIX 4

U.S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary

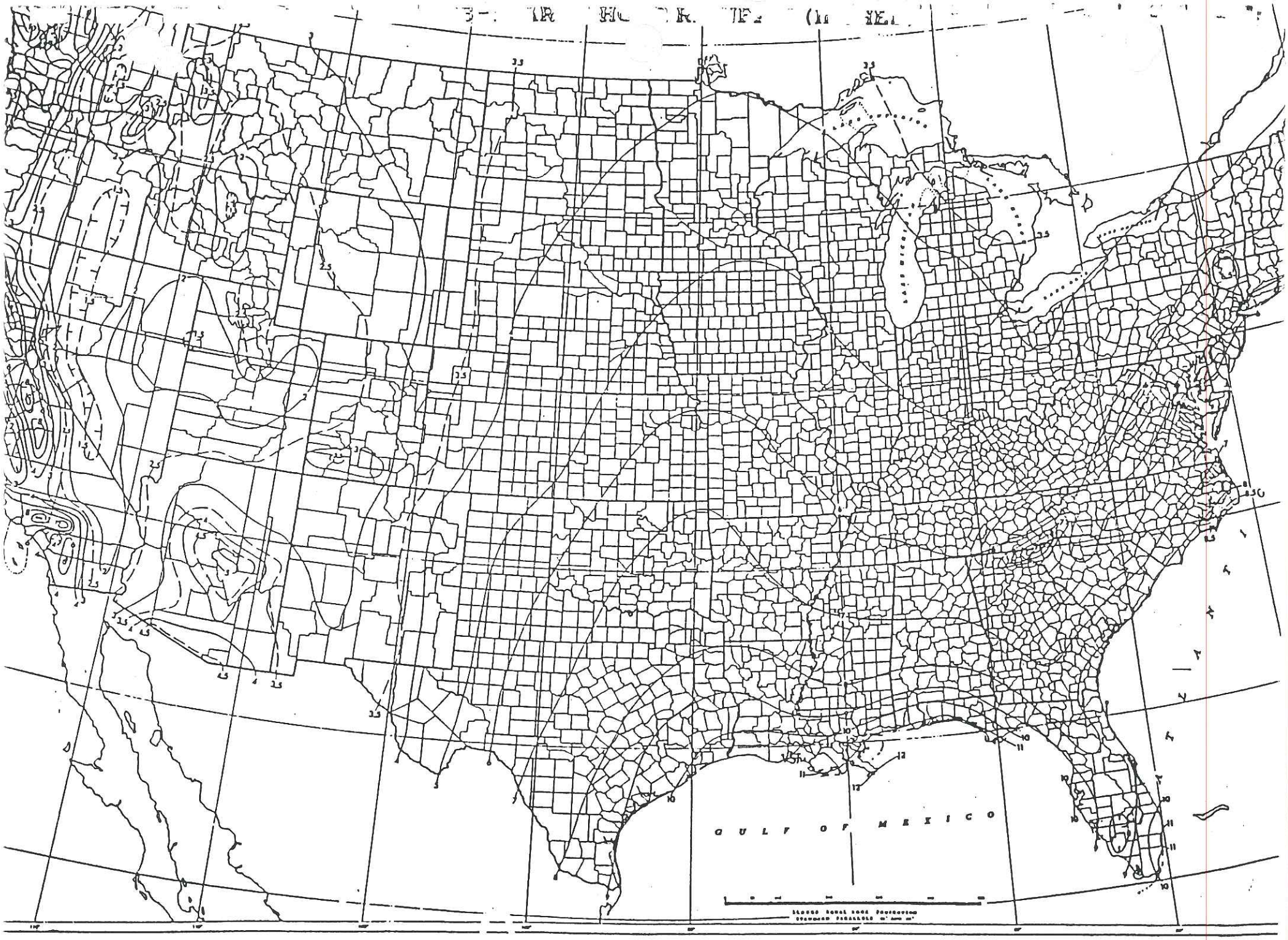
WEATHER BUREAU
F. W. REICHELDERFER, Chief

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division
for
Engineering Division, Soil Conservation Service
U.S. Department of Agriculture


GULF OF MEXICO

APPENDIX F

Chronological Summary

CLOSURE CERTIFICATION REPORT
ABOVE-GROUND STORAGE TANKS
T105 TO T114 AND T199
SAFETY-KLEEN CORP. RECYCLE CENTER
CHICAGO, ILLINOIS
(DPLC #0316000053 - COOK COUNTY)
(ILD 00540697 - RCRA CLOSURE)

APPENDIX F

Chronologic Summary
For Tanks T105 to T114 and T199
Safety-Kleen - Recycle Center
Chicago, Illinois

Date	Tank	Activities
8-4-90	T199 Tank Farm No.1	Triple rinsed Containment system inspection
10-25-90	T114	Tank content invantory Tank contents shipped to Holman-SK, Clarksville, Mo. for processing
10-29-90	T114	Tank opened for cleaning
11-1-90	T114	Triple rinsed and wipe tested
11-2-90	T199	Taken to Brandenburg for scrap
11-11-90	T113	Tank content invantory
11-12-90	T113	Tank opened for cleaning
11-13-90	T105, T108, T109 T113	Tank content invantory Triple rinsed/wipe tested and returned to non-hazardous service
11-14-90	T105, 108, 109 T110 T105	Tank opened for cleaning Tank content invantory Triple rinsed/wipe tested
11-17-90	T108, T109	Triple rinsed/wipe tested
11-15-90	T110	Tank opened for cleaning
11-19-90	T112 T105, T108, T109	Tank content invantory Returned to non-hazardous

APPENDIX F CON'T

Chronologic Summary
For Tanks T105 to T114 and T199
Safety-Kleen - Recycle Center
Chicago, Illinois

Date	Tank	Activities
11-19-90	T110	service
11-20-90	T106 T112	Tank content invantory Tank opened for cleaning triple rinsed/wipe tested
11-21-90	T107, T111 T106	Tank content invantory Tank cleaned/triple rinsed
11-22-90	T107, T111	Tank opened for cleaning
11-25-90	T107 T111	Triple rinsed/wipe tested Triple rinsed
11-26-90	T106, 111	Wipe tested
12-07-90	Tank Farm No. 1	North side triple rinsed Returned to non-hazardous service
12-08-90	Tank Farm No. 1	South side triple rinsed Returned to non-hazardous service
12-12-90 to 12-14-90	T107	Tank contents shipped to Holman-SK, Clarksville, Mo. for processing
12-14-90	Tank Farm No. 1	Triple rinse visual inspection

B-121

cc: Maywood
USEPA

DWC
MAS

safety-kleen

Certified Mail Return Receipt Requested

February 10, 1993
DMC 93-120

Mr. Lawrence W. Eastep, P.E., Manager
Permit Section
IEPA-Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

FEB 16 1993

IEPA - BOL
PERMIT SECTION

RE: Safety-Kleen Corp. Chicago Recycle Center
ILD 005450697; RCRA Log No. 121

Dear Mr. Eastep:

Safety-Kleen Corp. is hereby responding to the Agency's letter dated December 24, 1992 in which the Agency asked the Company to provide a third party cost estimates regarding the Contingent post closure plan that was submitted on November 2, 1992 for the Chicago Recycle Center.

In response to the Agency's request, Safety-Kleen Corp. revised the cost estimates based on the currently available labor and equipment costs for the activities outlined in the contingent post closure plan. Safety-Kleen Corp. then asked an independent contractor, ENSR Consulting and Engineering, to evaluate the accuracy of the costs.

Please find attached the revised cost estimates that has been broken down per each item and a letter from ENSR Consulting and Engineering stating that Safety-Kleen's cost estimates compare reasonably well with typical market costs for these services.

We believe that the attached documents satisfy the requirements of the regulation and Agency's concerns. If you have any questions or require additional information, please contact me at 708/468-2579.

Very truly yours,

Desi M. Chari

Desi M. Chari
Regional Environmental Manager

cc: Alfred Aghapour
f: Chicago- Closure Plan: Contingent Post Closure TF #4

777 BIG TIMBER ROAD ELGIN, ILLINOIS 60123 PHONE 708/697-8460 FAX 708/697-4295

ENSR

ENSR Consulting
and Engineering
740 Pasquinelli Drive
Westmont, Illinois 60559
(708) 887-1700
(708) 850 -5307 FAX

February 1, 1993

ENSR Project No. 5831-015-700

RECEIVED
FEB 1993
EHS Dept. - Remediation
SAFETY-KLEEN CORP.

Mr. Scott Davies
Safety-Kleen Corporation
777 Big Timber Road
Elgin, IL 60123

SUBJECT: Review of Cost Estimates for Post-Closure Activities at the Chicago Recycle Center

Dear Scott:

As requested, ENSR has reviewed the estimated costs for the five post-closure activities identified in the December 6, 1992, memorandum to you from Desi Chari.

In general, the estimated costs reviewed by ENSR for the five post-closure activities presented in the document *8.0 Post-Closure Cost Estimates* (document reference J0745-RV15) compare reasonably well with typical market costs for these kinds of services.

If you have any questions or need additional assistance, please call.

Sincerely,

James Barbato
Assistant General Manager

JB/saa

Reference No. 93-01-A021

cc: A. Morby/ENSR

8.0 POST-CLOSURE COST ESTIMATES

Note that all items in this Post-Closure cost estimate are one-time charges with the exception of the semiannual ground water monitoring which continue for 30 years.

8.1 Soil Borings and Monitoring Well Installation

Rig Mobilization/Demobilization (one charge for all soil borings and monitoring well installations)	$ 500.00
Hollow-Stem Auger Drilling/Continuous Sampling (assume four 10 ft. wells due to shallow groundwater table)	540.00
Four 5-ft. Well Screen (2-in. O.D.) Stainless Steel $175/ 5 ft screen (prices based on Johnson screen costs)	700.00
Four 5-ft. Riser Pipe (4-in. O.D.) Stainless Steel $20/ft (prices based on Johnson riser pipe costs)	400.00
Gravel Pack	120.00
Bentonite	44.00
Cement	36.00
(4) Locking Well Protector	700.00
Consultant Labor and Expenses	2,517.00
Total Well Installation	5,557.00

8.2 Monitoring/Sampling

Purge Well Using Bailers	225.00
Obtain Sample	200.00
Total Each Well	425.00

8.3 Soil Sample Analysis (One-Time Part of Closure)

VOC (8240)	208.00
Semi-Volatiles	400.00
Metals and TCLP	1,860.00
Total Soil Analysis (ea)	2,468.00

8.4 Ground Water Analysis (On going for 30 years)

VOC (8240)	135.00
Semi-Volatiles	385.00
Total Metals	128.00
Total Ground Water Analysis (ea)	648.00

* Costs based on Weston-Gulf Coast Laboratoris 1993 Fee Schedule for Safety-Kleen

8.5 Impermeable Cap

Synthetic Liner (includes installation)	6,200.00
Clay Cover (includes placing and compacting)	11,000.00
Final Concrete Surface (includes installation and subgrade)	7,300.00
Closure Certification	3,000.00
Total Impermeable Cap	27,500.00

Overall Contingent Post-Closure Cost Estimate

4 Monitoring Well Installations	5,557.00
1 Impermeable Cap	27,500.00

8 Ground Water Samples/Year *	8,584.00
10 Soil Analysis	24,680.00
Contingent Post-Closure Estimate	66,321.00
Contingency for Yearly Maintenance **	2,500.00
Total Post-Closure Estimate	68,821.00

* If ground water sampling has to continue for 30 years, the total price is an annual cost based on 1990 dollars.

** Yearly maintenance cost is sufficient to cover installation of additional cover materials and/or replacement of monitoring wells. Cost shown is annual maintenance cost in 1990 dollars.

Chicago, RC

safety-kleen corp.

MEMORANDUM

SUBJECT: **Third Party Contingent Post Closure Cost Estimates-Chicago Recycle Center**

DATE: **December 6, 1993**

TO: **Scott Davies**

FROM: **Desi Chari** Dme

cc: Alfred Aghapour

Tank Farm #4 at the Chicago Recycle Center does not have chemical resistant coatings for the concrete secondary containment. Therefore, we submitted a contingent post closure plan to the IEPA to meet the Part B permit conditions. The contingent post closure plan included a cost estimate for the activities to be conducted in the event Tank Farm #4 is not clean closed.

As part of the Contingent Post Closure Plan for the Chicago Recycle Center, the Illinois EPA has asked Safety-Kleen Corp. to provide a third party cost estimates for conducting following activities:

1. 5 Soil samples analyzed for:

    a. Volatile organic compounds
    b. Semi-volatile organic compounds
    c. TCLP Metals

2. Install four (4) ground water monitoring wells (1- Upgradient and ~~4~~ 3-Downgradient)

3. Sampling and analyses of the ground water from each monitoring wells for:

    a. Volatile Organic Compounds
    b. Semi-volatiles
    c. Metals

4. Installation of an impermeable cap over Tank Farm #4 area. An area covering 100 feet x 35 feet = 3500 sq. ft. The impermeable cap will consist of

    a. Synthetic liner
    b. Clay cover
    c. Final Asphalt Surface

5. Annual maintenance cost for the monitoring wells and the impermeable cap.

Please ask your consultant to provide a closure cost estimate for the activities outlined above. A copy of the closure cost estimates submitted to the Agency and the letter from the IEPA are attached for your information. We need to respond to IEPA by February 15, 1993.

I thank you for your assistance in this matter. If you have any questions, please call me.

f: Chicago- Part Pmt.: Contingent Post Closure Plan

Plan.

Illinois Environmental Protection Agency · P. O. Box 19276, Springfield, IL 62794-9276

217/524-3300

December 24, 1992

Safety-Kleen Corporation
777 Big Timber Road
Elgin, Illinois 60123

Re: 0316000053 -- Cook County
Safety-Kleen Corporation - Chicago Facility
ILD005450697
RCRA Log No. 121
RCRA Part B - Administrative Record

Gentlemen:

This letter is written in response to the November 2, 1992 submittal of information. The information to be submitted was identified in the Agency's Part B permit issued September 30, 1992 in Attachment D as special condition G.3. The Agency has reviewed the information contained in the submittal and has determined that the analytical costs are not comparable to third party laboratory costs from Peoria Disposal Company or National Environmental Testing, Inc. Please provide a third party quote for; the monitoring well installation, the impermeable cap installation, and the soil and ground water analysis. The quote should be broken down per item as indicated in your submittal (i.e. a cost for VOC, a cost for semi-volatiles, etc.). Until the time documentation of third party costs can be provided, the Agency is not in a position to approve your submittal. Therefore, you have not fulfilled the requirements of condition G.3 in the recently issued Part B Permit. The Agency expects this information by February 15, 1993.

If you have any questions regarding the above, please contact Mark A. Schollenberger of my staff at 217/524-3307.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control
Bureau of Land

LWE:MAS:sf/725Z,20

cc: George Hamper, USEPA, Region V

RECEIVED
DEC 28 1992
Environmental Department
SAFETY-KLEEN CORP.

FROM: Weston / Gulf Coast Laboratories Fee Schedule

Gary Long
Safety Kleen
January 4, 1993

2 SELECT UNIT PRICES FOR ROUTINE GROUND-WATER MONITORING ANALYSIS AND FIELD SAMPLING RATES

These unit prices are to be applied to any long term, or compliance monitoring groundwater project.

Routine Groundwater Analytical Unit Prices

Based on standard turnaround and data package.

PARAMETER	METHOD	UNIT COST
VOA	624/8240	$135
TPHGC	Mod. 8015	$105
BNA	625/8270	$295
Cresol	8040	$105
Total Metals		
Cadmium	6010/7130	$9
Chromium	6010/7190	$9
Lead	9010/7420	$9
	7421	$19
Metals Digestion (ICP)	3010/3050	NC
Metals Digestion (GFAA)	3020/3050	NC
Cyanide	335.2	$26
Pest/PCB	608/8080	$125
VOA	8260	$180
TOC	405.1	$23
TOX	9020	$60
Appendix IX		
VOA	8240	$190
BNA	8270	$385
Pest/PCB	8080	$140

3 *UNIT PRICES FOR NON-ROUTINE ANALYSIS*

These unit prices are to be applied to all non-routine projects, such as site remediation, UST's and waste characterization. These prices take into account the multiple dilutions that are frequently required.

Analytical Unit Prices

Based on standard turnaround and data package.

PARAMETER	METHOD	UNIT PRICE WATER	UNIT PRICE SOIL	UNIT PRICE WASTE
TCLP				
Extraction Metals/BNA	1311		$64	$64
Extraction VOA	1311		$144	$144
Extraction Pest/Herb	1311		$64	$64
RCRA Metals	6010/7000		$120	$120
BNA	8270		$360	$360
VOA	8240		$180	$180
Pest/Herb	8080/8150		$340	$340
TCLP Pkg. w/Matrix Spike			$2200	
TCLP Pkg. without Matrix Spike			$1200	
[1]Unit Price does not include matrix spike analysis required for bias correction.				
PRIORITY POLLUTANTS				
VOA	624/8240	$180	$208	$208
BNA	625/8270	$360	$400	$400
Pest/PCB	608/8080	$140	$168	$168
Metals	200.7/200.7 6010/7000	$128	$152	$152
Cyanide	335.2/9010	$28	$40	$40
Phenol	420.2/420.2	$24	$40	$40
TARGET COMPOUND ANALYTE LIST				
VOA	624/8240	$180	$208	$208
BNA	625/8270	$360	$400	$400
Pest/PCB	608/8080	$140	$168	$168

Chicago Recycle Center
Closure Cost Estimate

The Closure Plan and the Closure Cost Estimate for the Safety-Kleen Corp. Chicago Recycle Center have been developed in accordance with the requirements of 35 IAC 725.212 and 35 IAC 725.242, respectively.

The closure cost estimate is developed persuant to 35 IAC 725.242. Specifically,

1. the estimate equals the cost of final closure at the point in the facility's active life when the extent and manner of its operations would make closure the most expensive; and

2. the closure cost estimate is based on the costs to the owner or operator of hiring a third party to close the facility.

Based on these criteria, Safety-Kleen Corp. has developed the closure cost estimates for the Chicago Recycle Center. The most expensive closure cost for the facility will be when the facility stores the maximum inventory of the wastes allowed under its permit. The maximum permitted waste storage at the Chicago Recycle Center is:

138,600 gallons in containers, and

567,745 gallons in Tanks

A third party will be hired to close the facility and to accomplish the closure activities outlined in the closure plan.

Based on the present operations of the facilty, greater than 98% of the wastes received are either recycled and sold in the market or blended into supplemental fuel to be burned in industrial furnaces for energy recovery.

Safety-Kleen Corp. assumes that

1. All the waste inventory in Tanks will be blended into fuel to be burned in a Cement Kiln for energy recovery at a cost of $0.10/gallon

2. 95% of the waste container inventory will be blended into supplemental fuel to be burned in a cement kiln at a cost of $0.10 per gallon, and

3. the remainig 5% of the waste container inventory will be disposed of through incineration at a cost of $285 per drum.

Compared to the present operating practices at the Chicago Recycle Center, each of the assumptions are worst case situations. The closure cost estimates have been developed using these worst case assumptions.

CHICAGO RECYCLE CENTER CLOSURE COST ESTIMATE

THE COSTS ARE BASED UPON CLOSURE BY A THIRD PARTY

TANK STORAGE

1. Remove contents from tanks storing waste materials.

   a. Existing storage in the tanks at the facility without the freeboard = 567,745 Gallons

   b . The tank content is solvent which can be fully recovered.

   Currently, the market value for spent solvent is at 50 cents to $1.00 per gallon. Safety-Kleen is not allowed, however, to claim salvage value for the materials. In addition, the cost must include the transportation of the material to an offsite Hazardous Waste Management facility for recycling and reuse.

   Solvent volume in tanks at the facility =567,745 G
   Transportation cost at $300 per 7,000 gallon loads

   564,500/7,000 = 82 loads x $300 = $ 24,600

2. Cost to use 567,745 gallons of solvents as fuel @ 0.10/gallon = 56,775

3. Tank Cleaning
   Access tanks via manways
   62 tanks x $ 100/tank 6,200
   (4 man-hrs/tank @ $25/Hour)

4. Rental Equipment @ $500/day for 31 days = 15,500
   (Rental equipment is for access to the tanks, pressure washer and tank removal at the rate of 2 tanks per day)

5. Clean Tank Interiors and remove tanks

62 tanks x $500/tank
20 man hours/tank @ $25/Hour = 31,000

6. Disconnect and clean appurtenant equipment and pipelines

500 man hours @ $25/Hour = 12,500

7. Wash secondary containment areas
10 man hrs/tank farm x 5 tank farms @ $25/Hr = 1,250

8. Disposal, through incineration, of cleaning and rinse residuals @ $1.50/Gallon

15,000 gallons of residuals @ $1.50/gallon = 22,500

9. Aanalysis of rinseate to certify clean closure

2 samples/tank farm x 5 tank farms x $1,000/sample = 10,000

Tank Closure - Sub-Total = $ 180,325

Tank closure contractor overhead @ 15% = 27,050

TOTAL TANK CLOSURE = $ 207,375

CLOSURE OF CONTAINERS AND CONTAINER STORAGE AREAS

1. Remove Container Inventory
138,600 Gallons equivalent to 2,520-55 gallon drums
80 drums/truck load; 32 loads @ $300/load = $ 9,600

2. Drum Emptying and Handling Cost
10 Drums/Hour; 252 Hours @ $25/hr. = 6,300

3. Disposal of 95% of 138,600 gallons of solvent as fuel @ $0.10/gallon

138,600 x 0.95 x $0.10	=	13,167

4. Disposal of 5% of 138,600 gallons of non pumpable solids by incineration @ $285/Drum

126 Drums of Solids x $285	=	35,910

5. Clean container storage areas

24 man-hours @ $25/hour	=	600

6. Disposal of cleaning and rinse residuals through incineration

1,000 gallons x $1.50/gallon	=	1,500

7. Analysis of rinseate to certify clean closure

1 Areas x 2 samples/area x $1,000/sample	=	2,000

CONTAINER STORAGE CLOSURE SUB-TOTAL	=	69,077
Tanks + Containers closure cost=$207,375 + 69,077=		276,452
P.E. Observation and Certification	=	10,000
	=	$ 286,452
Administrative and Contingency @ 15%	=	$ 42,970
TOTAL ESTIMATED CLOSURE COSTS FOR EXISTING UNITS=		$ 329,422

AAV

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

RECEIVED

JUL 01 1985

IEPA-DLPC

June 28, 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Reference: 03160053-Cook County
Chicago/Custom Organics, Inc.
ILD 005450697
Log #FA170

Attention: Mr. Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Dear Mr. Chaturvedi:

Enclosed is our Standby Trust Agreement. Please distribute the Trust Agreement to appropriate personnel.

Thanks for your assistance in this matter. If any questions arise, please contact me.

Sincerely,

Jim Ostrowski

James Ostrowski
Environmental Engineer

JO:bb

Enclosure

AAV KKC

RECEIVED

JUN 07 1985

IEPA-DLPC

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

June 4, 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Reference: 03160053-Cook County
Chicago/Custom Organics, Inc.
ILD 005450697
Log #FA170

Attention: Mr. Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Dear Mr. Chaturvedi:

Enclosed is our amended irrevocable letter of credit for $362,500. The irrevocable letter of credit is for our closure cost estimate which we understand has been approved.

If you or your colleagues have any questions or require further information, please call me direct at 312/650-1470.

Sincerely,

Jim Ostrowski

James Ostrowski
Marketing Manager

JO:bb
Enclosure

INTERNATIONAL OPERATIONS DIVISION
P.O. Box 755
Chicago, Illinois 60690

HARRIS BANK®

Cable Address: HARRISBANK
Telex: 25-3417 (HARISINT CGO)
Swift Address: HATRUS44

OUR L/C NUMBER SPL27405A

JUNE 03, 1985
PAGE 1

RECEIVED
JUN 07 1985
IEPA-DLPC

AMENDMENT AMOUNT:
USD 342,500.00
U. S. DOLLARS
THREE HUNDRED FORTY -TWO
THOUSAND FIVE HUNDRED AND
NO/100.

BENEFICIARY:
DIRECTOR
ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY
2200 CHURCHILL ROAD
SPRINGFIELD
ILLINOIS 62706

APPLICANT:
CUSTOM ORGANICS, INC.
1445 WEST 42ND STREET
CHICAGO,
ILLINOIS 60609

THIS IS THE ORIGINAL AMENDMENT.

. THIS IS AMENDMENT NO. 1
WE HAVE AMENDED THE TERMS OF OUR LETTER OF CREDIT NO. SPL27405A
AS FOLLOWS:

THE AMOUNT OF THIS L/C HAS BEEN INCRD. BY USDLRS 342,500.00
TO A NEW BALANCE OF $362,500.00.

ALL OTHER TERMS AND CONDITIONS OF THIS LETTER OF CREDIT REMAIN
UNCHANGED.

HARRIS TRUST AND SAVINGS BANK

AUTHORIZED SIGNATURE

NON-NEGOTIABLE

AAV RKC

INTERNATIONAL OPERATIONS DIVISION
P.O. Box 755
Chicago, Illinois 60690

HARRIS BANK®

Cable Address: HARRISBANK
Telex: 25-3417 (HARISINT CGO)
Swift Address: HATRUS44

OUR L/C NUMBER SPL27405A

JUNE 03, 1985
PAGE 1

AMENDMENT AMOUNT:
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THOUSAND FIVE HUNDRED AND
NO/100.

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PROTECTION AGENCY
2200 CHURCHILL ROAD
SPRINGFIELD
ILLINOIS 62706

APPLICANT:
CUSTOM ORGANICS, INC.
1445 WEST 42ND STREET
CHICAGO,
ILLINOIS 60609

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HARRIS TRUST AND SAVINGS BANK

AUTHORIZED SIGNATURE

RECEIVED
JUN 06 1985
IEPA-DLPC

11000 (N 3-82)

AAV RKC

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

May 2, 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Reference: 03160053-Cook County
Chicago/Custom Organics, Inc.
ILD 005450697
Log #FA170

RECEIVED
MAY 03 1985
IEPA-DLPC

Attention: Mr. Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Dear Mr. Chaturvedi:

Enclosed is our revised Closure/Post Closure Plan and Cost Estimate. If these meet IEPA's approval, Custom Organics will adjust its irrevocable letter of credit to $362,500.00.

If you or your colleagues have any questions or require further information, please call me direct at 312/650-1470.

Sincerely,

Jim Ostrowski

James Ostrowski
Marketing Manager

JO:bb

Enclosure

CLOSURE PLAN

CLOSURE SCHEDULE

YEAR	MONTH	DAY	
2014	1	1	Begin cancelling all reclamation contracts. Inform customers of facility closure date.
2015	1	1	Begin reducing inventories.
2015	3	1	No hazardous waste accepted. Process all remaining hazardous waste. Return all hazardous waste to toll reclamation customers. Sell all hazardous waste which has a market value.
2015	5	1	Facility Closure Plan enacted Remaining hazardous waste materials are disposed and the facility is decontaminated.
2015	5	14	Certification of Closure by a Professional Engineer

NATURE OF THE WASTE

As described, the nature of the business of the Company is one of reclamation of solvents and organic chemicals. Since no material is accepted for disposal, the only material that may be on hand that does not have a free market value would be the waste generated in the operation of the business. All other materials are either reclaimed on a toll basis for the generator of the material, or is purchased by the Company for subsequent reclamation and resale. The following describes the intended disposition of any materials that might be on hand in the event of facility closure:

1. Material Received for Toll Reclamation
   This material represents a no-cost disposal because by the nature of toll reclamation, Custom Organics never attains ownership of the material. In the event of a Closure, all material would be returned to the generator.

2. Material Purchased for Reclamation and Subsequent Resale
   This material represents a negative cost situation because the material has a market value. Evidence of this market value is that Custom Organics competitively bids (pays the generator) for all material received at the plant.

3. Material Generated by the Facility
   This material must be disposed of in an environmentally approved manner.

   The Closure Plan Cost Estimate is based on the disposal of the material generated, material in permitted storage tanks, decontamination of all storage tanks and equipment used to contain all materials listed above, and the certification of Closure by an independent Professional Engineer.

QUANTITY OF MATERIAL:

As described, the quantity of material requiring disposal is limited to the amount generated by the facility in the normal course of business that is still on site. The normal procedure is to accumulate material in drums until a quantity suitable for shipment is on hand. This quantity is in the order of 80 to 90 drums of waste. Since the wastes are segregated into two categories, chlorinated (F001, F002), and ignitible (D001, F003, F005), which are shipped separately, the total quantity of waste for disposal on hand at any time would be less than 200 drums.

For a worst case scenario we will assume 400 drums (200 chlorinated, 200-ignitable) will require disposal. Also we will assume that the permitted storage tanks would be filled to capacity with material requiring disposal.

The tank sizes are as follows:

10 each - 12,500 gallon vertical SS tanks
2 each - 10,000 gallon vertical SS tanks
2 each - 5,000 gallon vertical SS tanks
2 each - 3,500 gallon vertical SS tanks

The total is 162,800 gallons of which 81,400 gallons is ignitable and 81,400 gallons is chlorinated. Therefore the total bulk and drum quantity is 92,400 gallons ignitible and 92,400 gallons chlorinated,

Disposal costs will be based upon incineration although our normal disposal costs are substantially lower through participation in a chem-fuel program.

FACILITY DECONTAMINATION:

Since no material is disposed of within the boundaries of the facility, decontamination of the facility entails the removal of all drums from the container storage area, removal of all residual material from the drain and sump areas, washing of the entire container storage area, washing equipment, and subsequent disposal of the washing agent.

Additionally, the dike areas surrounding the storage tanks will be tested to see if decontamination is necessary, and if so, these will have residual materials removed, and dikes will be washed, with the washing agent being disposed of properly.

CLOSURE COST ESTIMATE:

The following cost estimate assumes a worst case situation regarding the closure of the facility. All possibilities of contamination have been assumed, with the maximum clean-up effort being required.

Assumed in the following estimate is the maximum number of drums being on hand, tanks requiring work to decontaminate them, two dikes requiring decontamination, container storage area requiring decontamination, and equipment decontamination. The likelihood of all situations being required at the same time is extremely low.

Included is the cost for certification of Closure by a Professional Engineer.

CLOSURE COST ESTIMATE

Tank Cleaning Labor: 96 man hours at $25.00/hour	=	$ 2,400
Container Storage Area Cleaning Labor: 32 man hours at $25.00/hour	=	800
Dike Area Cleaning Labor: 120 man hours at $25.00/hour	=	3,000
Equipment Cleaning Labor: 32 man hours at $25.00/hour	=	800
Disposal of Washing Agent to MSD (Based on current monthly Metropolitan Sanitary District disposal charge of $10,000.00	=	5,000
Waste Material Disposal Labor: 40 man hours at $25.00/hour	=	1,000
Disposal of Ignitables: 92,400 gallons at $1.00/gallon	=	92,400
Disposal of Chlorinateds: 92,400 gallons at $2.75/gallon	=	254,100
Certification of Closure by Independent Professional Engineer		3,000
	Grand Total =	$362,500

CUSTOM ORGANICS INC.
POST CLOSURE REQUIREMENTS
MARCH 14, 1985

The nature of the business of the Company in its use of the facility for Solvent and Chemical Reclamation is such that no material is disposed of within the boundaries of the facility. The Closure Plan would ensure removal and disposal of any hazardous materials on site and decontamination of the complete facility. As a result of this practice, the requirements of 40 CFR, Parts 264.144 and 264.145 do not apply, as per the applicability requirements stated in 40 CFR, part 264.140.

Andy Vollmer

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

March 20, 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Reference: 03160053 - Cook County
Chicago/Custom Organics, Inc.
ILD 005450697
Log #FA170

Attention: Mr. Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Dear Mr. Chaturvedi:

Enclosed is our revised closure/post closure plan and cost estimate. If these meet with IEPA's approval, Custom Organics will adjust its irrevocable letter of credit to $68,700.00.

If you or your colleagues have any questions or require further information, please call me direct at 312/650-1470.

Sincerely,

Jim Ostrowski

James Ostrowski
Marketing Manager

JO:bb

Enclosure

RECEIVED
MAR 25 1985
IEPA-DLPC

CUSTOM ORGANICS, INC.
CLOSURE PLAN
MARCH 14, 1985

GENERAL:

The nature of the business of the company at this facility is an ongoing business, and is not restricted in its ultimate capacity as would be a land disposal facility. As such, the closure of the facility would result from one of the following situations:

1. The decision not to accept hazardous waste for processing, and continue in the business of contract distillation and purification of chemicals, or

2. A decision by the owners of the Company to cease all operations of the business.

Since either of these options are business oriented, and the current and future business of the Company appears sound, it is not possible to define an exact closure date of the facility. For purposes of compliance with existing regulations, the year 2015 has been chosen for the Closure date of the facility.

RECEIVED
MAR 25 1985

QUANTITY OF MATERIAL:

As described, the quantity of material requiring disposal is limited to the amount generated by the facility in the normal course of business that is still on site. The normal procedure is to accumulate material in drums until a quantity suitable for shipment is on hand. This quantity is in the order of 80 to 90 drums of waste. Since the wastes are segregated into two categories, chlorinated (F001, F002), and ignitable (D001, F003, F005), which are shipped separately, the total quantity of waste for disposal on hand at any time would be less than 200 drums.

For a worst case scenario we will assume 400 drums (200 chlorinated, 200-ignitable) will require disposal. Disposal costs will be based upon incineration although our normal disposal costs are substantially lower through participation in a chem-fuel program.

DECONTAMINATION OF EQUIPMENT

As described, the basic business of the Company is Solvent and Chemical Reclamation. As such, only a small portion of the resources of the facility are concerned with the storage of hazardous waste. Although the total number of tanks are large, a limited number of these tanks are in use at any one time for the storage of hazardous waste. The operation of the business dictates the transfer of material to tanks prior to the recovery operation. Each chemical material is segregated in a separate tank to prevent cross contamination of materials. The number of materials "staged" in tanks prior to processing can vary, but it is safe to assume that in the event of Closure of the facility the total number of tanks that would require decontamination would be limited to 9.

Since the material stored in these tanks would have a current market value, the cost of removal of this material is not used in this calculation. How ever, the cost of removing any residual material, and the cleaning of the tank has been calculated. For the purposes of this report, the tank sizes are assumed to be:

2 each - 10,000 gallon vertical SS tanks
4 each - 5,400 gallon vertical SS tanks
2 each - 12,000 gallon vertical SS tanks
1 each - 1,000 gallon vertical SS tanks

FACILITY DECONTAMINATION:

Since no material is disposed of within the boundaries of the facility, decontamination of the facility entails the removal of all drums from the container storage area, removal of all residual material from the drain and sump areas, washing of the entire container storage area, washing equipment, and subsequent disposal of the washing agent.

Additionally, the dike areas surrounding the storage tanks will be tested to see if decontamination is necessary, and if so, these will have residual materials removed, and dikes will be washed, with the washing agent being disposed of properly.

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MAR 25 1985

IEPA-DLPC

CLOSURE SCHEDULE

YEAR	MONTH	DAY	
2014	1	1	Begin cancelling all reclamation contracts Inform customers of facility closure date
2015	1	1	Begin reducing inventories
2015	3	1	No hazardous waste accepted. Process all remaining hazardous waste. Return all hazardous waste to toll reclamation customers. Sell all hazardous waste which has a market value.
2015	5	1	Facility Closure Plan enacted Remaining hazardous waste materials are disposed and the facility is decontaminated
2015	5	14	Certification of Closure by a Professional Engineer

NATURE OF THE WASTE

As described, the nature of the business of the Company is one of reclamation of solvents and organic chemicals. Since no material is accepted for disposal, the only material that may be on hand that does not have a free market value would be the waste generated in the operation of the business. All other materials are either reclaimed on a toll basis for the generator of the material, or is purchased by the Company for subsequent reclamation and resale. The following describes the intended disposition of any materials that might be on hand in the event of facility closure:

1. Material Received For Toll Reclamation
   This material represents a no-cost disposal because by the nature of toll reclamation, Custom Organics never attains ownership of the material. In the event of a Closure, all material would be returned to the generator.

2. Material Purchased for Reclamation and Subsequent Resale
   This material represents a negative cost situation because the material has a market value. Evidence of this market value is that Custom Organics competitively bids (pays the generator) for all material received at the plant.

3. Material Generated By The Facility
   This material must be disposed of in an environmentally approved manner.

   The Closure Plan Cost Estimate is based on the disposal of the material generated, decontamination of all storage tanks and equipment used to contain all materials listed above, and the certification of Closure by an independent Professional Engineer.

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IEPA-DLPC

CLOSURE COST ESTIMATE:

The following cost estimate assumes a worst case situation regarding the closure of the facility. All possibilities of contamination have been assumed, with the maximum clean-up effort being required.

Assumed in the following estimate is the maximum number of drums being on hand, along with 9 tanks requiring work to decontaminate them, two dikes requiring decontamination, container storage area requiring decontamination, and equipment decontamination. Although the likelihood of all situations being required at the same time is low, the estimate does represent a possibly realistic condition.

Included is the cost for certification of Closure by a Professional Engineer We also allow for any unknown additional Closure expense which is referred to as unknown contingency.

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MAR 25 1985

CLOSURE COST ESTIMATE

Tank Cleaning Labor: 96 man hours at $25.00/hour	=	$2,400.00
Container Storage Area Cleaning Labor: 32 man hours at $25.00/hour	=	800.00
Dike Area Cleaning Labor: 120 man hours at $25.00/hour	=	3,000.00
Equipment Cleaning Labor: 32 man hours at $25.00/hour	=	800.00
Disposal of Washing Agent to MSD (Based on current monthly Metropolitan Sanitary District disposal charge of $10,000.00)	=	5,000.00
Waste Material Disposal Labor: 40 man hours at $25.00/hour	=	1,000.00
Disposal of Ignitables: 11,000 gallons at $1.00/gallon	=	11,000.00
Disposal of Chlorinateds: 11,000 gallons at $2.75/gallon	=	30,250.00
Certification of Closure by Independent Professional Engineer		3,000.00
	Total =	57,250.00
Unknown Contingency at 20%	=	11,450.00
	Grand Total =	$68,700.00

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MAR 25 1985
IEPA-DLPC

CUSTOM ORGANICS INC.
POST CLOSURE REQUIREMENTS
MARCH 14, 1985

The nature of the business of the Company in its use of the facility for Solvent and Chemical Reclamation is such that no material is disposed of within the boundaries of the facility. The Closure plan would ensure removal and disposal of any hazardous materials on site and decontamination of the complete facility. As a result of this practice, the requirements of 40 CFR, Parts 264.144 and 264.145 do not apply, as per the applicability requirements stated in 40 CFR, part 264.140

RECEIVED
MAR 25 1985

FA 170
MT

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

February 21, 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Reference: 03160053 - Cook County
Chicago/Custom Organics, Inc.
ILD 005450697
Log # FA170

Attn: Mr. Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Dear Mr. Chaturvedi:

Enclosed is the original copy of Custom Organics irrevocable letter of credit. Also enclosed is the hazardous waste facility certificate of liability.

The originals have been enclosed because as per our 2/11/85 phone conversation, IEPA requires the original forms and copies are not acceptable.

If you have any questions regarding Custom Organics closure/post closure plan, I would appreciate resolving the matter over the phone. I am attempting to save any expenses which would be incurred by traveling to Springfield.

Sincerely,

J Ostrowski

James Ostrowski
Marketing Manager

Attachments (2)

RECEIVED
FEB 22 1985
IEPA-DLPC

HAZARDOUS W. .E FACILITY CERTIFICATE OF LIA LITY INSURANCE

1. Integrity Insurance Company (1), (the "Insurer"), of Paramus, (2) New Jersey hereby certifies that it has issued liability insurance covering bodily injury and property damage to Custom Organics, Inc. (3), (the "insured"), of Chicago, Il (4) in connection with the insured's obligation to demonstrate financial responsibility under 35 Illinois Administrative Code Parts 724.247 or 725.247. The coverage applies at:

	Sudden Accidental Occurrences (2)	Nonsudden Accidental Occurrences (3)	Sudden and Nonsudden Accidental Occurrences (4)
USEPA I.D. No. ILD 005450697 (1)			
Name Custom Organics, Inc.			
Address 1435-45 W. 42nd St	Covered	Not Covered	Not Covered
City Chicago, Il 60609			
USEPA I.D. No.			
Name			
Address			
City			

Please attach a separate page if more space is needed for all facilities.

The limits of liability are $ 5,000,000 (9) each occurrence and $ 5,000,000 (10) annual aggregate exclusive of legal defense costs. The coverage is provided under policy number ISX 113444 (11) issued on April 9, 1984 (12). The effective date of said policy is February 1, 1984 (13).

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 35 Illinois Administrative Code 724.247(f) or 725.247.

(c) Whenever requested by the Director of the Illinois Environmental Protection Agency (IEPA), the Insurer agrees to furnish to the Director a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the IEPA Director.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the IEPA Director.

I hereby certify that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

Signature William A. Stankevitz

Typed name William A. Stankevitz

Title President, Stankevitz & Co., Inc.

.thorized Representative of Stankevitz & Co., Inc.

Address of Representative P.O. Box 56066, Harwood Heights, IL. 60656

RECEIVED
FEB 22 1985
IEPA-DLPC

This Agency is authorized to require that the Insured submit this document under Illinois Revised Statutes, 1981, Chapter 111 1/2, Section 21(f). Failure to do so may result in a civil penalty against the Insured of not to exceed $25,000 per day of violation. Falsification of this information by any person may constitute a Class 4 felony, and may also carry a fine of not to exceed $25,000 per day for the first offense. This form has been approved by the Forms Management Center.

IRREVOCABLE STANDBY LETTER OF CREDIT

Director
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. SPL27405 in your favor, at the request and for the account of Custom Organics, Inc., 1445 West 42nd Street, Chicago, Illinois 60609 (1) up to the aggregate amount of TWENTY THOUSAND (3) U.S. dollars ($ 20,000.00 (2) (4)), available upon presentation of

(1) your sight draft, bearing reference to this letter of credit No. SPL27405 (5) and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Environmental Protection Act, Ill. Rev. Stat. 1981, ch. 111 1/2, par. 1001 et seq., as amended."

This letter of credit is effective as of April 20, 1984 and shall expire on April 20, 1985 (7) but such expiration date shall be automatically extended for a period of one year (6) (8) on April 20, 1985 (9) and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and Custom Organics, Inc. (10) by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Custom Organics, Inc. (11), as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of Custom Organics, Inc. (12) in accordance with your instructions.

See Instruction (13)

Signature	M. Arellano	Signature	John Thiel
Typed Name	M. Arellano	Typed Name	John Thiel
Title	Pro Cashier	Title	Assistant Vice President
Date	February 21, 1985	Date	February 21, 1985

Harris Trust & Savings Bank, 311 West Monroe, Chicago, Illinois 60606
Name and address of issuing institution. (14)

This credit is subject to the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce. (15)

RECEIVED
FEB 22 1985
IEPA-DLPC

This Agency is authorized to require, pursuant to Illinois Revised Statutes, 1981, Chapter 111 1/2, Section 21(f), that this information be submitted to the Agency by the owner or operator of a hazardous waste storage, treatment or disposal site. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information by any person may constitute a Class 4 felony, and may also carry a fine for the first offense of not to exceed $25,000 per day. This form has been approved by the Forms Management Center.

Andy Vollmer
FA 17C
MT

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

January 29, 1985

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Reference: 03160053 - Cook County
Chicago/Custom Organics Inc.
ILD 005450697

Attn: Mr. Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Dear Mr. Chaturvedi:

The purpose of this letter is to address the apparent violations at Custom Organics as per the IEPA letter dated 12/21/84.

1. Failed to provide financial assurance as required by Subtitle G 725.243(40 CFR 265.143). All owners or operators of each facility must establish financial assurance for closure of the facility

   Reply: Copy of the original irrevocable letter of credit is attached. The irrevocable letter of credit is from the Harris Bank in Chicago and is for a total twenty thousand dollars.

2. Failed to provide liability insurance as required by 725.247 (40 CFR 265.147). All facilities must have liability coverage in the amount of $1 million per occurrence and $2 million annual aggregate.

   Reply: Copy of hazardous waste facility certificate of liability insurance is attached. The limits of liability are $5,000,000 each occurrence and $5,000,000 annual aggregate exclusive of legal defense costs. The policy is with Stankevitz & Co., Inc. in Harwood Heights, Illinois.

3. Failed to submit your closure/post closure plan and cost estimate as requested under 725.174(40 CFR 265.74). All records, including plans required under this part must be furnished upon request.

RECEIVED
FEB 04 1985
IEPA-DLPC

Reply: Custom Organics closure/post closure plan and cost estimate is attached.

If you have any questions or require further information, please call me direct at 312/650-1470

Sincerely,

Jim Ostrowski

James Ostrowski
Marketing Manager

JO:bb

Attachments (3)

RECEIVED
FEB 04 1985
IEPA-DLPC

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. Integrity Insurance Company (1), (the "Insurer"), of Paramus, (2) New Jersey hereby certifies that it has issued liability insurance covering bodily injury and property damage to Custom Organics, Inc. (3), (the "insured"), of Chicago, Il (4) in connection with the insured's obligation to demonstrate financial responsibility under 35 Illinois Administrative Code Parts 724.247 or 725.247. The coverage applies at:

	Sudden Accidental Occurrences (2)	Nonsudden Accidental Occurrences (3)	Sudden and Nonsudden Accidental Occurrences (4)
USEPA I.D. No. (1) ILD 005450697 Name Custom Organics, Inc. Address 1435-45 W. 42nd St City Chicago, Il 60609	Covered	Not Covered	Not Covered
USEPA I.D. No. Name Address City			

Please attach a separate page if more space is needed for all facilities.

The limits of liability are $ 5,000,000 (9) each occurrence and $ 5,000,000 (10) annual aggregate exclusive of legal defense costs. The coverage is provided under policy number ISX 113444 (11) issued on April 9, 1984 (12). he effective date of said policy is February 1, 1984 (13).

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 35 Illinois Administrative Code 724.247(f) or 725.247.

(c) Whenever requested by the Director of the Illinois Environmental Protection Agency (IEPA), the Insurer agrees to furnish to the Director a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the IEPA Director.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the IEPA Director.

I hereby certify that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

Signature William A. Stankevitz

Typed name William A. Stankevitz

Title President, Stankevitz & Co., Inc.

Authorized Representative of Stankevitz & Co., Inc.

Address of Representative P.O. Box 56066, Harwood Heights, IL. 60656

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FEB 04 1985

IEPA-DLPC

This Agency is authorized to require that the Insured submit this document under Illinois Revised Statutes, 1981, Chapter 111 1/2, Section 21(f). Failure to do so may result in a civil penalty against the Insured of not to exceed $25,000 per day of violation. Falsification of this information by any person may constitute a Class 4 felony, and may also carry a fine of not to exceed $25,000 per day for the first offense. This form has been approved by the Forms Management Center.

IL 532-1205 LPC 153 2/84

CLOSURE PLAN

General:

The nature of the businesss of the Company at this facility is an ongoing business, and is not restricted in its ultimate capacity as would be a land disposal facility. As such, the closure of the facility would result from one of the following situations:

1) The decision not to accept hazardous waste for processing, and continue in the business of contract distillation and purification of chemicals, or

2) A decision by the owners of the Company to cease all operations of the business.

Since either of these options are business oriented, and the current and future business of the Company appears sound, it is not possible to define an exact closure date of the facility. For purposes of compliance with existing regulations, the year 2015 has been chosen for the Closure Date of the facility.

Nature of the Wastes:

As described, the nature of the business of the Company is one of reclamation of solvents and organic chemicals. Since no material is accepted for disposal, the only material that may be on hand that does not have a free market value would be the waste generated in the operation of the business. All other materials are either reclaimed on a toll basis for the generator of the material, or is purchased by the Company for subsequent reclamation and resale. The following describes the intended disposition of any materials that might be on hand in the event of facility closure:

1) All material received for toll reclamation will be returned to the generator,

2) All material purchased for reclamation and subsequent resale will be sold to another reclamation firm, and

3) All material generated by the facility will be disposed of in an approved manner.

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Since the materials in #1 and #2 above represent a no-cost, or probably a negative cost situation, the Closure Plan Cost Estimate is based on disposal of the material from #3, and the decontamination of all storage tanks and equipment used to contain all materials listed above.

Quantity of Material:

As described, the quantity of material requiring disposal is limited to the amount generated by the facility in the normal course of business that is still on site. The normal procedure is to accumulate material in drums until a quantity suitable for shipment is on hand. This quantity is in the order of 80 to 90 drums of waste. Since the wastes are segregated into two categories, chlorinated (F001, F002), and ignitable (D001, F003, F005), which are shipped separately, the total quantity of waste for disposal on hand at any time would be less than 200 drums.

Decontamination of Equipment:

As described, the basic business of the Company is Solvent and Chemical Reclamation. As such, only a small portion of the resources of the facility are concerned with the storage of hazardous waste. Although the total number of tanks are large, a limited number of these tanks are in use at any one time for the storage of hazardous waste. The operation of the business dictates the transfer of material to tanks prior to the recovery operation. Each chemical material is segregated in a separate tank to prevent cross contamination of materials. The number of materials "staged" in tanks prior to processing can vary, but it is safe to assume that in the event of Closure of the facility the total number of tanks that would require decontamination would be limited to 5.

Since the material stored in these tanks would have a current market value, the cost of removal of this material is not used in this calculation. However, the cost of removing any residual material, and the cleaning of the tank has been calculated. For the purposes of this report, the tank sizes are assumed to be:

2 each - 10,000 gallon vertical SS tanks

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IEPA-DLPC

2 each - 5,400 gallon vertical SS tanks

1 each - 1,500 gallon vertical SS tanks

Facility Decontamination:

Since no material is disposed of within the boundaries of the facility, decontamination of the facility entails the removal of all drums from the container storage area, removal of all residual material from the drain and sump areas, and washing of the entire container storage area, and subsequent disposal of the washing agent.

Additionally, the dike areas surrounding the storage tanks will be tested to see if decontamination is necessary, and if so, these will have residual materials removed, and the dikes will be washed, with the washing agent being disposed of.

Closure Cost Estimate:

The following cost estimate assumes a worst case situation regarding the closure of the facility. All possibilities of contamination have been assumed, with the maximum clean-up effort being required.

Assumed in the following estimate is the maximum number of drums being on hand, along with 5 tanks requiring work to decontaminate them, two dikes requiring decontamination, and the container storage area requiring decontamination. Although the likelihood of all situations being required at the same time is low, the estimate does represent a possibly realistic condition.

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IEPA-DLPC

POST CLOSURE REQUIREMENTS

The nature of the business of the Company in its use of the facility for Solvent and Chemical Reclamation is such that no material is disposed of within the boundaries of the facility. As a result of this practice, the requirements of 40 CFR, Parts 264.144 and 264.145 do not apply, as per the applicability requirements stated in 40 CFR, part 264.140.

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IEPA-DLPC

CLOSURE COST ESTIMATE

Tank cleaning:		
Labor:		
96 man hours @ $25.00/hour=		$2400.00
Disposal of Washing Agent:		
16150 gallons @ $0.15/gallon=		$2422.50
	Sub-total=	$4822.50
Container Storage Area Cleaning:		
Labor:		
32 man hours @ $25.00/hour=		$1600.00
Disposal of Washing Agent:		
4000 gallons @ $0.15/gallon=		$ 600.00
	Sub-total=	$2200.00
Dike Area Cleaning:		
Labor:		
120 man hours @ $25.00/hour=		$3000.00
Disposal of Washing Agent:		
20000 gallons @ $0.15/gallon=		$3000.00
	Sub-total=	$6000.00
Waste Material Disposal:		
Labor:		
24 man hours @ $25.00/hour=		$ 600.00
Disposal of Ignitables:		
5500 gallons @ $0.15/gallon=		$ 825.00
Disposal of Chlorinateds:		
5500 gallons @ $0.18/gallon=		$ 990.00
	Sub-total=	$2415.00
	Total=	$15437.00
Contingency @ 20%=		$ 3087.40
	Grand Total=	$18524.40

RECEIVED
FEB 04 1985
IEPA-DLPC

INTERNATIONAL DEPARTMENT
P.O. Box [illegible]
Chicago, Illinois [illegible]

HARRIS BANK

Cable Address: HARRISBANK
Telex: [illegible]
Swift Address: HATRUS44

OUR L/C NUMBER SPL26922

JUNE 01, 1984
PAGE 1

AMOUNT AVAILABLE:
USD 20,000.00
U. S. DOLLARS
TWENTY THOUSAND AND NO/100.

BENEFICIARY:
DIRECTOR, ILLINOIS
ENVIRONMENTAL PROTECTION
AGENCY
2200 CHURCHILL ROAD
SPRINGFIELD,
ILLINOIS 62706

APPLICANT:
CUSTOM ORGANICS, INC.
1445 WEST 42ND STREET
CHICAGO,
ILLINOIS 60609

EXPIRY DATE APRIL 20, 1985

THIS IS THE ORIGINAL LETTER OF CREDIT.

DEAR SIRS,

WE HEREBY ISSUE IN YOUR FAVOR THIS IRREVOCABLE LETTER OF CREDIT FOR USD20,000.00 WHICH IS AVAILABLE AGAINST YOUR DRAFT DRAWN AT SIGHT ON US ACCOMPANIED BY THE FOLLOWING:

A) YOUR SIGNED STATEMENT READING AS FOLLOWS: "I CERTIFY THAT THE AMOUNT OF THE DRAFT IS PAYABLE PURSUANT TO REGULATIONS ISSUED UNDER AUTHORITY OF THE ENVIRONMENTAL PROTECTION ACT, ILL. STAT. 1981, CH 111 1/2, PAR. 1001 ET SEQ., AS AMENDED."

THIS LETTER OF CREDIT IS EFFECTIVE AS OF APRIL 20, 1984 AND SHALL EXPIRE ON APRIL 20, 1985 BUT SUCH EXPIRATION DATE SHALL BE AUTOMATICALLY EXTENDED WITHOUT AMENDMENT FOR A PERIOD OF ONE YEAR ON APRIL 20, 1985 AND ON EACH SUCCESSIVE EXPIRATION DATE, UNLESS, AT LEAST 120 DAYS BEFORE THE CURRENT EXPIRATION DATE, WE NOTIFY BOTH YOU AND CUSTOM ORGANICS, INC. BY CERTIFIED MAIL THAT WE HAVE DECIDED NOT TO EXTEND THIS LETTER OF CREDIT BEYOND THE CURRENT EXPIRATION DATE. IN THE EVENT YOU ARE SO NOTIFIED, ANY UNUSED PORTION OF THE CREDIT SHALL BE AVAILABLE UPON PRESENTATION OF YOUR SIGNT DRAFT WITHOUT SUBMITTAL OF THE STATEMENT REFERENCED ABOVE.

DRAFTS MUST BE MARKED AS DRAWN UNDER THIS LETTER OF CREDIT.

WHENEVER THIS LETTER OF CREDIT IS DRAWN ON UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS CREDIT, WE SHALL DULY HONOR SUCH DRAFT UPON PRESENTATION TO US AT OUR PRINCIPAL OFFICE IN CHICAGO, ILLINOIS.

REFERENCE IN THIS LETTER OF CREDIT TO REGULATIONS ISSUED UNDER THE ENVIRONMENTAL PROTECTION ACT IS FOR IDENTIFICATION PURPOSES ONLY AND IS NOT MADE AN INTEGRAL PART OF THIS LETTER OF CREDIT.

THIS CREDIT IS SUBJECT TO THE "UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS" (1974 REVISION), INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION NO. 290.

HARRIS TRUST AND SAVINGS BANK

AUTHORIZED SIGNATURE

1/31/85

Illinois Environmental Protection Agency : 2200 Churchill Road, Springfield, IL 62706

217/782-6762

Certified P 031919 107
Log # FA170

Refer to: 03160053 -- Cook County
Chicago/Custom Organics
ILD 005450697
Pre Enforcement Conference Letter

January 28, 1985

Mr. Gilbert Gavlin, President
Custom Organics, Inc.
1445 West 42nd Street
Chicago, Illinois 60609

Dear Mr. Gavlin:

The Agency has previously informed you of apparent violations and non-compliance with the Illinois Environmental Protection Act and the Rules and Regulations adopted thereunder. These apparent violations are listed below:

1. Failed to provide financial assurance as required by Subtitle G 725.243 (40 CFR 265.143). All owners or operators of each facility must establish financial assurance for closure of the facility.

2. Failed to provide liability insurance as required by Subtitle G 725.247 (40 CFR 265.147). All facilities must have liability coverage for sudden accidental occurrences in the amount of $1 million per occurrence and $2 milion annual aggregate.

3. Failed to submit your closure and/or post closure plan as requested under Subtitle G 725.174, (40 CFR 265.74). All records, including plans required under this part must be furnished upon request.

4. Failed to provide the cost estimate for closure/and or post closure as required by 725.242, (40 CFR 265.142). The owner or operator must prepare a written estimate, in current dollars, of the cost of closing the facility in accordance with the closure plan.

As a result of these apparent violations, it is our intent to refer this matter to the Agency's legal staff for the preparation of a formal enforcement case. The Agency's legal staff will, in turn, refer this matter to the Attorney General's Office for the filing of a formal complaint.

Prior to taking such action, however, you are requested to attend a Pre-Enforcement Conference to be held at 2200 Churchill Road, Springfield, Illinois. The purpose of this Conference will be:

1. To discuss the validity of the apparent violations noted by Agency staff, and

2. To arrive at a program to eliminate existing and/or future violations.

You should, therefore, bring such personnel and records to the Conference as will enable a complete discussion of the above items. We have scheduled the Conference for February 26, 1985, at 10:00 a.m.. If this arrangement is inconvenient, please call Rama K. Chaturvedi, Manager, Permit Development Unit at 217/782-6762 for an alternative date and time.

In addition, please be advised that this letter constitutes the notice required by Section 31(d) of the Illinois Environmental Protection Act prior to the filing of a formal complaint. The cited Section of the Illinois Environmental Protection Act requires the Agency to inform you of the charges which are to be alleged and offer you the opportunity to meet with appropriate officials within thirty days of this notice date in an effort to resolve such conflict which could lead to the filing of formal action.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:AV/maw/0184E/1-2
Attachment

cc: Division File
Gary King, Senior Attorney
Maywood Region

DATE: 1-18-85

ILD Number ILD 005450697

FACILITY NAME Custom Organics

TYPE OF MEETING: FACEM/PECL

Attendance at Meeting:

IEPA	Facility
Gary King	
Rama Chaturvedi	
Andy Vollmer	

Message: Send PECL

P 731 919 059
12/24/84

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-6762

Log # FA 170

Refer to: 03160053 -- Cook Co.
Chicago/Custom Organics
ILD 005450697

December 21, 1984

Custom Organics, Inc.
1445 West 42nd St.
Chicago, Illinois 60609

Attn: Mr. Gilbert Gavlin, President

Dear Mr. Gavlin:

The purpose of this letter is to address the status of your facility in relation to the Rules and Regulations of Title 35, Illinois Administrative Code, Part 725, Subpart H, Financial Requirements. The following apparent violations have been identified.

1. Failed to provide financial assurance as required by Subtitle G 725.243 (40 CFR 265.143). All owners or operators of each facility must establish financial assurance for closure of the facility.

2. Failed to provide liability insurance as required by 725.247 (40 CFR 265.147). All facilities must have liability coverage in the amount of $1 million per occurrence and $2 million annual aggregate.

3. Failed to submit your closure/post closure plan and cost estimate as requested under 725.174 (40 CFR 265.74). All records, including plans required under this part must be furnished upon request.

4. Failed to respond to our letter of March 19, 1984.

Your letter of August 3, 1983 attempts to respond to these apparent violations, however this response does not demonstrate compliance with the requirements set forth in the above regulations.

Please submit in writing, within fifteen (15) calendar days of the date of this letter the reasons for the apparent violations as well as a description of the steps you have instituted to correct the above cited violations.

Your written response should be directed to:

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Attention: Rama K. Chaturvedi, Manager
Permit Program Development Unit
Permit Section

Further, please take notice that non-compliance with the Illinois Environmental Protection Act or the Rules and Regulations of the Illinois Pollution Control Board, may be the subject of Enforcement action pursuant to Title VIII of the Illinois Environmental Protection Act, Chapter 111 1/2, Ill. Rev. Stat. Section 1001, et seq (1983).

If you have any questions or if we can be of assistance, please contact Andrew Vollmer or the undersigned at the above number.

Very truly yours,

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:AVV:bjh/2368D/22,23

cc: Northern Regional Office
Compliance Monitoring Section
Gary King, Senior Attorney
Division File

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-9884

Log # FA 170

Refer to: 03160053 -- Cook County
Chicago/Custom Organics
ILD005450697

March 19, 1984

Custom Organics, Inc.
1445 West 42nd Street
Chicago, Illinois 60609

Attention: Gilbert Gavlin, President

Dear Owner or Operator:

Enclosed are the State of Illinois Financial Assurance instrument forms and instructions to be used to fulfill your financial responsibility and liability assurances. Please be advised that you are also required to submit your most recent closure and/or post-closure plan (if not previously submitted) and your deviation of closure/post-closure costs.

In a cover letter for the submission of your documents, please show the date of the last inflation adjustment and the inflation factor used. (Current inflation factor may be obtained by calling the USEPA RCRA Hotline at 800.424-9346).

Prior to submission, please check to see that complete mailing addresses are provided for all facilities and owners, all instruments have original ink signatures, corporate seals are affixed as required, all USEPA identification numbers are correct, all policy numbers, etc., are correct and current in force and that Standby Trust Agreements are submitted with Letters of Credit and Surety Bonds. When checking USEPA identification numbers for all facilities be sure that the permanent ILD number is used and not the temporary ILT number.

If you have any questions, or if we can be of assistance, please do not hesitate to contact Andrew Vollmer at (217)782-9884.

Very truly yours,

Rama K. Chaturvedi

Rama K. Chaturvedi, P.E., Manager
RCRA Unit
Permit Section
Division of Land Pollution Control

RKC:AAV:jk/603d,9

Enclosure

cc: Division File
Region
Compliance Section

CustomOrganics Inc.

1445 WEST 42ND STREET • CHICAGO, ILLINOIS 60609 • 312/247-2828

August 3, 1983

Mr. George Perry
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Dear Mr. Perry:

As discussed on August 2, 1983, Custom Organics is currently investigating the securance on an ILC to meet the requirements of 40CFR265.145. Although this instrument can be secured immediately, we plan to wait until the forms developed by the State for this instrument are available. I would appreciate your sending copies of those forms at your earliest convenience.

Additionally, copies of our Certificate of Insurance required by 40CFR265.147 have been requested. Although this policy has been in effect for some time, there is some question as to whether the wording required in 40CFR265.151(i) is consistent with our current policy. If it is not, arrangements will be made to alter the existing policy as may be required.

I trust that this will meet with the agency's approval, and that final action on both matters be completed shortly. If you have any questions, or require any additional information, please feel free to contact me.

Yours truly,

David A Durakovich

David A. Durakovich

DAD:bb

RECEIVED
AUG - 8 1983
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

217/782-5544

July 25, 1983

Certified Mail
Return Receipt Requested

Custom Organics, Inc.
1445 West 42nd Street
Chicago, Illinois 60609

Attn: Gilbert Gavlin, President
ILD005450697

Dear Mr. Gavlin:

Laws of both the Federal Government and the State of Illinois require an owner or operator of each hazardous waste management facility to provide assurance that funds will be available for properly closing, and in the case of a disposal facility, for maintaining and monitoring facilities after closure. Such financial responsibility assurances have been found necessary by the numerous instances of environmental damage resulting from the abandonment of facilities and other failure for closure and post-closure care in a timely manner.

Proof of financial responsibility as discussed above was to have been supplied to the Director of the Illinois Environmental Protection Agency. However, it appears that a hazardous waste management facility in your organization has failed to comport with the law by failing to submit the required financial assurances to the Illinois Environmental Protection Agency. The name of the facility in question is Custom Organics, Inc., located at 1445 West 42nd Street, Chicago, Illinois 60609.

Failure to supply the required proof of financial responsibility is a violation of 35 Ill. Adm. Code Subpart H (see particularly Sections 725.243 and 725.245). Additionally, failure to submit proof of financial responsibility violates Sections 21(e), 21(f)(2), and 21 (i) of the Illinois Environmental Protection Act (Ill. Rev. Stat., Ch. 111-1/2, pars. 1021(e), 1021(f)(2), and 1021(i)). Finally, failure to submit proof of financial responsibility is a violation of the Code of Federal Regulations. (See 40 CFR Subpart H).

Please take notice that a violation of the Illinois Environmental Protection Act or any regulations adopted thereunder may subject the violator to a civil penalty not to exceed $10,000 for said violation and an additional penalty not to exceed $1,000 for each day during which the violation continues. Furthermore, certain violations of the Illinois

Environmental Protection Act, including Sections 21(f) and 21(i), may subject the violator to a civil penalty not to exceed $25,000 per day, each day the violation continues (see Illinois Environmental Protection Act at Section 42 for potential civil penalties and Section 44 for potential criminal sanctions).

You are hereby advised that documentation demonstrating compliance with the applicable proof of financial responsibility must be submitted to the Illinois Environmental Protection Agency no later than ten (10) working days after receipt of this communication. The Director of this Agency has designated Mr. Andrew Vollmer as the Agency employee responsible for accepting and filing proof of financial responsibility. Therefore, your submissions should be made directly to Mr. Andrew Vollmer, Illinois Environmental Protection Agency, Division of Land Pollution Control, 2200 Churchill Road, Springfield, Illinois 62706.

Please take notice that failure to supply the required proof of financial responsibility will cause this Agency to refer the matter to the Illinois Attorney General's Office for prosecution. Additionally, the Agency will formally refer the matter to the United States Environmental Protection Agency.

Failure to comply with the financial assurance requirements specified under the law is viewed by this Agency as an inexcusable and serious deviation from laws designed to protect our environment for future generations. Any referral for prosecution resulting from continued failure to comply with the law will be accompanied by this Agency's recommendation that the prosecuting agency seek the maximum penalties allowable under law.

In the very near future, the Illinois Environmental Protection Agency will be releasing a list of all hazardous waste management facilities that failed to submit required proof of financial responsibility. Your prompt and satisfactory response to this communication is urged.

Sincerely,

Mr. Robert G. Kuykendall
Manager
Division of Land Pollution Control

RGK:gml/7500c/44-45

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-5544

July 25, 1983

Certified Mail
Return Receipt Requested

Custom Organics, Inc.
1445 West 42nd Street
Chicago, Illinois 60609

Attn: Gilbert Gavlin, President
ILD005450697

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Sincerely,

RGKuyk. [illegible]

Mr. Robert G. Kuykendall
Manager
Division of Land Pollution Control

RGK:qml/7500c/44-45

Facility Status Sheet

FORM SUBMITTED
BY: (Initials)
DATE: ___/___/___ (M D Y)

A. EPA ID: 1 L D 0 0 5 4 5 0 6 9 7 State Inventory No. 0316000053
FACILITY NAME: Custom Organics

A1. Entry type: ☐ New ☐ Update

A2. Facility type: ☐ Major ☐ Non-major

1. GROUNDWATER MONITORING
Status: 1A. ☐ Detection (Go on to 2) ☐ Assessment (Go on to 2) ☐ Waiver (Skip to 6) ☐ NA (Skip to 8)

	EVALUATED?	ADEQUATE?	
2. Groundwater Monitoring Well System:	2A. ☐ NE Date ___/___/___ (M D Y)	2B. ☐ Yes ☐ No	
3. Groundwater Sampling, Analysis and Evaluation Program:	3A. ☐ NE Date ___/___/___ (M D Y)	3B. ☐ Yes ☐ No	
4. Notice of Significant Increase in Concentrations:			4A. Submitted? ☐ No ___/___/___ (M D Y)
5. Groundwater Quality Assessment Report:			5A. Submitted? ☐ No ___/___/___ (M D Y)
	5B. ☐ NE Date ___/___/___ (M D Y)	5C. ☐ Yes ☐ No	5D. Showed hazardous constituents in ground water? ☐ Yes ☐ No
6. Waiver Demonstration:	6A. ☐ NE Date ___/___/___ (M D Y)	6B. ☐ Yes ☐ No	
7. Groundwater Monitoring Records:	7A. ☐ NA ☐ NE Date ___/___/___ (M D Y)	7B. ☐ Yes ☐ No	
8. Activities Subject to CLOSURE/POSTCLOSURE:	☐ Landfill ☐ Surface Impoundment ☐ Land Treatment/Application	☐ Incinerator ☐ Waste Pile ☒ Other (Specify) Treatment	

11/7/83

	EVALUATED?	ADEQUATE?	
9. Closure Plan:	9A. ☐ NA ☐ NE Date ___/___/___ M D Y	9B. ☐ Yes ☐ No	
10. Closure Cost Estimate:	10A. ☐ NA ☐ NE Date ___/___/___ M D Y	10B. ☐ Yes ☐ No	10C. Amount: $_____ UNKNOWN ☐
11. Closure Assurance Instrument(s):	11A. ☐ NA ☐ NE Date ___/___/___ M D Y	11B. ☐ Yes ☐ No	
	11C. Instrument type(s): ☐ Trust Fund ☐ Financial Bond ☐ Performance Bond ☐ Letter of Credit ☐ Insurance ☐ Financial Test ☐ Corporate Guarantee ☐ State Guarantee ☐ Other State Mechanism		
12. Post-closure Plan:	12A. ☐ NA ☐ NE Date ___/___/___ M D Y	12B. ☐ Yes ☐ No	
13. Post-closure Cost Estimate:	13A. ☐ NA ☐ NE Date ___/___/___ M D Y	13B. ☐ Yes ☐ No	13C. Amount: $_____ UNKNOWN ☐
14. Post-closure Assurance Instrument(s):	14A. ☐ NA ☐ NE Date ___/___/___ M D Y	14B. ☐ Yes ☐ No	
	14C. Instrument type(s): ☐ Trust Fund ☐ Financial Bond ☐ Performance Bond ☐ Letter of Credit ☐ Insurance ☐ Financial Test ☐ Corporate Guarantee ☐ State Guarantee ☐ Other State Mechanism		
15. Sudden Liability Instrument(s):	15A. ☐ NA ☐ NE Date ___/___/___ M D Y	15B. ☐ Yes ☐ No	15C. Amount? $_____ per occurrence $_____ annual aggregate
	15D. Instrument type(s) ☐ Insurance Policy ☐ Financial Test ☐ State Guarantee ☐ Other State Mechanism		
16. Non-sudden Liability Instrument(s):	16A. ☐ NA ☐ NE Date ___/___/___ M D Y	16B. ☐ Yes ☐ No	16C. Amount? $_____ per occurrence $_____ annual aggregate
	16D. Instrument type(s): ☐ Insurance Policy ☐ Financial Test ☐ State Guarantee ☐ Other State Mechanism		

17. Closure Process:	17A. Process begun?		☐ No	Date Begun ___/___/___ M D Y
	17B. In accordance with approved plan and required procedures?	☐ Yes	☐ No	
	17C. Closure certifications received?		☐ No	Date Received ___/___/___ M D Y
	17D. Facility released from closure assurance and liability requirements?	☐ NA	☐ No	Date Released ___/___/___ M D Y
18. Post-Closure Process:	18A. Process begun?		☐ No	Date Begun ___/___/___ M D Y
	18B In accordance with approved plan and required procedures?	☐ Yes	☐ No	
	18C. Survey plat/record of wastes received?		☐ No	Date Received ___/___/___ M D Y
	18D. Post-closure period completed?		☐ No	Date Completed ___/___/___ M D Y
	18E. Facility released from post-closure assurance requirements?	☐ NA	☐ No	Date Released ___/___/___ M D Y
19. Permit Application:	19A. Called In?		☐ No	Date Called ___/___/___ M D Y
	19B. Reason for permit application call-in: ☐ Groundwater ☐ Financial Assurance ☐ Closure ☐ Liability Coverage ☐ Other			
20. Comments:				

STANDBY

TRUST AGREEMENT

Trust Fund Number 81144 (1)

ıst Agreement, the "Agreement," entered into as of June 27, 1985 (2) by and between Custom Organics Inc. (3), an Illinois corporation, the "Grantor," and Harris Trust and Savings Bank (4), an Illinois corporation (5), the "Trustee." (6)

Whereas, the Illinois Pollution Control Board, "IPCB," has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility.

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, Therefore, the Grantor and the Trustee agree as follows:

RECEIVED
JUL 01 1985
IEPA-DLPC

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A (on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement).

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Illinois Environmental Protection Agency (IEPA). The Grantor and the Trustee intend that no other third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by IEPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the IEPA Director shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the IEPA Director from the Fund for closure and post-closure expenditures in such amounts as the IEPA Director shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the IEPA Director specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that;

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

This Agency is authorized to require, pursuant to Illinois Revised Statutes, 1981, Chapter 111 1/2, Section 21(f), that this information be submitted to the Agency by the owner or operator of a hazardous waste storage, treatment or disposal site. Failure to provide the information may result in a civil penalty against the owner or operator of not to exceed $25,000 per day of violation. Falsification of this information by any person may constitute a Class 4 felony, and may also carry a fine for the first offense of not to exceed $25,000 per day. This form has been approved by the Forms Management Center.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the IEPA Director a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the IEPA Director shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the IEPA Director, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the IEPA Director to the Trustee shall be in writing, signed by the IEPA Director or his designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or IEPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or IEPA, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the IEPA Director, by certified mail within 10 days following the expiration of the 30-day period after the anniversay of the establishment of the Trust, if no payment is received from the Grantor during that period. After the payin period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the IEPA Director, or by the Trustee and the IEPA Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the IEPA Director, or by the Trustee and the IEPA Director, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the IEPA Director issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Illinois.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

Attest Signature of Grantor Gilbert Gavlin
Typed Name Gilbert Gavlin, Custom Organics Inc.
Title President

Seal

Attest Signature of Grantor James Ostrowski
Typed Name James Ostrowski, Custom Organi
Title Environmental Engineer

Seal

Attest Signature of Trustee [signature]
Typed Name Harris Trust and Savings Bank
Title Assistant Secretary

Seal

Attest Signature of Trustee [signature]
Typed Name Harris Trust and Savings Bank
Title Vice President

Seal

CERTIFICATION OF ACKNOWLEDGEMENT

State of Illinois (1)

County of Cook (2)

The foregoing instrument was acknowledged before me this 28th June, 1985 (3) by P. Adamek (4) of Custom Organics (5) a Illinois (6) corporation (7) on behalf of the corporation.

Carolyn Gavlin (8)
Signature of Notary Public

Seal

RECEIVED
JUL 01 1985
IEPA-DLPC