

July 2, 2020

Transmitted Via Electronically

Cametoid Technologies, Inc.
150 Colonial Road
Manchester, CT 06040
Attn: Mr. John W. Adams, President

Re: Final Consent Order

Dear Mr. Adams:

Enclosed is an electronic copy of the Consent Order negotiated between Cametoid Technologies, Inc. and the Department of Energy and Environmental Protection to address violations of the hazardous waste management regulations.

If you have any comments or questions on the substantive requirements and/or scheduling deadlines presented in the consent order, contact Evelyn Sylva of my staff at (860) 424-3209 or via email at Evelyn.Silva@ct.gov.

Sincerely,



Robert C. Isner, Director
Waste Engineering and Enforcement Division
Bureau of Materials Management and Compliance Assurance

RCI:es

Encl: Final Consent Order

Sent via electronic certified mail

Electronic certified mail # 9414814901585922106399

c: Atty. Michael Miller, Wiggin and Dana, LLP, One Century Tower, 265 Church Street,
New Haven, Connecticut 06510
Julie Dutton, DEEP/WEED

STATE OF CONNECTICUT

V.

CAMETOID TECHNOLOGIES, INC.

CONSENT ORDER No. WSWDH 20003

Date Issued: July 2, 2020

- A. With the agreement of Cametoid Technologies, Inc. ("Respondent"), the Commissioner of Energy and Environmental Protection ("the Commissioner") finds:
1. Respondent is a corporation registered to do business in Connecticut with the Connecticut Secretary of the State with the business and mailing address of 150 Colonial Road in Manchester, Connecticut (the "Site").
 2. Respondent is or has been a generator of hazardous waste at the Site.
 3. Based on the findings of inspections of the Site performed by the Department of Energy and Environmental Protection (the "Department"), Bureau of Materials Management and Compliance Assurance, Waste Engineering and Enforcement Division on July 9, 2019 and July 26, 2019, and the November 28, 2019 submittal by Respondent in response to Department requests, Respondent:

Findings related to July 9, 2019 and July 26, 2019 inspections:

- a. Failed to determine whether each waste generated at the Site is a hazardous waste as required by Section 22a-449(c)-102(a)(2)(A) of the Regulations of Connecticut State Agencies ("RCSA"), which incorporates by reference Title 40 of the Code of Federal Regulations ("CFR") 262.11 with specified changes. Specifically, the Department discovered hazardous waste determinations were needed for several waste streams associated with Respondent's manufacturing operations at the Site including solvent contaminated debris, pain contaminated debris, chromic acid contaminated debris, wastewater from chrome conversion coating wastewater, alkali strip tank wastewater and evaporator concentrate.
- b. Failed to ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies as required by Section 22a-449(c)-102(a)(2)(K) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(4) and 265.16 with specified changes. Specifically, the Department discovered no evidence documenting the completion of required hazardous waste management training was provided of affected employees.
- c. Failed to maintain records with job titles, job descriptions and the name of each employee filling



each position at the facility related to hazardous waste management as required by Section 22a-449(c)-102(a)(2)(K) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(4) and 265.16(d)(1) through (4). Specifically, the Department discovered no documentation was being maintained that specifically identified job titles and job descriptions for on-site employees conducting hazardous waste activities.

- d. Failed to inspect tanks and containers holding hazardous waste at the minimum frequency as required by Section 22a-449(c)-102(b)(2) of the RCSA, which incorporates by reference 40 CFR 265.15(b)(4) with specified changes. Specifically, the Department discovered documentation of inspections being performed monthly; no documentation of weekly inspections was made available.
- e. Failed to review, and immediately amend the contingency plan when necessary pursuant to the provisions under 40 CFR 265.54 as required by Section 22a-449(c)-102(a)(2)(K) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(4) and 265.54. Specifically, the Department discovered during its inspection that the version of the plan that was made available was not updated to reflect new staff and processes.
- f. Failed to prepare and submit a biennial report as required by Section 22a-449(c)-102(a)(2)(AA) of the RCSA, which incorporates 40 CFR 262.41(a) with specified changes. Specifically, the Department discovered evidence that, during calendar years 2015 and 2017, greater than 2,200 pounds (or 1,000 kg) of hazardous waste had been generated at the Site in a calendar month and associated biennial reports were not submitted for the 2015 and 2017 calendar years.
- g. Failed to label or mark accumulation containers/tanks of hazardous waste with the words "Hazardous Waste" and other words that identify the contents as required by Section 22a-449(c)-102(a)(2)(J) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(3) with specified changes. Specifically, the Department discovered a 55-gallon satellite container located in the spray paint booth accumulating waste paint and spent methyl ethyl ketone with a label that did not contain all the required markings.
- h. Failed to keep all containers holding hazardous waste closed except when adding or removing waste as required by Section 22a-449(c)-102(a)(2)(E) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(1)(i) and 265.176. Specifically, the Department discovered two 55-gallon satellite containers located in the spray paint booth accumulating waste paint and spent methyl ethyl ketone from gun cleaning that were not kept closed.

Findings related to review of November 28, 2019 submittal:

- i. Failed to have interim status or obtain a permit from the Commissioner prior to treating hazardous waste at the Site as required by Section 22a-449(c)-110(a)(2) of the RCSA, incorporating by reference 40 CFR 270.1(c) with specified changes. Specifically, during the inspection, the Department discovered one 1600-gallon evaporator tank receiving inbound wastewaters with the potential to be hazardous. Based on analytical results provided by the Respondent, it appears that this tank had been receiving hazardous waste. Therefore, a permit would be required prior to treating hazardous waste
- j. Failed to obtain a permit to operate a hazardous waste storage facility prior to storing hazardous waste for greater than 90 days as required by Section 22a-449(c)-102(a)(2)(L) of the RCSA, which incorporates by reference 40 CFR 262.34(b) with specified changes. Specifically, the Department discovered records at the Site indicating the evaporator concentrate from the 1600-gallon tank was cleaned out and shipped off-site annually. Respondent was found to be operating as a Large Quantity Generator which requires hazardous waste at the Site to be stored no longer than 90 days.



- k. Failed to obtain a written assessment certified by a professional engineer attesting that hazardous waste tank systems have sufficient structural integrity and are acceptable for the storing and treating of hazardous waste as required by Section 22a-449(c)-102(a)(2)(F), which incorporates by reference 40 CFR 262.34(a)(1)(ii) and 265.192. Specifically, documentation demonstrating that the 1600-gallon evaporator tank system had been assessed and certified by a professional engineer for safety and adequacy to store or treat hazardous waste was not available.
 - l. Failed to provide each tank system with sufficient secondary containment and leak detection systems to prevent the release of hazardous waste or hazardous waste constituents to the environment as required by Section 22a-449(c)-102(a)(2)(F) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(1)(ii) and 265.193. Specifically, the 1,600 gallon tank was equipped with an 8-inch steel berm bolted to the concrete floor. However, this berm was not adequately sealed. The 1,600-gallon evaporator tank therefore does not have adequate secondary containment, corrosion protection or leak detection systems in place.
 - m. Failed to conduct regular inspections for the 1,600 gallon tank as required by Section 22a-449(c)-102(a)(2)(F) of the RCSA, which incorporates by reference 40 CFR 262.34(a)(1)(ii) and 265.195. Specifically, documentation demonstrating that inspections had been conducted on the tank was not available.
4. By virtue of the above, Respondent has violated certain Sections 22a-449(c)-100 through 119 of the RCSA, incorporating 40 CFR Parts 260 through 279 and Chapter 446d of the Connecticut General Statutes (CGS).
 5. October 22, 2019, the Department issued Notice of Violation No. NOVWSWDH19046 to Respondent to correct the violations discovered as a result of the July 2019 inspection and listed in paragraph A.3.a through A.3.h.
 6. On November 28, 2019, analytical findings confirmed inbound wastewaters from the chrome conversion line into the 1,600-gallon evaporator tank exceed the regulatory limit for chromium. Therefore, additional violations pertaining to noncompliance with tank regulations are listed in paragraph A.3.i through A.3.m.
 7. During the Department's second inspection date on July 26, 2019, violations corresponding to those listed in paragraphs A.3.c, A.3.d, A.3.g, and A.3.h of this Consent Order were reported to be in compliance. In correspondence received by the Department on November 28, 2019 and December 11, 2019, including supporting documentation, Respondent represented violations in paragraphs A.3.a, A.3.b, A.3.e of this Consent Order have been returned to compliance. Resolution of paragraphs A.3.f and A.3.i through A.3.m remains outstanding.
 8. By agreeing to the issuance of this Consent Order, Respondent makes no admission of fact or law with respect to matters addressed herein, including the allegations set forth above, other than the facts asserted in paragraphs A.1., A.2., and A.5. of this Consent Order.
- B. With the agreement of Respondent, the Commissioner, acting under Sections 22a-6 and 22a-449 of the CGS, orders Respondent as follows:
1. Respondent shall bring all violations identified in paragraphs A.3 above into compliance and maintain its compliance with all the applicable provisions of the RCSA Section 22a-449(c)-100, et. seq., including but not limited to those regulations applicable to generators of hazardous waste identified in paragraphs A.3 above in accordance with the following schedule:
 - a. Retention of Consultant: Respondent has identified Fuss & O'Neill, Inc. ("F&O") as the qualified consultant, who is acceptable to the Commissioner, to prepare the documents and implement or oversee the actions required by this Consent Order. Respondent shall retain F&O or a qualified



- environmental consultant acceptable to the Commissioner until this Consent Order is fully complied with. Within ten (10) days after retaining any qualified consultant(s) other than one originally identified and approved under this paragraph, the Respondent shall notify the Commissioner in writing of the identity of and receive written approval of such other qualified consultant(s) from the Commissioner. In order to seek approval of a qualified consultant, Respondent shall submit to the Commissioner a description of a qualified consultant's education, experience and training which is relevant to the work required by this Consent Order. Nothing in this paragraph shall preclude the Commissioner from finding a previously acceptable consultant unacceptable.
- b. On or before **seventy-five (75) days** after the date of issuance of this Consent Order, Respondent shall, except as specified in paragraphs B.1.c and B.1.d of this Consent Order, perform all actions which it failed to perform as specified in paragraphs A.3.f and A.3.i through A.3.m of this Consent Order and submit for the review and written approval of the Commissioner the details of all such corrective actions, and supporting documentation demonstrating that required corrective actions have been completed.
 - c. On or before **ninety (90) days** after the date of issuance of this Consent Order, Respondent shall fully remove or cause the removal and proper disposal of the evaporator concentrate from the 1,600-gallon evaporator tank and submit a report, developed by F&O for the Commissioner's review and approval, confirming completion of the removal. The report shall include, but not be limited to, copies of photographs documenting the removal, analytical results, weight tickets, trip tickets, bills of lading, and/or manifests demonstrating that the waste has been fully removed from the Site.
 - d. On or before **one hundred twenty (120) days** after the date of issuance of this Consent Order, Respondent shall complete or cause the completion of closure of its former hazardous waste storage area at the Site, specifically the 1,600-gallon evaporator tank, in accordance with the guidance set forth in the "Draft RCRA Closure Guidance for Generators Who Store Less than 90 Days Container Storage Areas and Tank Systems," a copy of which is attached hereto as **Exhibit A**, and submit a report, developed by F&O for the Commissioner's review and approval, certifying completion of such closure activities.
 - e. On or before **one hundred twenty (120) days** after the date of issuance of this Consent Order, Respondent shall submit for the Commissioner's review and written approval a plan detailing additional actions and/or operational changes to ensure future compliance with the requirements specified in paragraph A.3 of this Consent Order. Within **five (5) days** after the Commissioner approves such plan, Respondent shall carry out the plan and maintain it in full effect thereafter.
2. Full compliance. Respondent shall not be considered in full compliance with this Consent Order until all actions required by this Consent Order have been completed as approved and to the Commissioner's satisfaction.
 3. Status of NOVSWDHI9046: This Consent Order supersedes and fully and finally resolves all allegations set forth in NOVSWDHI9046.
 4. Civil penalty. On or before **fourteen (14) days** after the date of issuance of this Consent Order, Respondent shall pay a penalty of **Eighteen Thousand Eight Hundred Dollars (\$18,800)** as the total civil penalty to be sought by the Commissioner for those, and only those, violations described in paragraphs A.3 above. Payment shall be made in accordance with the protocol described in paragraph B.5 below.
 5. Payment of penalties. Payment of penalties under this Consent Order shall be mailed or personally delivered to the Department of Energy and Environmental Protection, Bureau of Financial and Support Services, Accounts Receivable Office, 79 Elm Street, Hartford, CT 06106-5127, and shall be by certified

or bank check payable to the "Connecticut Department of Energy and Environmental Protection." The check shall state on its face, "Bureau of Materials Management and Compliance Assurance, Waste Engineering and Enforcement Division, Civil Penalty" and the Consent Order number identified on the first page of this Consent Order. A copy of the check as well as any transmittal letter shall be mailed or delivered to Julie Dutton, Bureau of Materials Management and Compliance Assurance, Waste Engineering and Enforcement Division at the same address.

6. Sampling and sample analyses. All sampling and sample analyses which are required by this Consent Order and all reporting of such sample analyses shall be conducted by a laboratory certified by the Connecticut Department of Public Health to conduct such sampling and analyses. All sampling and sample analyses performed under this order shall be performed in accordance with procedures specified or approved in writing by the Commissioner, or, if no such procedures have been specified or approved, in accordance with EPA document SW-846. Unless otherwise specified by the Commissioner in writing, the value of each parameter shall be reported to the maximum level of precision and accuracy specified in the applicable protocol, and if no such level is specified, to the maximum level of precision and accuracy possible.
7. Approvals. Respondent shall use best efforts to submit to the Commissioner all documents required by this Consent Order in a complete and approvable form. If the Commissioner notifies Respondent that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and Respondent shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within thirty (30) days of the Commissioner's notice of deficiencies. In approving any document or other action under this Consent Order, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this Consent Order. Nothing in this paragraph shall excuse noncompliance or delay.
8. Definitions. As used in this Consent Order, "Commissioner" means the Commissioner or a representative of the Commissioner.
9. Dates. The date of "issuance" of this Consent Order is the date the Consent Order is deposited in the U.S. mail or personally delivered, whichever is earlier. The date of submission to the Commissioner of any document required by this Consent Order shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this Consent Order, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is deposited in the U.S. mail or is personally delivered, whichever is earlier. Except as otherwise specified in this Consent Order, the word "day" as used in this Consent Order means calendar day. Any document or action which is required by this Consent Order to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed by the next day which is not a Saturday, Sunday or Connecticut or federal holiday.
10. Certification of documents. Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this Consent Order shall be signed by Respondent or, if Respondent is not an individual, by Respondent's chief executive officer or a duly authorized representative of such officer, as those terms are defined in Section 22a-430-3(b)(2) of the RCSA, and by the individual(s) responsible for actually preparing such document, and each such individual shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, that the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand



that any false statement made in the submitted information may be punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law."

11. Noncompliance. This Consent Order is a final order of the Commissioner with respect to the matters addressed herein, and is non-appealable and immediately enforceable. Failure to comply with this Consent Order may subject Respondent to an injunction and penalties.
12. False statements. Any false statement in any information submitted pursuant to this Consent Order may be punishable as a criminal offense under Section 53a-157b of the CGS and any other applicable law.
13. Notice of transfer; liability of Respondent. Until Respondent has fully complied with this Consent Order, Respondent shall notify the Commissioner in writing no later than fifteen (15) days after transferring all or any portion of the facility, the operations, the Site or the business which is the subject of this Consent Order or after obtaining a new mailing or location address. Respondent's obligations under this Consent Order shall not be affected by the passage of title to any property to any other person or municipality.
14. Commissioner's powers. Except as provided hereinabove with respect to payment of civil penalties, nothing in this Consent Order shall affect the Commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for past, present, or future violations of law. If at any time the Commissioner determines that the actions taken by Respondent pursuant to this Consent Order have not successfully corrected all violations, fully characterized the extent or degree of any pollution, or successfully abated or prevented pollution, the Commissioner may institute any proceeding to require Respondent to undertake further investigation or further action to prevent or abate violations or pollution.
15. Respondent's obligations under law. Nothing in this Consent Order shall relieve Respondent of other obligations under applicable federal, state and local law.
16. No assurance by Commissioner. No provision of this Consent Order and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by Respondent pursuant to this Consent Order will result in compliance or prevent or abate pollution.
17. Access to Site. Any representative of the Department of Energy and Environmental Protection may enter the Site without prior notice for the purposes of monitoring and enforcing the actions required or allowed by this Consent Order.
18. No effect on rights of other persons. This Consent Order neither creates nor affects any rights of persons or municipalities that are not parties to this Consent Order.
19. Notice to Commissioner of changes. Within fifteen (15) days of the date Respondent becomes aware of a change in any information submitted to the Commissioner under this Consent Order, or that any such information was inaccurate or misleading or that any relevant information was omitted, Respondent shall submit the correct or omitted information to the Commissioner.
20. Notification of noncompliance. In the event that Respondent becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this Consent Order or of any document required hereunder, Respondent shall immediately notify by telephone the individual identified in the next paragraph and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. Within five (5) days of the initial notice, Respondent shall submit in writing the date, time, and duration of the noncompliance and the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and Respondent shall comply with any dates which may be approved in writing by the Commissioner. Notification by Respondent shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.




21. Submission of documents. Any document required to be submitted to the Commissioner under this Consent Order shall, unless otherwise specified in this Consent Order or in writing by the Commissioner, be directed to:

Evelyn Silva, Environmental Analyst 2
Department of Energy and Environmental Protection
Bureau of Materials Management and Compliance Assurance
Waste Engineering and Enforcement Division
79 Elm Street, 4th Floor
Hartford, Connecticut 06106-5127

Respondent consents to the issuance of this Consent Order without further notice. The undersigned certifies that he/she is fully authorized to enter into this Consent Order and to legally bind the Respondent to the terms and conditions of the Consent Order.

CAMETOID TECHNOLOGIES, INC.

BY:



John W. Adams, President

Date

6/24/20

Issued as a final order of the Commissioner of Energy and Environmental Protection.



Betsey Wingfield
Deputy Commissioner

June 26, 2020

Date

CONSENT ORDER No. WSWDH 20003

Exhibit A

Draft RCRA Closure Guidance for Generators Who Store Less than 90 Days Container Storage Areas and Tank Systems

JEWC



STATE OF CONNECTICUT
BUREAU OF WASTE MANAGEMENT
ENGINEERING & ENFORCEMENT DIVISION

79 ELM STREET, HARTFORD CT 06106-5127

TEL. (860) 424-3366 TOLL-FREE (RCRA Questions Only): 1-888-424-4193 www.dep.state.ct.us/

DRAFT RCRA CLOSURE GUIDANCE

FOR GENERATORS WHO STORE LESS THAN 90 DAYS

CONTAINER STORAGE AREAS AND TANK SYSTEMS

INTRODUCTION

This document was developed by the Connecticut Department of Environmental Protection (CTDEP) to guide all persons involved in closing Resource Conservation and Recovery Act ("RCRA") container storage areas and tank systems which have been used to store hazardous waste for **LESS THAN**¹ 90 days.

These facilities, known as RCRA "generators", are subject to the provisions of Section 22a-449(c)-102(a)(2)(K) of the Regulations of Connecticut State Agencies, incorporating 40 CFR 265.111, 40 CFR 265.113(a), (b) and (c), and 40 CFR 265.114.

RCRA generator regulations require closure of hazardous waste storage areas in a manner that is protective of human health and the environment, however these regulations neither require that a closure plan be submitted for review and approval nor do they specify the steps necessary for closure. To address this gap in the regulation, this document provides guidance (not regulations) for generators who wish to close.

Generators who plan to discontinue storing hazardous waste, those who are going out of business, and those relocating a waste storage area within their facility and need to close old area(s) will use this document.

Although a written closure plan is not required by regulation or this guidance, we recommend, and in certain circumstances may require that you document all of your closure activities by photographing or video recording each closure activity, (e.g. decontamination, soil excavation, soil sampling events); maintaining analytical results of samples taken after decontamination or removal of contaminated equipment, structures and soil; and maintaining copies of manifests if decontamination activities generated waste which was disposed of offsite. This documentation may also be helpful in meeting the requirements of the Transfer Act (Section 22a-134 of the Connecticut General Statutes) if you ever sell your property.

¹For those generators who stored hazardous waste for greater than 90 days, you may be required to close in accordance with more rigorous requirements. See Attachment A for more information.

This guidance describes how, after the hazardous waste inventory has been removed from the storage facility, you must characterize any residual contamination, clean it up, and verify that the clean-up is complete.

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CHARACTERIZE THE CONTAMINATION

Characterize any residual contamination in three steps:

- I. Develop a list of **constituents of concern (COCs)**. This is a list of all hazardous constituents that were ever stored at your hazardous waste storage area(s);
- II. **Determine if structures or soils are contaminated;**
- III. **Determine the extent of contamination in soils** in order to know how much needs to be cleaned up.

Each step is explained in further detail below.

I. **Constituents of Concern (COCs)**

To develop the COCs for your storage area or tank (regulated unit) you must list all of the hazardous constituents that were ever stored there. Hazardous constituents are those listed in 40 CFR Part 261 Appendix VIII and 40 CFR Part 264 Appendix IX. The following paragraphs A through I are suggested sources of information at your site which can be used for this. You may not have to use every source if one or two sources provide a complete list:

- A. Material Safety Data Sheets,
- B. Hazardous waste inspection reports,
- C. Existing waste analysis records at your facility or the offsite licensed hazardous waste facility which received your waste,
- D. Manifests,
- E. Other environmental permits in place at the facility, e.g. a waste water permit,
- F. Groundwater monitoring parameters, if available,
- G. Interview former employees,
- H. Review CTDEP hazardous waste and water compliance files.
- I. If none of the above are available or adequate, e.g. a site has ceased operation and all records are gone or incomplete, then analyze the waste, structures and/or soil for the constituents listed in **Appendix IX** of 40 CFR Part 264:
 1. Analyze the waste (if still on site) for Appendix IX constituents. Table 1 provides guidance on sampling and analysis of wastes in addition to the following:

- a. Each waste type must be sampled in accordance with Test Methods for Evaluating Solid Waste, dated November 1986, (SW-846). The samples must be representative of all wastes stored at the regulated unit.
 - b. Any Appendix IX constituents detected in the waste that are above the lowest analytical detection level ("hits") must be added to the COC list.
2. Analyze porous secondary containment **structures** (e.g., concrete) for Appendix IX constituents. See Table 1 for guidance on sampling and analysis of porous structures. Any Appendix IX hits must be added to the COC list.
 3. Analyze surrounding and/or underlying soil for Appendix IX constituents. See Table 1 for guidance on sampling and analysis of soil. Any Appendix IX hits are added to the COC list.

II. Determine if Structures or Soils are Contaminated

If you know structures are contaminated, skip this section and go to the section titled CLEAN UP THE CONTAMINATION THAT IS FOUND. If you know soil is contaminated, skip this section and go to the section titled "Determine the Extent of Contamination in Soils". If you believe that neither structures nor soil are contaminated, use the following guidance to verify that the unit is clean.

A. Definitions

1. **"Contamination"** is defined as any COC which is found on/in structures or soil which is above the media closure criteria as measured by both TCLP and mass analysis of a representative sample.
2. **"Media Closure Criteria"** are risk-based standards for each media (structures, soil); they must be developed for each COC. They can be found in the Risk-Based Concentration Table, EPA Region III or the proposed Connecticut Cleanup Standard Regulations which contain "Numeric Cleanup Criteria". If both sources have an MCC for a given constituent, the most stringent must be used.

B. Structures

Verify that structures (e.g. concrete secondary containment system) are clean. See Table 1 for guidance on sampling and analysis of structures

1. Analyze each sample for all COCs, compare each discrete sample result (no compositing of samples) to the relevant media closure criteria. If any result exceeds the media closure criteria (MCC), then contamination is present and it must be cleaned up and verified so as described in the following sections.
2. If each discrete sample result is below the MCC then the structures can be considered free of contamination requiring remediation. Proceed to the next section on determination of the presence/absence of contamination in soils.

C. Soils

Verify that the soils are clean. Inspect the pad for cracks, gaps, slab joints, deteriorating concrete, or anything that could have allowed liquid to pass through to the surrounding or underlying soils. Consider the following:

1. If resurfacing/recoating of pad has concealed cracks, etc. go to step 3 below.
2. Inspect for the above features after a dry sweep of the pad but prior to decontamination,
3. If any of the above features are present, determine if contaminants migrated to the soils using the following procedure:
 - a. Bore a 4-inch core through the containment structure at the suspected conduit(s) and remove plug(s),
 - b. Inspect each plug cross section,
 - c. If feature (e.g. crack) extends through plug, sample each soil horizon down to groundwater or clean soil, whichever comes first, analyze (mass basis) each sample for the indicator COCs or full COC list if indicators are not detected.
 - d. If any sample exceeds MCCs in any soil type then determine the extent of the contamination as described in the next section.
 - e. If crack does not extend through plug but volatile organics are on the constituent of concern list, use a portable organic vapor analyzer to measure soil vapors in the slab borehole.
 - If volatile organics are detected in the borehole, determine extent of the volatile contamination as described in section III.
 - If volatile organics are not detected in the borehole, then further investigation for the extent of contamination in soil (described in the next section) is not necessary.
 - f. Regrout boreholes before proceeding with closure.

D. Soils Contaminated by Tank Systems

A "tank system" includes the tank, the secondary containment structure, and all ancillary equipment directly connected to the tank or secondary containment structure, including piping, pressure relief valves, instrumentation, valves, level sensors.

If you do not think the tank system leaked, verify its condition by conducting a tank system integrity assessment. If you know the tank system leaked then this

assessment is not necessary; proceed to the section titled “**Determine the Extent of Contamination in Soils**”.

The tank system integrity assessment includes:

1. An assessment of the structural integrity of each tank system which is reviewed and certified by an independent, qualified, registered professional engineer.
2. For non-enterable, underground tank systems including ancillary components, the assessment should include a leak test that meets the requirements of 40 CFR 265.191. If the tank is to be removed as part of closure, a visual inspection could be performed in lieu of a leak test.
3. All integrity assessments must include an inspection of each tank system component for cracks, leaks, corrosion, and erosion.
4. For tank systems which had secondary containment for their entire operating life, review the leak inspections or leak-detection system monitoring data to verify that no leaks ever occurred during the lifetime of the tank system. If this information is not available, conduct an integrity assessment as described above.
5. If the tank integrity assessment indicates that there was a potential for leakage then determine the extent of the contamination as described in the next section.
6. In addition to the integrity assessment, the operating practices, e.g. filling/emptying, must be evaluated for potential sources of contaminant release.
7. If tank system integrity assessment shows no corrosion, cracks, etc. and there were no spills during filling/emptying, subsoils need not be investigated for presence or extent of contamination.

- E. **If, after going through the above procedures in paragraphs A through D, no contamination is found, then closure is complete; no further characterization work or subsequent cleanup work is necessary.**

III. Determine the Extent of Contamination in Soils

If contamination is known to be present or was found to be present in soils surrounding or underlying the regulated unit during the previous exercise, the extent of contamination must be determined. Once the extent of contamination is known, you will know how much to clean up.

The following provides guidance on determining the three-dimensional extent of contamination in soils. See Table 1 for further guidance.

- A. If the regulated unit has perimeter berms or a similar feature designed to prevent lateral escape of hazardous wastes in the event of a spill, and there are no historic records of spills released beyond these barriers, then **sampling for the lateral extent of contamination beyond these barriers is not required**. Soils directly beneath the unit, however, still must be characterized both laterally and vertically.
- B. Estimate the depth and perimeter of the contamination. Sample below and outside this estimated volume.
- C. Sample borings should extend to "clean soil" or mean seasonal low groundwater, whichever comes first. Samples should be taken at each soil horizon.
- D. General Sampling and Analysis Guidance for Determining the Extent of Contamination:
 - 1. Use of one or two of the prevalent COCs (indicator parameters) for your initial sampling to save on analytical costs is allowed but the full COC list must be analyzed at the sampling round thought to be at the extent of contamination.
 - 2. For sampling of organics in soil, take from 6 inches below the surface to avoid bias due to volatilization.
 - 3. Perform all site characterization sampling prior to decontamination or removal of containment structures.
 - 4. If any sample result is in excess of any MCC then move outward and/or deeper and resample. The extent of contamination requiring remediation is defined by the outermost or deepest set of samples which contain constituents of concern at concentration levels at or below established MCCs. Once this is reached, no further sampling is necessary. Soils requiring remediation are those which lie within this sampling perimeter.

CLEAN UP THE CONTAMINATION THAT IS FOUND

Decontaminate or remove and dispose of all equipment, structures and soils measured (in the previous section) to be in excess of the media closure criteria.

I. General

- A. When you are performing the clean up, avoid creating other problems like dust, contaminated run-off, etc.
- B. When finished, all equipment used in the cleanup must be decontaminated.
- C. Properly dispose of all wastes generated by the cleanup.
- D. Backfilling of excavations
 - 1. Clean soil must be used; the location and history of the borrow site must be considered to avoid bringing contaminated material on to the site.
 - 2. Backfilled soil must be compacted when placed in the excavation in such a manner as to prevent post-closure settlement.
- E. If you are unable to clean up the contamination that was found due to its nature, extent or location you may contact CTDEP for further guidance.

II. Tank Systems

- A. We encourage removing and disposing of all in-ground and underground tanks. You may abandon in-place provided CTDEP approves in writing and the tank is filled with an inert dry sand or equivalent media.
- B. For additional information on closing tank systems, see Chapter 12 of the Technical Resource Document For The Storage And Treatment Of Hazardous Waste In Tank Systems, dated December 1986, NTIS #PB87-134391.

VERIFY THAT CLEANUP IS COMPLETE

- I. Sample all structures and soils which were contaminated and then cleaned up. Table 1 provides sampling and analysis guidance for soils, porous and non-porous structures.
- II. Media closure criteria must be achieved for each COC at each sample point; comparison of a mean concentration to clean-up criteria is *not* acceptable. Repeat the removal or decontamination of structures or soils if media closure criteria is not achieved.
- III. If subsoils are removed, the floor and sidewalls of the excavation must be sampled and analyzed.
- IV. For tank systems, the tank itself will be non-porous and will require a wipe test (see Attachment B). For tank system piping, triple rinse with an appropriate decontamination solution and analyze the final rinse for all constituents of concern to verify that all media closure criteria have been met.
- V. Media closure criteria (clean-up standards) for wipe samples is non-detect for all COCs; in cases where interferences are encountered, e.g. metals detected from a steel tank, develop a background value by sampling a similar material that was unaffected by the waste.

ATTACHMENT A:
DETERMINING CLOSURE REQUIREMENTS FOR GENERATORS WHO STORED
HAZARDOUS WASTE GREATER THAN 90 DAYS

In cases where a generator¹ has stored for greater than 90 days, CTDEP may require more rigorous Treatment Storage and Disposal Facility (TSDF) closure requirements. These requirements can be found in the CTDEP draft document titled RCRA Closure Plan Guidance, Container Storage Areas and Tank Systems, dated November, 1993. Some criteria we may use to decide whether to apply TSDF or generator closure requirements to a particular site are as follows:

1. The number of occurrences of greater than 90-day storage;
2. The reason(s) for greater than 90-day storage (e.g. transporter delay, weather delay);
3. The length of time waste was stored beyond the 90th day ;
4. The quantity of hazardous waste that was stored greater than 90 days;
5. The nature of hazardous waste that was stored greater than 90 days;
6. The presence/lack of secondary containment (e.g. concrete floor and berm);
7. The condition of the storage area secondary containment (e.g. presence of cracks, gaps, staining);
8. The presence of leaking containers;
9. The company's overall compliance history;
10. The groundwater classification in the area where the generator is located;
11. Storage area located indoors or outdoors;
12. Other programs involved, e.g. Property Transfer, Corrective Action;
13. Presence of groundwater contamination.

¹Generators store hazardous waste for 90 days or less

ATTACHMENT B: WIPE SAMPLING PROCEDURE

The following procedure is used to sample non-porous material to verify that media closure criteria have been achieved after decontamination or removal has been completed. Examples of non-porous material are: steel or fiberglass tanks, structural steel (painted or unpainted).

1. Select an area of 1/4 square meter on the equipment/structure to be tested.
2. For analysis of constituents of concern, saturate a cotton gauze with:
 - a. Methanol for volatiles,
 - b. Hexane-acetone mix (1:1), or methylene chloride for semi-volatiles,
 - c. Hexane for PCBs,
 - d. Dilute nitric acid (1:4 nitric acid to deionized water) for metals,
 - e. Dilute sodium hydroxide for cyanide.
3. Wipe the saturated gauze over the entire sampling area (1/4 square meter) repeatedly in the vertical direction, applying moderate pressure. Turn the gauze over and wipe repeatedly in the horizontal direction.
4. Repeat the above procedure for each additional category of COCs (a through e above) with new gauze on a newly selected 1/4 square meter sampling area.
5. Place each gauze in a separate jar with a Teflon seal and submit the samples for laboratory analysis.
6. Analyze each gauze for the appropriate contaminants of concern.

Media closure criteria for wipe samples is non-detect for all contaminants of concern. Repeat the decontamination process and resample if necessary.

Consider the potential for interferences from the material being sampled.

**TABLE 1:
RCRA CLOSURE GUIDANCE FOR GENERATORS WHO STORE LESS THAN 90 DAYS
SAMPLING AND ANALYSIS GUIDANCE**

Objective ---->	Develop COCs by Appendix IX Analysis of:			Contamination on Structures	Extent of Contamination in Soil		Verify Clean		
	Waste	Porous Structures	Soil		Lateral	Vertical	Soils	Porous Structures	Non-Porous Structures
Number of Samples	1 per waste type	<u>Inorganics</u> : 1/100 ft ² surface area but no less than 3 <u>Organics</u> : 1/1000 ft ² surface area	<u>Inorganics</u> : 1/100 ft ² surface area but no less than 3 <u>Organics</u> : 1/1000 ft ² surface area	1/100 ft ² surface area	1 per 20 ft of circumference outside of contaminated area, minimum 4	1 per each soil horizon down to clean soil or ground water	1/100 ft ² surface area; minimum 3	1/100 ft ² surface area; minimum 3	1/1000 ft ² surface area; minimum 1
Method to Select Sample Locations	N/A (Sample Containers and/or Tanks)	<u>Inorganics</u> : Random & Judgmental ¹ <u>Organics</u> : Use OVA ² to screen location	<u>Inorganics</u> : Random & Judgmental ¹ <u>Organics</u> : Use OVA ² to screen location	Random & judgmental ¹	At or beyond estimated perimeter of contaminated area	At each crack, gap, or other conduit to subsoils	Random & Judgmental ¹	Random & Judgmental ¹	Judgmental ¹
Sampling Methodology (Composite, Discrete, Chip, Wipe)	Compatible wastes: Composite Incompatible: discrete	<u>Inorganics</u> : Composite Chips <u>Organics</u> : Discrete Chip	<u>Inorganics</u> : Composite <u>Organics</u> : Discrete	Discrete chips	Discrete Soil Samples	Discrete Soil Samples	Discrete Soil Samples	Discrete chip samples	Wipe sample (See Attachment B)
Analytical Parameters	Parameters listed in 40 CFR 264 Appendix IX	Parameters listed in 40 CFR 264 Appendix IX	Parameters listed in 40 CFR 264 Appendix IX	All COCs	All COCs at outermost sample; may use subset for initial samples	All COCs at deepest sample; may use subset for upper samples	All COCs	All COCs	All COCs
Analysis of Mass or Extract from Leach Procedure	Mass	Mass	Mass	Mass and leach ³	Mass and leach ³	Mass and leach ³	Mass and leach ³	Mass and leach ³	Mass

¹Judgmental sample locations are chosen based on appearance, spill locations, previous analytical results, OVA readings, etc.

²OVA: portable organic vapor analyzer

³Leach values can be determined by analysis or by calculating: $[\text{Mass}(\text{mg/kg}) \div 20] = \text{leach}(\text{mg/l})$