STATE OF NEW YORK:
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Implementation of Closure of a RCRA Facility, pursuant to Title 9 of Article 27 of the Environmental Conservation Law ("ECL") of the State of New York, and Title 6 of the Official Compilation of the Codes, Rules and Regulations of the State of New York ("6 NYCRR") by: Avnet, Inc. 2211 South 47th Street Phoenix, AZ 85034	**RCRA CORRECTIVE ACTION and POST-CLOSURE CARE CONSENT ORDER** Index No: CO 3-20170802-152

1. Pursuant to ECL § 3-0301.1(i), the Department of Environmental Conservation (the "Department") is the agency responsible for the prevention and abatement of all water, land and air pollution. The Department is also the agency responsible, pursuant to ECL § 27-0900 et seq., for the promulgation and implementation of regulations governing the management of hazardous waste. These regulations are promulgated at 6 NYCRR Parts 370 through 374 and 376. Facilities subject to these regulations must be operated and closed in a manner which is protective of human health and the environment.

2. The Department is responsible for carrying out the policy of the State of New York to conserve, improve and protect its natural resources and environment and control water, land, and air pollution consistent with the authority granted to the Department and the Commissioner by Article 1, Title 3 of the ECL. The Department is also responsible for inactive hazardous waste disposal site remedial programs pursuant to Article 27, Title 13 of the Environmental Conservation Law ("ECL") and Part 375 of Title 6 of the Official Compilation of Codes, Rules and Regulations ("6 NYCRR") and may issue orders consistent with the authority granted to the Commissioner by such statute. The Department is authorized pursuant to ECL 27-0916 for environmental cleanups and restoration work. This Order is issued pursuant to the Department's authority under, inter alia, ECL Article 27, Title 13 and ECL 3-0301.

3. Avnet, Inc. ("Respondent"), is a domestic business corporation, with its principal executive office located at 2211 South 47th Street Phoenix, AZ 85034.

4. Respondent is the former owner and operator of a facility located at 7 Schrade Court, Ellenville, New York (the "Facility", aka "Channel Master") (Tax Map/Parcel Nos.: 83.003-01-02 and 83.070-06-19). The Facility was used for the manufacture of television antennas and related equipment in Ellenville, Ulster County, New York (EPA RCRA ID #: NYD042457788, Permit No. NYSDEC 3-5156-91/4-0). The Facility consists of approximately 75.2 acres of real property located at 7 Schrade Court in the Town of Warwarsing, Ulster County, New York. A Map of the Facility and Site is attached as Exhibit "A".

5. Respondent has performed corrective action, closure and post-closure care activities at the Facility since 1991 including numerous investigations to determine the nature and extent of chemicals present in the soil, vapor and groundwater. Respondent has also conducted removal activities of sources; installation, operation, maintenance, and monitoring of a groundwater extraction and treatment system; as well as routine groundwater monitoring and reporting pursuant to Department-approved work plans. A partial summary of the current environmental conditions, assessment of efficacy of the corrective action, closure and post-closure care program developed and implemented at the Facility is provided in the 2016 Annual Report for the 2016 Reporting year for the Facility, which is attached as Exhibit "B".

6. In or about March 1991, the Department issued a five year 6 NYCRR Part 373 Site Post Closure permit that provides for corrective action, closure, and post-closure activities at the Facility (RCRA Permit 3-5156-91/4-0), which expired in March 1996 (the "RCRA Permit"). In or about December 1995, Respondent submitted an application to renew the RCRA Permit. The Department did not issue a new permit upon the expiration of the RCRA Permit and the Respondent was directed, and has continued, to operate under the SAPA extended RCRA Permit (renewal applications which are timely and sufficient, pursuant to the State Administrative Procedures Act, Section 401) pending the issuance of a new permit. The Department has determined that a RCRA Corrective Action and Post-Closure Order is an available mechanism to replace the RCRA permit and address the remaining corrective action and post-closure care requirements remaining for the Facility. Respondent has agreed to enter into this RCRA Corrective Action/Post-Closure Care Order to replace the existing RCRA Permit.

7. Respondent hereby agrees (i) to enter into this RCRA Corrective Action/Post-Closure Care Order (this "Order") to replace the RCRA Permit; (ii) to fully address all corrective action and post-closure care requirements for the Facility; and (iii) to implement institutional and/or engineering controls, including the filing of an environmental easement or restrictive covenant limiting future uses of the Facility, which complies with the requirements of ECL Article 71, Title 36, and 6 NYCRR 375-1.8(h)(2).

8. Without an admission of liability, Respondent acknowledges that one or more hazardous substances were released at the Facility, and that any such releases constitute violations of the ECL. With respect to all such violations as well as the remedial requirements for Corrective Action and Post-Closure Care for the Facility, Respondent waives its right to a hearing as provided by law, consents to the issuance of this Order, and agrees to be bound by its terms.

NOW, THEREFORE, HAVING CONSIDERED THIS MATTER AND BEING DULY ADVISED, IT IS ORDERED THAT:

I. COMPLIANCE

This Order replaces the RCRA Permit No. NYSDEC 3-5156-91/4-0, all workplans approved under the Permit are incorporated into and become enforceable under this Order.

A. Respondent has performed investigations and sampling in accordance with a post closure plan for the Site dated August 1987 as amended in a post-closure plan for the Facility dated May 1991 attached hereto as Exhibit "C" and "C1", respectively. The Respondent shall submit an updated post-closure plan for the facility within sixty (60) Days of the effective date of this Order.

B. Respondent will satisfy all requirements of the Statement of Basis for the Facility dated April 1991 (the "Statement of Basis"). This may include, but not be limited to, submission and implementation of a Site Management Plan, and Respondent (or the owner of the Facility) filing of an environmental easement restricting future uses of the property, which complies with the requirements of ECL Article 71, Title 36, and 6 NYCRR 375-1.8(h)(2). All submissions pursuant to the Statement of Basis are subject to Departmental review, modification and approval. Once a submission is approved, all terms and conditions contained therein shall become enforceable provisions of this Order. Failure to comply fully with any Departmental directives concerning the modification and/or implementation of a submission shall constitute a violation of this Order, subjecting Respondent to any penalty provided for by this Order, or by state or federal law. The Statement of Basis is attached hereto as Exhibit "D".

II. CORRECTIVE ACTION AND POST-CLOSURE REQUIREMENTS

Unless otherwise specified by this Order, an appendix attached hereto, or The Statement of Basis, Respondent will complete the SAPA-extended RCRA permit requirements for Corrective Action and Post-Closure care for the Facility under this Order.

III. FAILURE, DEFAULT AND VIOLATION OF ORDER

Respondent's failure to comply fully and in a timely fashion with any provision, term or condition of this Order shall constitute a default and a failure to perform an obligation under this Order and under the ECL and shall be deemed to be a violation of both this Order and the ECL. Penalties for violating this Order shall accrue from the date the violation or violations occurred.

IV. BINDING EFFECT

A. Respondent and Respondent's successors, and assigns shall be bound by this Order. Respondent through its officers, directors, agents, servants, employees, successors, and assigns shall be responsible for implementing the terms of this Order. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall in no way alter Respondent's responsibilities under this Order. Respondent's officers, directors, employees, servants, and agents shall be obliged to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Respondent.

B. Within thirty (30) days of any change in majority ownership or corporate status,

the Department must be notified of the change. This notification will specify the nature of the change in status, and the name and address of the new responsible party.

C. Once notified of the change, the Department will mail this order to the new Respondent. The Order will then be executed and notarized by the new Respondent in the same manner as the original. All terms and conditions contained herein will then be applicable to the new Respondent.

V. Payment of State Costs

A. Within forty-five (45) days after receipt of an itemized invoice from the Department, Respondent shall pay to the Department a sum of money which shall represent reimbursement for the State's expenses including, but not limited to, negotiating this order from January 1, 2017, reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with this Order ("State Costs"), as provided by 6 NYCRR 375-1.5 (b)(3)(i). Failure to timely pay any invoice will be subject to late payment charge and interest at a rate of 9% from the date the payment is due until the date the payment is made.

B. State Costs shall be documented as provided by 6 NYCRR 375-1.5(b)(3). The Department shall not be required to provide any other documentation of costs, provided however, that the Department's records shall be available consistent with, and in accordance with, Article 6 of the Public Officers Law.

C. Each such payment shall be made payable to the New York State Department of Environmental Conservation and shall be sent to:

Director, Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7012

D. The Department shall provide written notification to the Respondent of any change in the foregoing addresses.

E. If Respondent objects to any invoiced costs under this Order, the provisions of 6 NYCRR 375-1.5 (b)(3)(v) and (vi) shall apply. Objections shall be sent to the Department as provided under subparagraph VI.C above.

F. In the event of non-payment of any invoice within the 45 days provided herein, the Department may seek enforcement of this provision pursuant to Paragraph IV or the Department may commence an enforcement action for non-compliance with ECL 27-1423 and ECL 71-4003.

VI. STANDARD PROVISIONS

Respondent shall comply with all standard provisions applicable to RCRA remedial orders, attached hereto as Appendix B. All terms and conditions contained therein are incorporated into this Order by reference, and have the same force and effect as if fully set forth herein.

VII. ENTIRE ORDER

This Order shall constitute the entire agreement of the Department and Respondent with respect to settlement of the violation specifically referenced herein. No term, condition, understanding or agreement purporting to modify or vary any term hereof shall be binding unless made in writing pursuant to Paragraph VIII of this Order, and subscribed by the party to be bound. No informal oral or written advice, guidance, suggestion or comment by the Department regarding any report, proposal, plan, specification, schedule, comment or statement made or submitted by Respondent shall be construed as relieving Respondent of their obligations to obtain such formal approvals as may be required by this Order.

VIII. EFFECTIVE DATE

The Effective Date of this Order is the date that the Commissioner or the Commissioner's designee signs it. The Department will provide Respondent (or Respondent's counsel) with a fully executed copy of this Order as soon as practicable after the Commissioner or the Commissioner's designee signs it.

Dated: February 6, 2018
Albany, New York

Basil Seggos, COMMISSIONER
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

By: Michael Ryan, Assistant Director
Division of Environmental Remediation

RECEIVED
JAN 30 2018
NYSDEC-REGION 3
WHITE PLAINS OFFICE

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of the foregoing Order, waives its right to a hearing herein as provided by law, and agrees to be bound by the provisions, terms and conditions contained herein.

Avnet, Inc.

By: _____

Title: Michael J. O'Neill
Sr. Vice President

Date: 01/29/2018

STATE OF ~~NEW YORK~~ Arizona)
)
COUNTY OF Maricopa)

On this 29th day of January, in the year 2018, before me, the undersigned, personally appeared Michael J. O'Neill, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Patricia K. Strauss

Notary Public, State of ~~New York~~ Arizona

"OFFICIAL SEAL"
Patricia K. Strauss
Notary Public - Arizona
Maricopa County
My Commission Expires 12/31/2020

APPENDIX B

STANDARD CLAUSES FOR ALL NEW YORK RCRA remedial ORDERS

The parties to this RCRA Order (hereinafter "Order") agree to be bound by the following clauses which are hereby made a part of the Order. The word "Respondent" herein refers to any party to the Order, other than the New York State Department of Environmental Conservation (hereinafter "Department"). For purposes of this Order, Respondent agrees that certain provisions of 6 NYCRR Part 375 shall apply to the extent expressly provided herein. However, if in the judicial enforcement of these provisions any regulation set forth in 6 NYCRR Parts 370 through 374 and 376 is found to directly conflict with the cited 6 NYCRR Part 375 provision, the 370 through 374 and 376 regulations shall control.

I. Development, Performance, and Reporting of Work Plans

A. Work Plan Requirements

All activities at the Facility that comprise any element of closure and/or post-closure, or Corrective Action shall be conducted pursuant to one or more Department-approved work plans ("Work Plan" or "Work Plans"), which shall be developed and implemented in accordance with the provisions in 6 NYCRR § 375-1.6(a), 375-3.6, and 375-6. All Department-approved Work Plans shall be incorporated into and become enforceable parts of this Order. Upon approval of a Work Plan by the Department, Respondent shall implement such Work Plan in accordance with the schedule contained therein. Nothing in this Subparagraph shall mandate that any particular Work Plan be submitted.

Unless a different caption is deemed appropriate to the activities being performed, The Work Plans shall be captioned as follows:

1. Closure Work Plan; A comprehensive plan for final closure of the facility which must be maintained onsite during the facility's active life, and provided to the Department on request. This plan must be provided to the Department 180 days prior to the expected date of partial or final facility closure. This plan covers all closure activities, and shall be amended as needed during partial or final closure.

2. "Post-closure Plan"; A comprehensive plan maintained onsite during the active life of the facility, which applies to any portion of a facility subject to 6 NYCRR Parts 373-3.7(f)(2) through 373-3.7(j). This plan must be provided to the Department upon request, and must be provided within ninety days of closure as a landfill. This plan identifies all activities which must be carried on following closure of the unit, and the frequency of these activities.

3. "Corrective Action Work Plan": a Work Plan which provides for the development and implementation of final plans and specifications for implementing the remedial alternative set forth in the Statement of Basis (SOB);

4. "IRM Work Plan" if the Work Plan providing for an interim remedial measure;

5. "Site Management Plan" if the Work Plan provides for the identification and implementation of institutional and/or engineering controls as well as any necessary monitoring and/or operation and maintenance of the remedy; or

6. "Supplemental" if additional work plans other than those set forth in II.A.1-3 are required to be prepared and implemented.

B. Submission/Implementation of Work Plans

1. Respondent may opt to propose one or more additional or supplemental Work Plans (including one or more IRM Work Plans) at any time, which the Department shall review for appropriateness and technical sufficiency.

2. Any proposed Work Plan shall be submitted for the Department's review and approval and shall include, at a minimum, a chronological description of the anticipated activities, a schedule for performance of those activities, and sufficient detail to allow the Department to evaluate that Work Plan.

i. The Department shall notify Respondent in writing if the Department determines that any element of a Department-approved Work Plan needs to be modified in order to achieve the objectives of the Work Plan as set forth in Subparagraph III.A or

to ensure that the Remedial Program otherwise protects human health and the environment. Upon receipt of such notification, Respondent shall, subject to dispute resolution pursuant to Paragraph XV, modify the Work Plan.

ii. The Department may request, subject to dispute resolution pursuant to Paragraph XV, that Respondent submit additional or supplemental Work Plans for the Facility to complete the corrective action relative to the Facility within thirty (30) Days after the Department's written request.

3. A Site Management Plan, if necessary, shall be submitted in accordance with the schedule set forth in the IRM Work Plan, closure plan, or Corrective Action Work Plan.

4. During all field activities conducted under a Department-approved Work Plan, Respondent shall have on-Site a representative who is qualified to supervise the activities undertaken in accordance with the provisions of 6 NYCRR 375-1.6(a)(3).

5. A Professional Engineer must stamp and sign all Work Plans (other than Site Characterization) or RFI/CMS Work Plans.

C. Submission of Final Reports and Periodic Reports

1. In accordance with the schedule contained in a Work Plan, Respondent shall submit a final report that meets the requirements set forth at 6 NYCRR 375-1.6(b) and (c).

2. Any final report or final engineering report that includes construction activities shall include "as built" drawings showing any changes made to the remedial design or the IRM.

3. In the event that the final engineering report for the Facility requires Site management, Respondent shall submit an initial periodic report by in accordance with the schedule in the Site Management Plan and thereafter in accordance with a schedule determined by the Department. Such periodic report shall be signed by a Professional Engineer or by such other qualified environmental professional as the Department may find acceptable and shall contain a certification as provided at 6 NYCRR 375-1.8(h)(3). Respondent may petition the Department for a determination that the institutional and/or engineering controls may be terminated. Such petition must be supported by a statement by a Professional Engineer that such controls are no longer necessary for the protection of public health and the environment. The Department shall not unreasonably withhold its approval of such petition.

4. Within sixty (60) days of the Department's approval of a Final Report, Respondent shall submit such additional Work Plans as is/are required by the Department in its approval letter of such Final Report. Failure to submit any additional Work Plans within such period shall be a violation of this Order.

D. Review of Submittals

1. The Department shall make a good faith effort to review and respond in writing to each submittal Respondent makes pursuant to this Order within sixty (60) Days. The Department's response shall be consistent with 6 NYCRR 375-1.6(d) and include an approval, modification request, or disapproval of the submittal, in whole or in part.

i. Upon the Department's written approval of a Work Plan, such Department-approved Work Plan shall be deemed to be incorporated into and made a part of this Order and shall be implemented in accordance with the schedule contained therein.

ii. If the Department modifies or requests modifications to a submittal, it shall specify the reasons for such modification(s). Within fifteen (15) Days after the date of the Department's written notice that Respondent's submittal has been disapproved, Respondent shall notify the Department of its election in accordance with 6 NYCRR 375-1.6(d)(3). If Respondent elects to modify or accept the Department's modifications to the submittal, Respondent shall make a revised submittal that incorporates all of the Department's modifications to the first submittal in accordance with the time period set forth in 6 NYCRR 375-1.6(d)(3). In the event that Respondent's revised submittal is disapproved, the Department shall set forth its reasons for such disapproval in writing and Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XV and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

iii. If the Department disapproves a submittal, it shall specify the reasons for its disapproval. Within fifteen (15) Days after the date of the Department's written notice that Respondent's submittal has been disapproved, Respondent shall notify the Department of its election in accordance

with 6 NYCRR 375-1.6(d)(4). If Respondent elects to modify the submittal, Respondent shall make a revised submittal that addresses all of the Department's stated reasons for disapproving the first submittal in accordance with the time period set forth in 6 NYCRR 375-1.6(d)(4). In the event that Respondent's revised submittal is disapproved, the Department shall set forth its reasons for such disapproval in writing and Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XV and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

2. Within thirty (30) Days after the Department's approval of a final report, Respondent shall submit such final report, as well as all data gathered and drawings and submittals made pursuant to such Work Plan, in an electronic format acceptable to the Department. If any document cannot be converted into electronic format, Respondent shall submit such document in an alternative format acceptable to the Department.

E. Institutional/Engineering Control Certification

In the event that the SOB for the Facility, if any, or any Work Plan for the Facility, requires institutional or engineering controls, Respondent shall submit a written certification in accordance with 6 NYCRR 375-1.8(h)(3) and 375-3.8(h)(2).

IV. Penalties

A. 1. Respondent's failure to comply with any term of this Order constitutes a violation of this Order and the ECL. Nothing herein abridges Respondent's right to contest any allegation that it has failed to comply with this Order.

2. Payment of any penalties shall not in any way alter Respondent's obligations under this Order.

B. 1. Respondent shall not suffer any penalty or be subject to any proceeding or action in the event it cannot comply with any requirement of this Order as a result of any Force Majeure Event as provided at 6 NYCRR 375-1.5(b)(4). Respondent must use best efforts to anticipate the potential Force Majeure Event, best efforts to address any such event as it is occurring, and best efforts following the Force Majeure Event to minimize delay to the greatest extent possible. "Force Majeure" does not include Respondent's economic inability to comply with any obligation, the failure of Respondent to make complete and timely application for any required approval or permit, and non-attainment of the goals, standards, and requirements of this Order.

2. Respondent shall notify the Department in writing within five (5) Days of the onset of any Force Majeure Event. Failure to give such notice within such five (5) Day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondent shall be deemed to know of any circumstance which it, any entity controlled by it, or its contractors knew or should have known.

3. Respondent shall have the burden of proving by a preponderance of the evidence that (i) the delay or anticipated delay has been or will be caused by a Force Majeure Event; (ii) the duration of the delay or the extension sought is warranted under the circumstances; (iii) best efforts were exercised to avoid and mitigate the effects of the delay; and (iv) Respondent complied with the requirements of Subparagraph IV.B.2 regarding timely notification.

4. If the Department agrees that the delay or anticipated delay is attributable to a Force Majeure Event, the time for performance of the obligations that are affected by the Force Majeure Event shall be extended for a period of time equivalent to the time lost because of the Force Majeure event.

5. If the Department rejects Respondent's assertion that an event provides a defense to non-compliance with this Order pursuant to Subparagraph IV.B, Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XV and Respondent's position prevails.

V. Entry upon Facility

A. Respondent hereby consents, upon reasonable notice under the circumstances presented, to entry upon the Facility (or areas in the vicinity of the Facility which may be under the control of Respondent) by any duly designated officer or employee of the Department or any State agency having jurisdiction with respect to matters addressed pursuant to this Order, and by any agent, consultant, contractor, or other person so authorized by the Department, all of whom shall abide by the health and safety rules in effect for the Facility, for inspecting, sampling, copying records related to the contamination at the Facility, testing, and any other activities necessary to ensure Respondent's compliance with this Order. Upon request, Respondent shall (i) provide the Department with

suitable work space at the Facility, including access to a telephone, to the extent available, and (ii) permit the Department full access to all non-privileged records relating to matters addressed by this Order. Raw data is not considered privileged and that portion of any privileged document containing raw data must be provided to the Department on a continuing basis within 90 days of .receipt of the data from the lab. In the event Respondent is unable to obtain any authorization from third-party property owners necessary to perform its obligations under this Order, the Department may, consistent with its legal authority, assist in obtaining such authorizations.

B. The Department shall have the right to take its own samples and scientific measurements and the Department and Respondent shall each have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled. The Department shall make the results of any such sampling and scientific measurements available to Respondent.

VII. Reservation of Rights

A. Except as provided at 6 NYCRR 375-1.9 and 375-2.9, nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights or authorities, including, but not limited to, the right to require performance of further investigations and/or response action(s), to recover natural resource damages, and/or to exercise any summary abatement powers with respect to any person, including Respondent.

B. Except as otherwise provided in this Order, Respondent specifically reserves all rights and defenses under applicable law respecting any Departmental assertion of remedial liability and/or natural resource damages against Respondent, and further reserves all rights respecting the enforcement of this Order, including the rights to notice, to be heard, to appeal, and to any other due process. The existence of this Order or Respondent's compliance with it shall not be construed as an admission of liability, fault, wrongdoing, or breach of standard of care by Respondent, and shall not give rise to any presumption of law or finding of fact, or create any rights, or grant any cause of action, which shall inure to the benefit of any third party. Further, Respondent reserves such rights as it may have to seek and obtain contribution, indemnification, and/or any other form of recovery from its insurers and from other potentially responsible parties or their insurers for past or future response and/or cleanup costs or such other costs or damages arising from the contamination at the Facility as may be provided by law, including but not limited to rights of contribution under section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

IX. Indemnification

Respondent shall indemnify and hold the Department, the State of New York, the Trustee of the State's natural resources, and their representatives and employees harmless as provided by 6 NYCRR 375-2.5(a)(3)(i).

X. Public Notice

A. Within thirty (30) Days after the effective date of this Order, Respondent shall provide notice consistent with the requirements set forth in 6 NYCRR 375-1.5(a). Within sixty (60) Days of such filing, Respondent shall provide the Department with a copy of such instrument certified by the recording officer to be a true and faithful copy.

B. If Respondent proposes to transfer by sale or lease the whole or any part of Respondent's interest in the Facility, or becomes aware of such transfer, Respondent shall, not fewer than forty-five (45) Days before the date of transfer, or within forty-five (45) Days after becoming aware of such conveyance, notify the Department in writing of the identity of the transferee and of the nature and proposed or actual date of the conveyance, and shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order. However, such obligation shall not extend to a conveyance by means of a corporate reorganization or merger or the granting of any rights under any mortgage, deed, trust, assignment, judgment, lien, pledge, security agreement, lease, or any other right accruing to a person not affiliated with Respondent to secure the repayment of money or the performance of a duty or obligation.

XI. Change of Use

Applicant shall notify the Department at least sixty (60) days in advance of any change of use , which is proposed for the Facility, in accordance with the provisions of 6 NYCRR 375-1.11(d). For purposes of this Order, "change of use" shall be as defined in 6 NYCRR 375-2.2(a).

XII. Environmental Easement

A. If a Statement of Basis (SOB), or other approved Work Plan, for the Facility relies upon one

or more institutional and/or engineering controls, Respondent (or the owner of the Facility) shall submit to the Department for approval an Environmental Easement to run with the land in favor of the State which complies with the requirements of ECL Article 71, Title 36, and 6 NYCRR 375-1.8(h)(2). Upon acceptance of the Environmental Easement by the State, Respondent shall comply with the requirements of 6 NYCRR 375-1.8(h)(2).

B. If the SOB provides for no action other than implementation of one or more institutional controls, Respondent shall cause an environmental easement to be recorded under the provisions of Subparagraph XII.A.

C. If Respondent does not cause such environmental easement to be recorded in accordance with 6 NYCRR 375-1.8(h)(2), the Department may file an Environmental Notice on the Facility.

XIII. Progress Reports

Respondent shall submit a written progress report of its actions under this Order to the parties identified in Subparagraph IV.A.1 of the Order by the 10th day of each month commencing with the month subsequent to the approval of the first Work Plan and ending with the Termination date as set forth in Paragraph XIV, unless a different frequency is set forth in a Work Plan. Such reports shall, at a minimum, include: all actions relative to the Facility during the previous reporting period and those anticipated for the next reporting period; all approved activity modifications (changes of work scope and/or schedule); all results of sampling and tests and all other data received or generated by or on behalf of Respondent in connection with this Facility, whether under this Order or otherwise, in the previous reporting period, including quality assurance/quality control information; information regarding percentage of completion; unresolved delays encountered or anticipated that may affect the future schedule and efforts made to mitigate such delays; and information regarding activities undertaken in support of the Citizen Participation Plan during the previous reporting period and those anticipated for the next reporting period.

XIV. Termination of Order

A. This Order will terminate upon the Department's written determination that Respondent has completed all closure requirements, or phases of the Corrective Action Program (including Site Management), in which event the termination shall be effective on the 5th Day after the date of the Department's letter stating that all phases of the remedial program have been completed.

B. Notwithstanding the foregoing, the provisions contained in Paragraphs VI and IX shall survive the termination of this Order and any violation of such surviving Paragraphs shall be a violation of this Order, and the ECL, subjecting Respondent to penalties as provided under Paragraph IV so long as such obligations accrued on or prior to the Termination Date.

XV. Dispute Resolution

A. In the event disputes arise under this Order, Respondent may, within fifteen (15) Days after Respondent knew or should have known of the facts which are the basis of the dispute, initiate dispute resolution in accordance with the provisions of 6 NYCRR 375-1.5(b)(2).

B. All cost incurred by the Department associated with dispute resolution are State costs subject to reimbursement pursuant to this Order.

C. Nothing contained in this Order shall be construed to authorize Respondent to invoke dispute resolution with respect to the remedy selected by the Department in the SOB or any element of such remedy, nor to impair any right of Respondent to seek judicial review of the Department's selection of any remedy.

XVII. Miscellaneous

A. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any provisions of this Order.

B. 1. Respondent shall use best efforts to obtain all Facility access, permits, easements, approvals, institutional controls, and/or authorizations necessary to perform Respondent's obligations under this Order, including all Department-approved Work Plans and the schedules contained therein. If, despite Respondent's best efforts, any access, permits, easements, approvals, institutional controls, or authorizations cannot be obtained, Respondent shall promptly notify the Department and include a summary of the steps taken. The Department may, as it deems appropriate and within its authority, assist Respondent in obtaining same.

2. If an interest in property is needed to implement an institutional control required by a Work Plan and such interest cannot be obtained, the Department may require Respondent to modify the Work Plan pursuant to 6 NYCRR 375-1.6(d)(3) to reflect changes necessitated by Respondent's inability to obtain such interest.

C. Respondent shall notify the Department, in writing, of any additional Solid Waste Management Units (SWMUs) which are identified during the course of implementing any activities under this Order within thirty (30) days of discovery. The Department may request additional remedial activities in accordance with Paragraph II.B.2.ii.

D. 1. The terms of this Order shall constitute the complete and entire agreement between the Department and Respondent concerning the implementation of the activities required by this Order. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department shall be construed as relieving Respondent of Respondent's obligation to obtain such formal approvals as may be required by this Order. In the event of a conflict between the terms of this Order and any Work Plan submitted pursuant to this Order, the terms of this Order shall control over the terms of the Work Plan(s). Respondent consents to and agrees not to contest the authority and jurisdiction of the Department to enter into or enforce this Order.

2. i. Except as set forth herein, if Respondent desires that any provision of this Order be changed, Respondent shall make timely written application to the Commissioner with copies to the parties listed in Subparagraph IV.A.1.

ii. If Respondent seeks to modify an approved Work Plan, a written request shall be made to the Department's project manager, with copies to the parties listed in Subparagraph IV.A.1.

iii. Requests for a change to a time frame set forth in this Order shall be made in writing to the Department's project attorney and project manager; such requests shall not be unreasonably denied and a written response to such requests shall be sent to Respondent promptly.

E. 1. If there are multiple parties signing this Order, the term "Respondent" shall be read in the plural, the obligations of each such party under this Order are joint and several, and the insolvency of or failure by any Respondent to implement any obligations under this Order shall not affect the obligations of the remaining Respondent(s) under this Order.

2. If Respondent is a partnership, the obligations of all general partners (including limited partners who act as general partners) under this Order are joint and several and the insolvency or failure of any general partner to implement any obligations under this Order shall not affect the obligations of the remaining partner(s) under this Order.

3. Notwithstanding the foregoing Subparagraphs XVI.E.1 and 2, if multiple parties sign this Order as Respondents but not all of the signing parties elect to implement a Work Plan, all Respondents are jointly and severally liable for each and every obligation under this Order through the completion of activities in such Work Plan that all such parties consented to; thereafter, only those Respondents electing to perform additional work shall be jointly and severally liable under this Order for the obligations and activities under such additional Work Plan(s). The parties electing not to implement the additional Work Plan(s) shall have no obligations under this Order relative to the activities set forth in such Work Plan(s).

F. Respondent shall be entitled to receive contribution protection and/or to seek contribution to the extent authorized by law.

G. Unless otherwise expressly provided herein, terms used in this Order which are defined in ECL Article 27 or in regulations promulgated thereunder shall have the meaning assigned to them under said statute or regulations.

H. Respondent's obligations under this Order represent payment for or reimbursement of response costs, and shall not be deemed to constitute any type of fine or penalty.

I. Respondent and Respondent's successors and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondent shall in no way alter Respondent's responsibilities under this Order.

J. This Order may be executed for the convenience of the parties hereto, individually or in combination, in one or more counterparts, each of which shall be deemed to have the status of an

executed original and all of which shall together constitute one and the same.

Exhibit "A"
Map of the Facility and Site

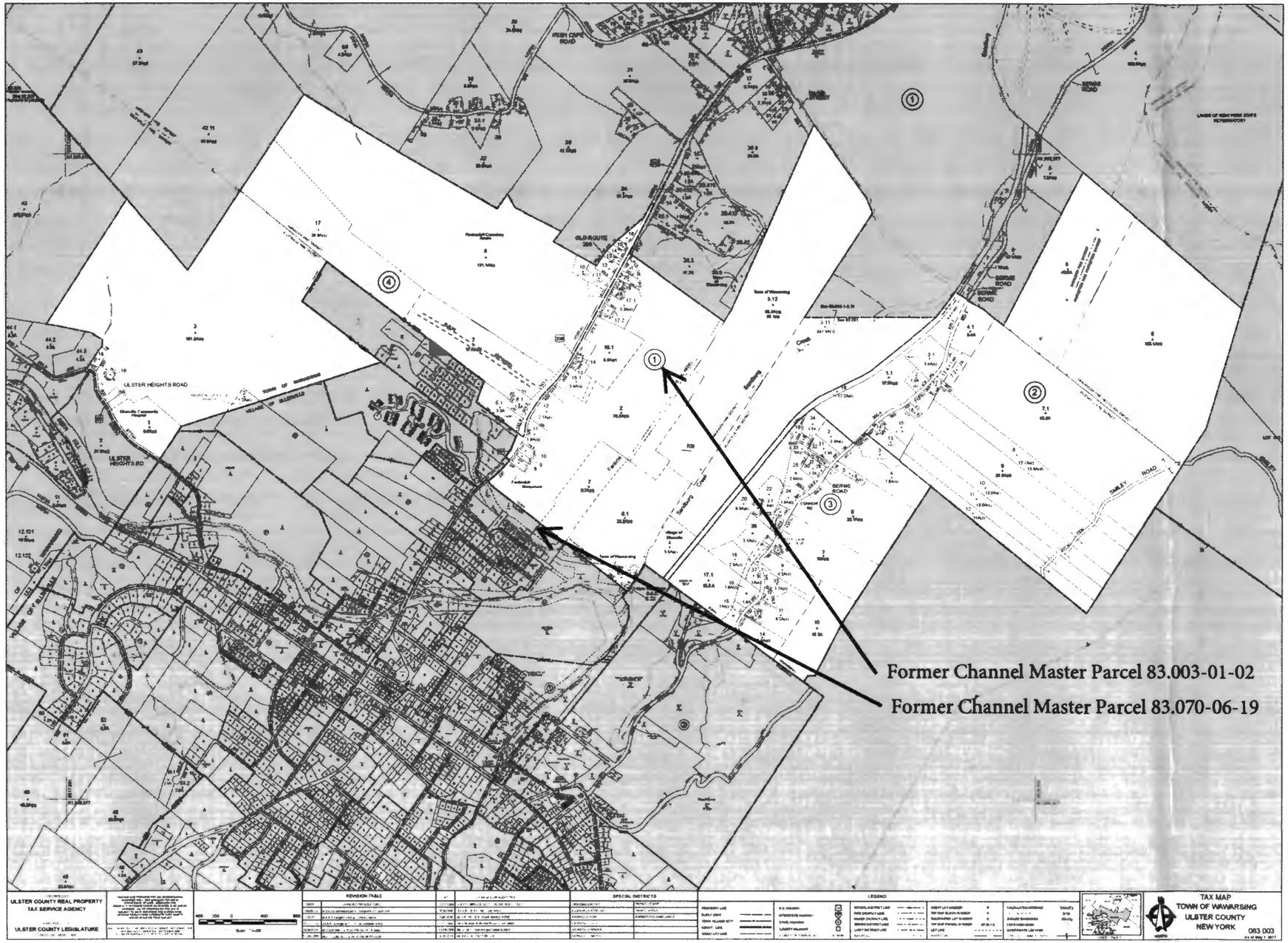

Former Channel Master Parcel 83.003-01-02
Former Channel Master Parcel 83.070-06-19
ULSTER HEIGHTS ROAD
BERME ROAD
SMILEY ROAD
OLD ROUTE 209
ULSTER COUNTY REAL PROPERTY TAX SERVICE AGENCY
ULSTER COUNTY LEGISLATURE
REVISION TABLE
SPECIAL DISTRICTS
LEGEND
TAX MAP
TOWN OF WAWARSING
ULSTER COUNTY
NEW YORK
083 003

Exhibit "B"
2016 Annual Report for the 2016 Reporting year

ARCADIS Design & Consultancy for natural and built assets

Avnet Inc.

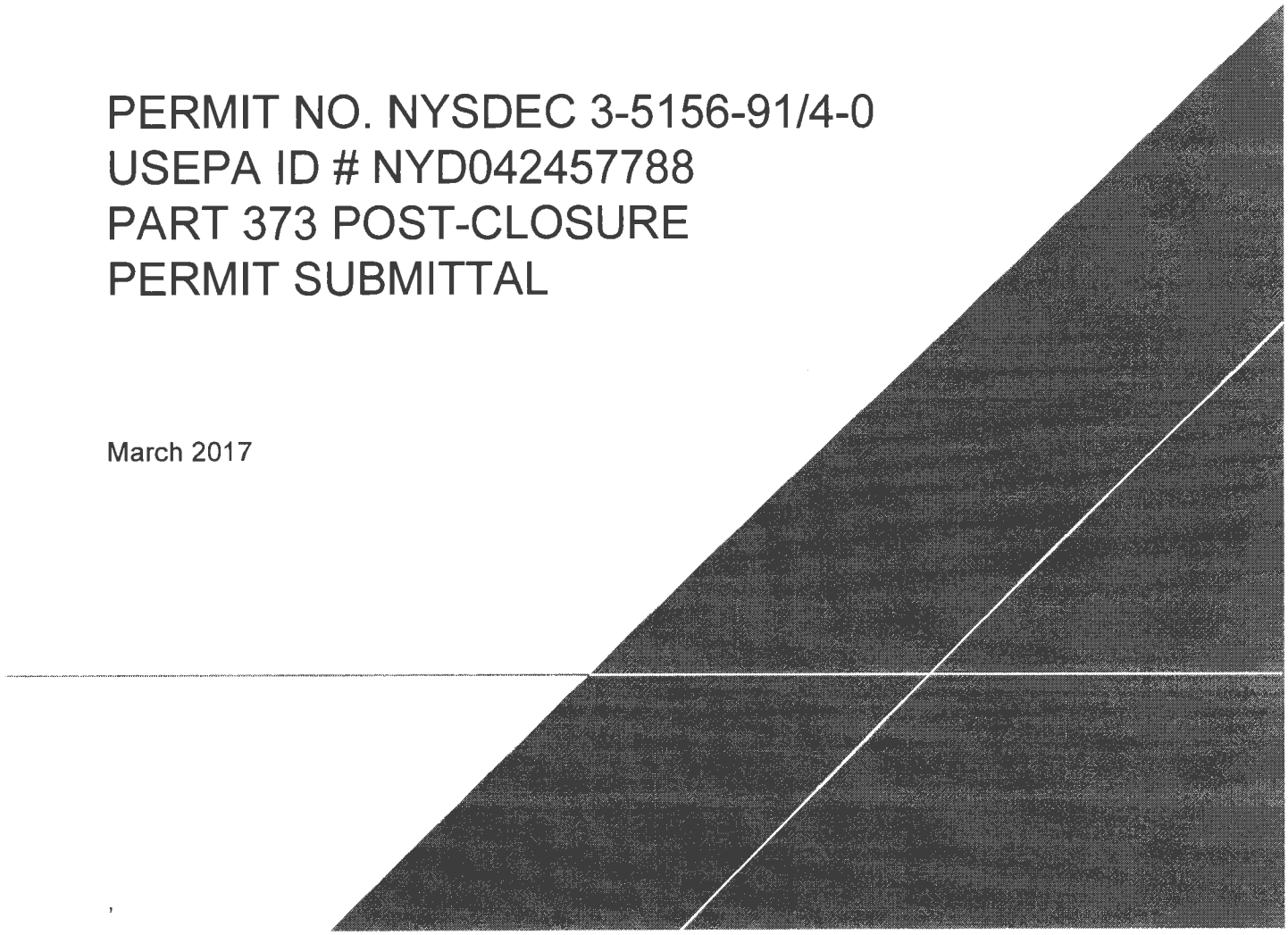
FORMER CHANNEL MASTER SITE

ELLENVILLE, NEW YORK

ANNUAL REPORT – 2016 REPORTING YEAR

PERMIT NO. NYSDEC 3-5156-91/4-0
USEPA ID # NYD042457788
PART 373 POST-CLOSURE
PERMIT SUBMITTAL

March 2017



ARCADIS | Design & Consultancy for natural and built assets

Mr. Kevin Carpenter, P.E.
Division of Environmental Remediation
New York State Dept. of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

RECEIVED
MAR 30 2017

Arcadis U.S., Inc.
17-17 Route 208 North
Fair Lawn
New Jersey 07410
Tel 201 797 7400
Fax 201 797 4399
www.arcadis.com

ENVIRONMENT

Subject:
2016 Annual Report for Avnet, Inc. - Former Channel Master Site, Ellenville, NY
NYSDEC Permit No. 3-5156-91/4-0
USEPA ID # NYD042457788

Date:
March 31, 2017

Contact:
Wyn V. Davies, CIH

Phone:
610.360.4895

Email:
wyn.davies@arcadis.com

Our ref:
00395052.0000

Dear Mr. Carpenter:

Enclosed is the former Channel Master Site Annual Report for the 2016 reporting year which includes a summary of the post-closure care program and the evaluation/statistical analysis of 2016 data from the two semiannual Chemical Effectiveness Monitoring Reports (CEMR) previously filed with the NYSDEC for the corrective action program.

On December 4, 1995, Channel Master submitted an application for renewal of the Part 373 post-closure permit, which expired in March 1996. Pending issuance of the permit renewal by the NYSDEC, the facility will continue to operate under the current terms and conditions of the permit (including several changes approved by the NYSDEC since issuance of the original permit), in accordance with the letter from Michael Merriman of the NYSDEC dated February 12, 1996.

If you have any questions regarding the report, please call me at 610.360.4895.

Sincerely,

Arcadis U.S., Inc.

Wyn V. Davies

Wyn V. Davies, CIH
Associate Vice President

Copies:
F. Kelly, NYSDEC Region 2 w/o encl.
D. Jackson, Avnet, Inc. w/encl.
S. Kulsha, AmTrust w/encl.
P. Flax, USEPA Region 2 w/encl.

2016 ANNUAL REPORT

Sampling and Data Evaluation of Semi-Annual Chemical Effectiveness Monitoring Reports

Prepared for:

AVNET

Prepared by:

Arcadis of NY Inc.

17-17 Route 208 North

Fair Lawn

New Jersey 07410

Tel 201 797 7400

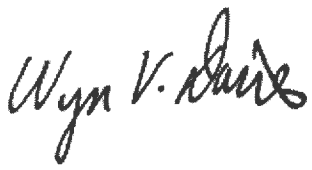
Fax 201 797 4399

Our Ref.:

00395052.0000

Date:

March 31, 2017



Wyn V. Davies, CIH

Associate Vice President

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

Exhibit "C"
Post Closure Plan for the Facility dated August 1987

See pdf page 17

MODULE IV - GENERAL GROUNDWATER MONITORING CONDITIONS

A. Applicability

1. The Permittee shall comply with all applicable groundwater monitoring requirements set forth in 6NYCRR 373-2.6.

2. The Permittee shall modify the groundwater monitoring program, as necessary, to maintain compliance with any subsequent changes in 6NYCRR 373-2.6 within ninety (90) days after the effective date of such change.

3. The Permittee shall follow their own corporate Health and Safety Plan when carrying out the permit's groundwater monitoring activities, unless other requirements govern.

B. Reporting Requirements

The Permittee shall report the results of all groundwater analyses which are obtained through monitoring in accordance with the requiremnts specified in this Permit.

The results of all groundwater sampling shall be submitted to the Commissioner within ten (10) weeks after the completion of all required sampling for each quarter. This submission shall contain a comparison to the Groundwater Protection Concentration and all other required evaluations, as specified in this Permit.

Along with the sampling results the Permittee shall submit the results of, and an evaluation of, quarterly groundwater elevation measurements. Any significant deviations from documented groundwater flow rate or direction shall be separately identified in the report.

Annually the Permittee shall submit a summary report of all sampling results obtained during the preceding year to the Commissioner. This annual report shall include potentiometric contour maps, an analysis of groundwater movement and fluctuations observed during the preceding year, and an analysis of contaminant migration including contaminant isopleth maps, as appropriate. The annual report shall be due and, submitted to the Commissioner, within sixty (60) days after each anniversary of the effective date of this Permit.

The minimum QA/QC data and information delivered with the sample analyses are stipulated in Attachment A of this Permit Module.

C. Inability to Obtain Representative Samples

1. If the Permittee knows that a well may not provide representative samples, or accurate piezometric values may be damaged, or is inaccessible, the Permittee shall:

(a) Within seven (7) days of such knowledge notify the commissioner of the problem in writing and outline the remedy. The Commissioner's approval of the remedy is not required prior to implementation of the remedy;

(b) Within fourteen (14) days of such knowledge, the Permittee shall attempt to remedy the problem and, when appropriate, sample or resample the well; and

(c) Within twenty-one (21) days of such knowledge, the Permittee shall, through written notice to the Commissioner, provide:

(i) A description of the problem with the well; and either

(ii) A description of how the problem was rectified; or

(iii) A schedule for the rehabilitation or replacement of the well.

(d) If a problem with the well prevented the Permittee from obtaining a scheduled sample, a sample shall be obtained within fourteen (14) days after the rehabilitation or replacement of the well.

2. If the Permittee knows that an error in either sampling or analytical methods has occurred, the affected samples shall be retaken within fourteen (14) days of such knowledge.

D. Well Rehabilitation

All monitoring wells to be used in the monitoring programs stipulated in this Permit shall be sounded within thirty (30) days after the effective date of this Permit. At that time and during all subsequent sampling events any well found to contain sediment to a depth equal to or greater than ten percent (10%) of the total screen length shall be redeveloped to remove the sediment and to minimize future sedimentation problems. The redevelopment shall be completed prior to the next sampling. The Permittee shall follow the Well Maintenance Plan (Attachment C of this Permit Module) for each monitoring well each time the groundwater is sampled.

E. Permit Modification

If the Permittee determines that the monitoring programs required under this Permit no longer satisfy the requirements of the regulations, the Permittee shall, within ninety (90) days of such determination, submit an application for a permit modification which describes the changes that will be necessary to maintain regulatory compliance at the site. The Commissioner may require the Permittee to perform additional sampling and install additional monitoring wells, as necessary, to maintain full characterization of hydrogeology and groundwater quality at the site.

F. **Groundwater Monitoring Plan**

The Permittee shall, within thirty (30) days from the effective date of this Permit, prepare and submit to the Commissioner a Groundwater Monitoring Plan. The Plan must be based on Attachment B of this Permit Module, any additional information described under Items 1-6 below, and any other relevant sampling, analytical, evaluation, and reporting requirements specified in this Permit. Separate sections of the Plan must be developed for the Surface Impoundment and Plant Building Areas, where appropriate. The Plan must be followed whenever sampling is conducted. The Plan must be kept at the facility. The Plan shall be regularly updated with current groundwater quality and elevation data. The Permittee shall ensure that all appropriate personnel including outside contractors have been properly trained in the application of the Groundwater Monitoring Plan, and that the Plan is followed whenever groundwater samples are obtained at the site. This Plan shall not be modified without approval from the Commissioner.

1. Presampling Procedures.

   (a) Personal protective equipment needed for sampling; and
   (b) Laboratory notification and verification.

2. Sampling Procedures.

   (a) Sample shipping.

3. Laboratory Handling and Analytical Protocols.

   (a) Documentation of laboratory processing steps; and
   (b) Analytical methods and detection limits.

4. Background Information for Each Monitoring Well/Piezometer.

   (a) Well log;
   (b) Water level recovery rate of wells;
   (c) Measuring point elevation;
   (d) Normal purge volume of the wells;
   (e) Background water quality values; and
   (f) Development/redevelopment history of the wells.

5. Statistical Evaluations.

   A detailed demonstration of how the statistical evaluation method will be applied to the groundwater quality data.

6. Well Record.

   A well record for each well/piezometer that is updated after each sampling event. The well record must contain the following information:

(a) Well ID # and designation as up- or downgradient;
(b) Depth of well as installed and as measured;
(c) Measuring point elevation;
(d) Depth to water;
(e) Water level elevation;
(f) Purge volume;
(g) Purge time (start/stop);
(h) Recharge time;
(i) Sampling time;
(j) Water level at sample time;
(k) Field parameters (temp., pH, S.C.) before/after sampling;
(l) Physical condition of the well;
(m) Important field observations related to sample integrity;
(n) Name of sampling personnel;
(o) Weather conditions (present and 48 hour history);
(p) Purge/Sample date;
(q) Concentration of required monitoring parameters;
(r) Concentration of any other parameters analyzed; and

G. Collection of Samples by the Department

At the request of the Commissioner, the Permittee shall allow the Commissioner's authorized representative(s) to collect samples or splits of any samples collected by the Permittee pursuant to the requirements of this Permit. Similarly, at the request of the Permittee, the Commissioner shall allow the Permittee or the Permittee's authorized representative to collect splits or duplicates of any samples collected by the Commissioner's authorized representative(s). The Permittee shall provide for disposal of purge water, in accordance with the conditions of this Permit, whenever samples are collected by the Commissioner's authorized representative(s).

Well Maintenance Plan

The groundwater monitoring system will be maintained so as to enable the collection of samples that are representative of groundwater quality. Wells which are damaged beyond repair, or become unusable for some other reason, shall be replaced, or an alternate well will be designated. If it becomes apparent that a well is not capable of providing representative samples, the Permittee shall respond in accordance with the terms in Condition C of Module IV of this Permit.

The monitoring wells will be inspected for corrosion, damage to the concrete protective collar, damage to the lock and general integrity each time samples are collected. Also, total well depth will be measured during each sampling event (at least quarterly) to determine the need for well redevelopment due to build up of silt. Any well which is in-filled with silt in excess of ten percent of the screened or open interval will be redeveloped prior to the next sampling round. Outdoor wells will be painted periodically, as appropriate, to prevent corrosion, and the concrete collars will be coated with concrete sealer to prevent spalling and cracking. Materials shall be chosen which minimize the potential for contamination of the wells. Well numbers will be checked for legibility, and relabeled if necessary.

MODULE V - POST CLOSURE CARE CONDITIONS

A. Description of Permitted Unit

1. The conditions of this permit apply to the closed regulated unit specified below:

Unit	Waste Type Previously Handled
Surface Impoundment	Chromate conversion rinsewaters, surface runoff, and cooling water

Permittee has physically closed the surface impoundment as required by 6NYCRR 373-2.7(b) (Attachment A and Plate 1 Attachment C of this Module) and certified that the unit closed in accordance with the approved closure plan as required by 6NYCRR 373-2.7(f)(1).

2. Within thirty (30) days from the effective date of this Permit the Permittee shall submit to the Commissioner a properly certified and labeled survey plat required by 6NYCRR 373-2.7(f)(2) indicating the location and dimensions of the hazardous waste disposal unit with respect to permanently surveyed benchmarks.

3. Within thirty (30) days from the effective date of this Permit, the Permittee shall submit to the Commissioner a certification required by 6NYCRR 373-2.7(i)(2)(ii) that he has recorded the notation required by 6NYCRR 373-2.7(i)(2)(i) on the deed to the facility property, or some other instrument which is normally examined during title search.

4. Within thirty (30) days from the effective date of this Permit, the Permittee shall submit to the Commissioner all available QA/QC data and information stipulated in Attachment A to Module III of this Permit, including copies of all available gas chromatograms, on all subsurface soil samples analyzed for the physical closure of the surface impoundment.

B. Post-Closure Care

1. Permittee shall provide post-closure care as required by 6NYCRR 373-2.7(g) in accordance with the Post-Closure Plan in Attachment B of this Module, any subsequent modifications to that Plan approved by the Commissioner, and the Groundwater Monitoring Program stipulated in Module Condition C.

2. Within sixty (60) days from the effective date of this Permit, the Permittee shall submit to the Commissioner for approval, amendments to the Post-Closure Care Plan in Attachment B of this Module, as stipulated below:

(a) Post-Closure Contact

The name, address, and telephone number of a post-closure contact located at the facility being permitted.

(b) Post-Closure Security

The security requirements necessary to preclude disturbance of the final cover.

(c) Inspection Plan

An inspection chart to be utilized by the Permittee that shall address the following:

(i) Inspector's name and title;

(ii) Date and time of inspection;

(iii) Items addressed during inspection:

(1) erosion damage;

(2) cover settlement subsidence and displacement;

(3) vegetative cover conditions;

(4) cover drainage and run-off control;

(5) security; and

(6) well condition.

(iv) Anticipated problems for items addressed in Module Condition B.2(c)(iii);

(v) Observations for each item addressed in B.2(c)(iii); and

(vi) Date and type of repairs/maintenance for each item in B.2(c)(iii).

The plan shall require one spring inspection in late April and one fall inspection in late October as a minimum.

(d) Maintenance Plan

A modified maintenance plan that shall specify the frequency of mowing the vegetative cover during the growing season once a month or so as not to allow a vegetative growth that exceeds approximately eight (8) inches in height, and the maintenance procedures that will be essential to ensure continued growth of the vegetative cover.

(e) The cost estimate for post-closure care shall be adjusted to reflect a post-closure care period of thirty (30) years.

C. GROUNDWATER MONITORING PROGRAM FOR REGULATED UNITS

1. Compliance Monitoring Program

Groundwater quality data collected during interim status monitoring under 6NYCRR 373-3.6 support the implementation of a Compliance Monitoring Program under 373-2.6(j) for the closed surface impoundment (regulated unit). Therefore, Permittee shall, on the effective date of this Permit, begin a Compliance Monitoring Program.

Low levels of inorganic and volatile organic constituents have been detected in the groundwater downgradient of the closed surface impoundment exceeding background levels and occasionally exceeding concentration limits specified in this Permit. The Commissioner has determined that corrective action shall not be required at this time for the following reasons:

(a) Levels of constituents exceeding concentration limits are sporadic both temporally and spatially;

(b) No well defined plume of contamination has been identified;

(c) Contaminated soils were removed when the surface impoundment was closed, effectively eliminating it as a continuing source; and

(d) There are other possible sources of the observed contamination including fill in the area downgradient which is not related to operations at the facility, and the drainage ditch which receives discharges from another facility.

The groundwater monitoring program outlined in this Permit Module is designed to monitor the conditions and determine if constituents are either significantly increasing or migrating away from the site, in which case corrective action may be warranted.

Within thirty (30) days of the effective date of this Permit, the Permittee shall install one (1) additional monitoring well downgradient of the surface impoundment area. The well shall be installed approximately 150 feet northwest of Well MW-14 and shall be designated MW-18. Installation of MW-18 shall be in a manner consistent with other monitoring wells at the site and the well shall be constructed so as to monitor the uppermost saturated zone. A geologic log, construction information and map showing the well's location shall be submitted to the Commissioner within fifteen (15) days of installation. The well shall be fully developed prior to sampling. This well shall be monitored quarterly as a supplemental

well. After the first year of monitoring, the need for any additional monitoring wells shall be evaluated as a part of the Annual Report.

If groundwater contamination is still present at the end of the Compliance Period and a Corrective Action Program is not in effect, the Permittee may make application for a permit modification to institute a Detection Monitoring Program during the remainder of the post-closure care period. The application must detail all required components of the proposed program.

2. Point of Compliance

The point of compliance for the regulated unit (the closed surface impoundment) is defined as the vertical surface at the downgradient limit of the former waste management area and extends down into the uppermost aquifer underlying the regulated unit. The point of compliance is shown as the compliance line on Plate No. C-1 Attachment C of this Permit Module. The line passes through monitoring wells MW-2S and MW-8S, designated as compliance point wells.

Attachment C contains a site plan showing the location of and relationship between the regulated unit, upgradient wells, point of compliance, compliance point wells and supplemental monitoring wells at the site.

3. Monitoring Period

At a minimum, the groundwater monitoring requirements shall extend throughout the post-closure care period. A Compliance Period equal to ten (10) years has been established at this time. During the Compliance Period the Compliance Monitoring Program described in this Permit Module shall apply. The Compliance Period may be shortened or extended by the Commissioner pursuant to a modification of the post-closure care period stipulated in Module II Condition F.1 of this Permit.

Any time during the Compliance Monitoring Program, the Permittee may make a demonstration that for a period of three consecutive years the concentrations of hazardous constituents in all the downgradient monitoring wells have remained at levels not statistically higher than background. Application for a permit modification to reduce or discontinue groundwater monitoring at the surface impoundment may be submitted to the Commissioner at that time. The application must detail all required components for any modified Monitoring Program.

4. Description of Wells

(a) The site wells are shown on the site plan in Attachment C

of this Permit Module. The Compliance Monitoring Network shall consist of the following wells:

(i) Upgradient well: MW-10S;

(ii) Downgradient compliance point wells; MW-2S, MW-8S; and

(iii) Downgradient supplemental wells; MW-2D, MW-3, MW-6, MW-8D, MW-13S, MW-14, MW-18 (when installed).

(b) In addition to the Compliance Monitoring Network, water levels shall be obtained from wells MW-4, MW-7, MW-10D, MW-11S, MW-11D, MW-12S, MW-12D and MW-13D each time the compliance network wells are measured and shall be used when evaluating the direction of groundwater flow at the site.

(c) Within thirty (30) days of the effective date of this Permit, the Permittee must submit a plan to the Commissioner for removal of monitoring wells MW-1 and MW-2. These wells shall be removed within sixty (60) days of approval. Other wells may only be removed upon written approval from the Commissioner.

5. Sampling Frequency

(a) Initially, and continuing for a period of one year, all the wells in the Compliance Monitoring Network shall be sampled at least quarterly. Sampling shall be done at more frequent intervals, as required, based on analytical results.

(i) Compliance monitoring shall begin within three (3) months of the last sampling event conducted prior to the effective date of this Permit;

(ii) Statistical analyses of the groundwater data shall be completed at least annually according to the procedures outlined in Attachment D of this Permit Module;

(iii) If quarterly monitoring indicates the Groundwater Protection Concentration is exceeded for any volatile constituent in any monitoring well, the Permittee shall follow the procedure outlined in Attachment E of this Permit Module to determine if additional sampling is needed;

(iv) Monitoring of the upgradient well (MW-10S) and the compliance point wells (MW-2S, MW-8S) shall

continue throughout the Compliance Period on at least a quarterly schedule; and

(v) During the second and subsequent years of the Compliance Period the supplemental monitoring wells may be monitored less frequently if hazardous constituents remain below detectable levels, as specified in the Well Reduction Program Attachment F of this Permit Module.

(b) Quarterly water level elevations shall be determined for every monitoring well set forth in Module Condition C.4.

6. Monitoring Parameters

(a) The following analyses shall be conducted on samples obtained from each monitoring well in Module Condition C.4, each time quarterly groundwater samples are obtained. Accelerated sampling, as required elsewhere, shall be for specific constituents only:

(i)	Halogenated Volatile Organics	(SW846 Method 8010)
(ii)	Aromatic Volatile Organics	(SW846 Method 8020)
(iii)	Cyanides, Total	(SW846 Method 9010)
(iv)	Arsenic, (Dissolved)	(SW846 Method 7061)
(v)	Barium, (Dissolved)	(SW846 Method 7081)
(vi)	Lead, (Dissolved)	(SW846 Method 7421)
(vii)	Mercury, (Dissolved)	(SW846 Method 7470)
(viii)	Nickel, (Dissolved)	(SW846 Method 7521)
(ix)	Silver, (Dissolved)	(SW846 Method 7761)

Other analytical methods require prior approval by the Commissioner.

(b) The Permittee shall compare the results from analyses in Module Condition C.6.(a) against the Groundwater Protection Concentration outlined in Module Condition 8.(a) each time the groundwater is sampled, as the first step in determining if accelerated monitoring is required as outlined in Attachment E of this Permit Module.

(c) Annually, samples shall be obtained and analyzed for total (unfiltered) metals for those metals listed in Module Condition C.6.(a), from all wells in the Compliance Monitoring Network.

(d) Annually, for a period of at least three (3) years from the effective date of this Permit, samples shall be obtained from the compliance point wells (2S and 8S) and analyzed for the complete Groundwater Monitoring List (6NYCRR 373-2, Appendix 33) to determine if additional hazardous constituents have entered the uppermost aquifer.

(e) A review of the monitoring parameter list shall be made annually to determine if certain parameters may be deleted from the list.

7. Additional Monitoring Parameters

(a) If any additional hazardous constituents, as defined in 6NYCRR Part 371, are identified to be present in a concentration above the method detection limit through groundwater monitoring at any of the monitoring wells in the Compliance Monitoring Network the following procedures must be taken:

(i) The pertinent constituent(s), concentration(s) and well(s) shall be reported to the Commissioner within seven (7) days of such identification;

(ii) The pertinent well(s) shall be resampled to confirm the presence of the additional hazardous constituent(s); and

(iii) If the presence of additional hazardous constituents are confirmed. The constituents shall be added to the list of monitoring parameters under Module Condition C.6(a) and evaluated as set forth in Attachment D of this Permit Module.

8. Groundwater Protection Concentration

(a) The following compounds have been identified above background levels in the groundwater, in the uppermost aquifer beneath the regulated unit (surface impoundment) and the corresponding values have been established as Groundwater Protection Concentrations.

Constituent	Conc. Limit (ug/l) [1]
Benzene	Non-Detectable[2]
Carbon Tetrachloride	5.0
Chloroform	100.0[3]
1,3-Dichlorobenzene	4.7
1,4-Dichlorobenzene	5.0
1,1-Dichloroethane	.4
1,2-Dichloroethane	5.0
1,1-Dichloroethylene	5.0
trans-1,2-Dichloroethene	5.0
Methylene Chloride	4.7
1,1,1-Trichloroethane	1.8
Trichloroethylene	5.0
Vinyl Chloride	2.0
Cyanide, Total	100.0
Arsenic, Total	2.5

Barium, Total	1,000.0
Lead, Total	25.0
Mercury, Total	2.0
Nickel, Total	700.0
Silver, Total	50.0

(1) The total concentration of all organic constituents, except pesticides, herbicides, trihalomethanes and vinyl chloride, shall not exceed 100.0 ug/l.

(2) The concentration shall not be at or above the method detection limit established by Method 8020.

(3) Total concentration of all trihalomethanes not to exceed 100 ug/l.

(b) Comparisons of groundwater data, collected in accordance with Module Conditions C.5 and C.6, to the Groundwater Protection Concentrations, shall be made in accordance with the procedures outlined in Attachment D of this Permit Module, and as set forth in Module Conditions C.9(a-c).

(c) When the background concentration of any additional hazardous constituent is to be used as a Groundwater Protection Concentration, the following methods shall be used:

(i) If analytical data exists for the constituent(s) of concern from at least four (4) sampling events then the mean of the pooled data shall be used, initially, as background;

(ii) If the minimum analytical data described above does not exist for the constituent(s), then the Permittee shall sample the upgradient well(s) monthly for a period of four (4) months to establish an initial background value; and

(iii) In either case, the Permittee shall obtain additional samples quarterly, as necessary, for a period of one year to establish a seasonally weighted background value.

9. Statistical Evaluation

(a) Whenever the Permittee determines the groundwater quality through sampling of the Compliance Monitoring Network, the Permittee must determine whether there has been an exceedance of the Groundwater Protection Concentration.

(b) If the Groundwater Protection Concentration under Module Condition C.(8)(a) is exceeded for any monitoring parameter in Module Condition C.6.(a), in any monitoring well, additional evaluations shall be applied for that well, as outlined in Attachment E of this Permit Module.

(c) Annually, the Permittee must make the additional comparisons to the Groundwater Protection Concentration in accordance with the procedures outlined in Attachment D of this Permit Module.

(d) If based on the annual determination, the Permittee determines that there has been a significant exceedance of any Groundwater Protection Concentration in any monitoring well as provided in Attachment D of this Permit Module, he must notify the Commissioner of this finding within seven (7) days. The notification must indicate which Groundwater Protection Concentration have been exceeded in which wells and must indicate the action that will be taken to address the situation as outlined below:

(i) Within one hundred and eighty (180) days, the Permittee must submit to the Commissioner an application for a permit modification to establish a Corrective Action Program meeting the requirements of 6NYCRR Subpart 373-2.6(k); or

(ii) Within ninety (90) days, submit an assessment report pursuant to Permit Module III, Condition B to the Commissioner that successfully demonstrates a source other than the regulated unit caused the Groundwater Protection Concentrations to be exceeded or that the apparent exceedance resulted from error in sampling, analysis, or evaluation; and

(iii) Within ninety (90) days, submit to the Commissioner an application for a permit modification to make any appropriate changes to the Compliance Monitoring Program.

10. Reporting Requirements

The Permittee shall report all monitoring results in accordance with the conditions provided in Permit Module IV, General Groundwater Monitoring Conditions.

(a) If a successful demonstration is made under Module Condition C.9.(d)(ii) that a source other than the regulated unit caused the Groundwater Protection Concentration to be exceeded, the Permittee shall submit to the Commissioner, within thirty (30) days from the date

of such demonstration, a RCRA Facility Investigation Work Plan pursuant to Permit Module III, Condition E.3.(c) to investigate the source of contamination and fully evaluate the extent of the contamination.

MALCOLM PIRNIE

ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

POST-CLOSURE PLAN

Channel Master
Division of Avnet, Inc.

August 1987

PROJECT 0395-03-6

POST-CLOSURE PLAN

CHANNEL MASTER
ELLENVILLE, NEW YORK

AUGUST 1987

MALCOLM PIRNIE, INC.
Environmental Engineers, Scientists
and Planners
100 Eisenhower Drive
Paramus, New Jersey 07653

MALCOLM
PIRNIE

TABLE OF CONTENTS

LIST OF TABLES

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

LIST OF PLATES

1. INTRODUCTION

This post-closure plan has been prepared in accordance with 6NYCRR Subpart 373-2.7(h) to address the surface impoundment at the former Channel Master facility in Ellenville, New York. The impoundment was closed in accordance with Channel Master's approved Closure Plan dated June 1985. Closure operations have been completed, and a certification report was submitted to NYSDEC on December 19, 1986.

A compliance monitoring program has been developed to monitor hazardous constituents present in ground water downgradient of the surface impoundment. The program is presented in Section 2. A description of the hazardous constituents and concentration limits, the ground water monitoring procedures, and the compliance period and data evaluation procedures is provided in the program.

A sampling and analysis plan has been developed to support the ground water monitoring program. The plan is presented in Section 3. Procedures for sample collection, sample preservation and handling, chain-of-custody, analyses, and QA/QC are provided in the plan.

Information pertaining to post-closure care is provided in Section 4. The contact, security methods, inspection and maintenance procedures, training requirements, cost estimate, and financial assurance mechanism are described in this section.

2. COMPLIANCE MONITORING PROGRAM

2.1 Hazardous Constituents and Concentration Limits

Ground water monitoring has been conducted in the surface impoundment (lagoon) area since June 1984. Monitoring results are provided in Table 4 and Appendix 9 of the Ground Water Assessment Report and Tables 1-4 of the Ground Water Assessment Report Addendum.

The following hazardous, volatile organic constituents have been detected downgradient of the lagoon:

- 1,1-Dichloroethane
- trans-1,2-Dichloroethene
- 1,1,1-Trichloroethane
- 1,1-Dichloroethene
- Benzene
- Vinyl Chloride
- Carbon Tetrachloride
- Trichloroethene
- Methylene Chloride
- 1,2-Dichloroethane
- Chloroform
- 1,3-Dichlorobenzene
- 1,4-Dichlorobenzene

The most prevalent volatile organic constituents (VOCs) have been 1,1-dichloroethane and trans-1,2-Dichloroethene. The other VOCs have been detected infrequently and in a limited number of wells, demonstrating that they are not widespread.

VOCs have not been detected in upgradient well MW-10S. Therefore, the background level must be considered zero and VOCs will be included in the compliance monitoring program.

Cyanides have been detected at several locations downgradient of the lagoon. Cyanides have not been detected in the upgradient well. Therefore, the background level must be considered zero and cyanides will be included in the compliance monitoring program.

In addition to cyanides, the following hazardous, inorganic constituents were detected in the September 1986 sampling event, and will be included in the compliance monitoring program:

- Arsenic
- Barium

- Lead
- Mercury
- Nickel
- Silver

Hazardous constituents detected at least once during ground water monitoring in the lagoon area are listed in Table 2-1. The standards and guidance values which may be used to set concentration limits for ground water protection are listed for each constituent, as is the maximum concentration detected in the ground water samples.

NYSDEC Class GA ground water standards are for ground waters which could be used as a source of potable water supply. USEPA maximum contaminant levels (MCLs) are primary drinking water standards which apply to potable water supplies. NYSDEC guidance values are used by the Department's regulatory programs when standards are not available, usually for developing SPDES permit water quality based effluent limitations.

If available, NYSDEC ground water standards will be used as concentration limits. When no NYSDEC standard is available, USEPA MCLs will be used. If neither NYSDEC or USEPA has set a standard for a particular constituent, then NYSDEC ground water guidance values will be used as concentration limits. Standards and guidance values are not available for nickel and 1,3-dichlorobenzene. The standards and guidance values are subject to change by NYSDEC and USEPA.

2.2 Ground Water Monitoring

Ground water monitoring will be conducted quarterly as part of the compliance monitoring program. The following wells will be included in the monitoring program:

- Compliance Point Wells: MW-2S, MW-8S
- Upgradient Well: MW-10S
- Supplemental Wells: MW-2D, MW-3, MW-6, MW-8D, MW-13S, MW-14

Monitoring well locations are shown on the Lagoon Site Plan (Plate 1). Samples will be analyzed for the following parameters:

- Purgeable halocarbons (EPA Method 601)
- Purgeable aromatics (EPA Method 602)
- Cyanides, total

TABLE 2-1

CHANNEL MASTER LAGOON WELLS
HAZARDOUS CONSTITUENTS
AND CONCENTRATION LIMITS

Hazardous Constituent[1]	Maximum Concentration Detected (ppb)	NYSDEC Class GA Ground Water Standard[2] (ppb)	USEPA Maximum Contaminant Level[3] (ppb)	NYSDEC Class GA Ground Water Guidance Value[4] (ppb)
Benzene	4.0	ND	5.0	
Carbon Tetrachloride	1.7	5.0	5.0	
Chloroform	1.1	100		
1,3-Dichlorobenzene	0.79			
1,4-Dichlorobenzene	0.66	4.7	75	
1,1-Dichloroethane	138			50
1,2-Dichloroethane	1.1		5.0	0.8
1,1-Dichloroethene	16		7.0	0.07
trans-1,2-Dichloroethene	16			50
Methylene Chloride	3.5			50
1,1,1-Trichloroethane	65		200	50
Trichloroethene	0.84	10	5.0	
Vinyl Chloride	4.6	5.0	2.0	
Cyanide	105	200		
Arsenic	9.9J	25	50	
Barium	428	1,000	1,000	
Lead	1.7J	25	50	
Mercury	0.39	2.0	2.0	
Nickel	47			
Silver	.70	50	50	

Notes:

1. 6NYCRR Part 371, Appendix 23,"Hazardous Constituents".
2. 6NYCRR Part 703, "Ground Water Classifications, Quality Standards, and Effluent Standards and/or Limitations".
3. 52FR 25720, July 8, 1987, "Synthetic Organic Chemicals - Final MCLs for the VOCs", and 40CFR 264.94, "Maximum Concentration of Constituents for Ground Water Protection".
4. NYSDEC Division of Water, "Ambient Water Quality Standards and Guidance Values", July 24, 1985.

J indicates an estimated value.

- Arsenic, total
- Barium, total
- Lead, total
- Mercury, total
- Nickel, total
- Silver, total

Procedures for well evacuation, sample collection, sample preservation and handling, sample custody, recordkeeping, sample analysis, and quality assurance/quality control are provided in the Sampling and Analysis Plan (Section 3). Water levels will be measured in the lagoon monitoring wells as part of the quarterly monitoring. The estimated time between sampling and the availability of analytical data is one month; however, this time may be longer if laboratory problems are encountered.

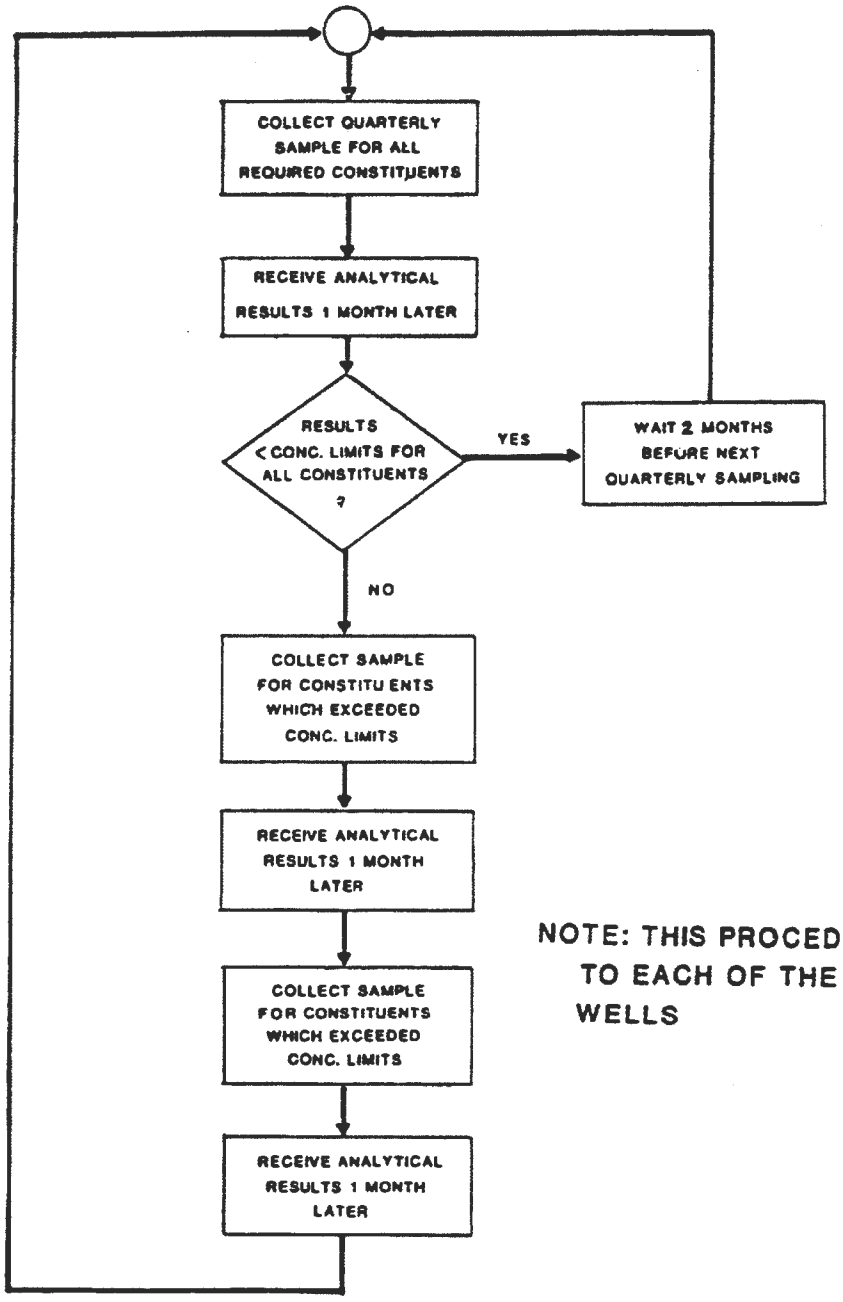
If analytical results of quarterly samples indicate that one or more hazardous constituents exceed concentration limits as specified in Section 2.1, those constituents will be monitored monthly in each well where they exceeded concentration limits for the remainder of the quarter. Figure 2-1 outlines the procedure to be followed for determining monitoring requirements.

In addition to the quarterly analyses, compliance point wells MW-2S and MW-8S will be monitored annually for RCRA ground water monitoring parameters (Appendix IX constituents) for the first three years of the compliance monitoring program. If any hazardous constituents in addition to those identified in the permit are detected, Channel Master shall report the concentrations of the additional constituents to NYSDEC so they may determine if modifications to the monitoring program are necessary.

Monitoring requirements may be reduced if analytical results demonstrate that hazardous constituents are not detected in the supplemental wells (MW-2D, MW-3, MW-6, MW-8D, MW-13S, and MW-14). The following procedure will be used to remove supplemental wells from the compliance monitoring program:

1. If hazardous constituents are not detected in the well for one year (four quarters), the well will be monitored semi-annually the following year.

2. If hazardous constituents are not detected in either of the semi-annual samples, the well will be monitored annually thereafter.



NOTE: THIS PROCEDURE APPLIES TO EACH OF THE MONITORING WELLS

MALCOLM PIRNIE

CHANNEL MASTER
COMPLIANCE MONITORING PROGRAM

PROCEDURE FOR DETERMINING
MONITORING FREQUENCY IN LAGOON WELLS

3. If hazardous constituents are not detected in the annual samples, Channel Master may negotiate removal of the well when the permit is up for renewal (after five years).

If at any time, one or more hazardous constituents are detected in a well in which quarterly monitoring requirements have been reduced, the well will again be subject to quarterly monitoring. The well removal procedure is outlined in Figure 2-2.

2.3 Compliance Period and Evaluation of Monitoring Data

The compliance period is the number of years equal to the active life of the waste management area (lagoon) and the closure period. The lagoon began operation in 1972. Closure operations have been completed, and a certification report was submitted to NYSDEC in December 1986. Therefore, the compliance period equals 15 years.

Monitoring data will be evaluated annually to determine whether ground water protection standards (concentration limits) have been exceeded. The following procedure will be used to assess the data:

1. Determine the mean concentration for each constituent in each of the monitoring wells.

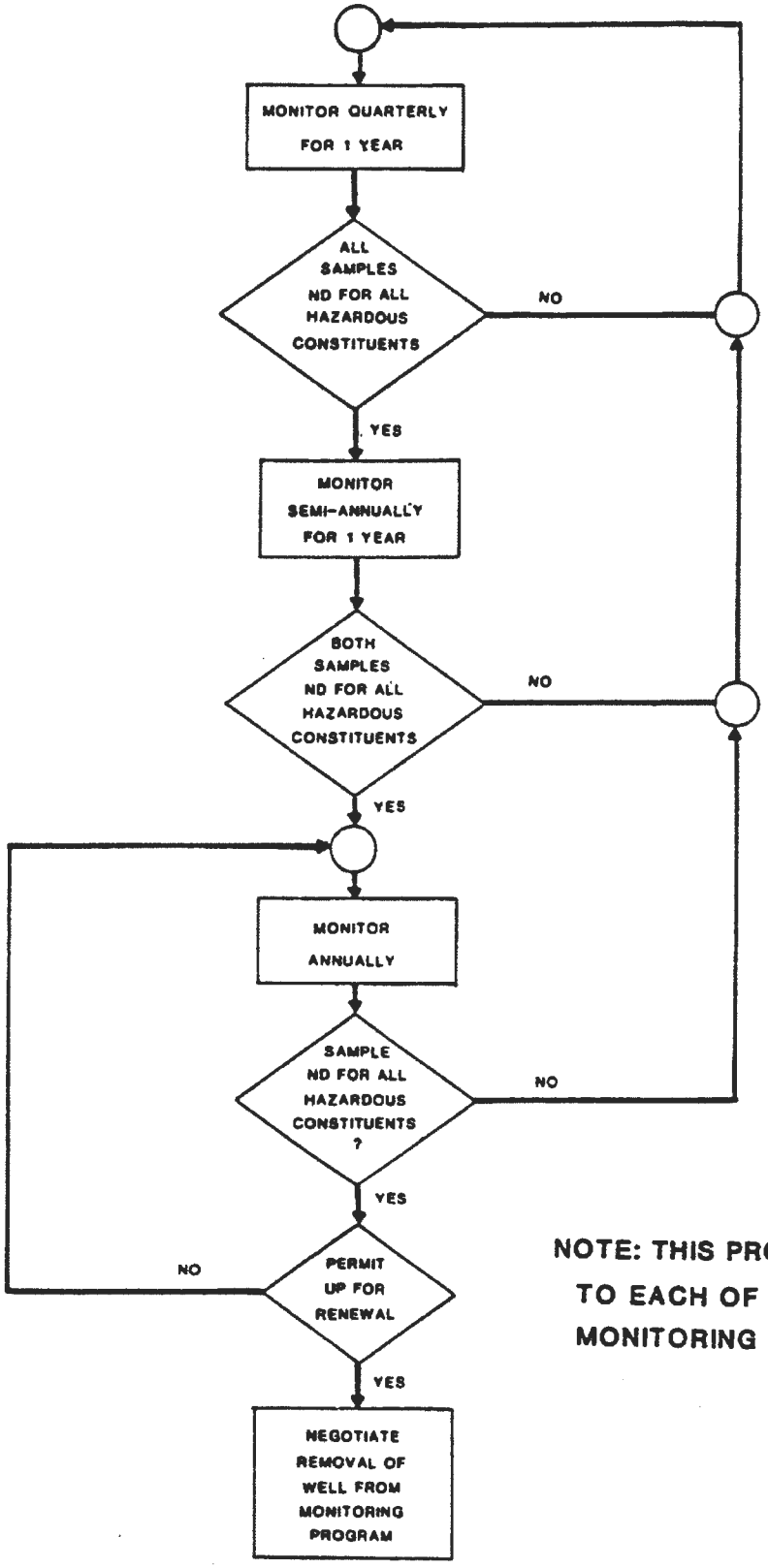
2. Compare the mean concentration for each constituent in each of the compliance point and supplemental wells to their respective concentration limits, or to their mean concentration in the upgradient well, whichever is higher.

In determining mean concentrations, each quarter carries equal weight. If more than one sample is analyzed during one or more of the quarters, determine the mean for each quarter and then determine the mean for the four quarters.

If the annual comparison demonstrates that one or more ground water protection standards have been exceeded, Channel Master shall exercise one of the following two alternatives:

1. Submit an application for a permit modification to establish a corrective action program in accordance with 6NYCRR Subpart 373-2.6(k).

2. Submit an application for a permit modification to establish alternate concentration limits in accordance with 6NYCRR Subpart 373-2.6(e)(2).



NOTE: THIS PROCEDURE APPLIES TO EACH OF THE SUPPLEMENTAL MONITORING WELLS

MALCOLM PIRNIE

CHANNEL MASTER
COMPLIANCE MONITORING PROGRAM

PROCEDURE FOR REMOVING SUPPLEMENTAL LAGOON WELLS FROM MONITORING PROGRAM

If it is believed that a source other than the lagoon or an error in sampling, analysis or evaluation caused the standard to be exceeded, Channel Master may choose to demonstrate this in addition to, or in lieu of, submitting a permit modification application.

3. SAMPLING AND ANALYSIS PLAN

3.1 General

This Sampling and Analysis Plan has been prepared to support the ground water monitoring program at the former Channel Master facility in Ellenville, New York. The plan details procedures for preparation, well evacuation, sample collection, sample preservation and handling, sample custody, record-keeping, sample analysis and quality assurance/quality control. NYSDEC Ground Water Sampling Protocols have been incorporated, as appropriate, into the plan.

3.2 Preparation

A sampling team of at least two people is established prior to each sampling event. The team holds a pre-sampling meeting in order to:

- Review the sampling procedures described in this plan.
- Assemble and inspect all equipment and verify that equipment is clean and in proper working order.
- Note and replace any items that are in short supply or improper working order.
- Calibrate all equipment to manufacturer's specifications.
- Examine sample containers and verify that the proper number and type of containers have been delivered by the laboratory.
- Establish a well evacuation and sample collection schedule for the sampling event.

3.3 Well Evacuation

Water Level Measurements

The depth to water is measured from the permanent reference point marked on each well casing with an electronic water level indicator or fiberglass measuring tape. The total well depth is then measured with a fiberglass measuring tape. All measurements are taken to the nearest 1/100 foot. Prior to subsequent use, those parts of the water level monitoring devices which were placed within the well are cleaned according to the following procedure:

1. Wash with nonphosphate detergent and water solution.
2. Rinse with distilled water.

3. Rinse with HPLC grade hexane.
4. Rinse with distilled water.

Purging the Well

The volume of water in each well is calculated using the following equation:

$$V = \pi r^2 h \ (7.48 \ gal/ft^3)$$

Where:

V = water volume (gallons)
r = well casing radius (feet)
h = height of water column (feet)

For wells which do not evacuate to dryness, a minimum of three casing volumes is removed from the well before collecting samples. If a well evacuates to dryness and is slow to recharge, only one casing volume need be removed.

The following devices may be used, as appropriate, for well evacuation:

- bailer
- peristaltic pump
- vacuum pump
- diaphragm pump
- submersible bladder pump

During well evacuation, the intake opening of the purge device should be positioned just below the surface of the water. If the water level drops during purging, the intake should be lowered as needed to maintain flow.

Dedicated fluoracarbon resin bailers, nylon bailing line, and polyethylene or polypropylene tubing are used. If a submersible pump is used, it is cleaned between wells according to the procedure used for water level monitoring devices. Purged water is returned to the ground (for lagoon wells) or collected and pumped to the air stripper (for plant wells).

3.4 Sample Collection

Sample Withdrawal

Samples are collected with fluorocarbon resin bailers. A separate bailer is dedicated to each well. Bailers are cleaned between sampling events according to the following procedure:

1. Wash with nonphosphate detergent and water solution.

2. Rinse with distilled water.
3. Rinse with 0.1 N nitric acid (for inorganics samples only).
4. Rinse with distilled water (for inorganics samples only).
5. Rinse with HPLC grade hexane.
6. Rinse with distilled water.

Samples are collected and containerized in the order of volatilization sensitivity of the parameters. The sample collection priority is listed in Table 3-1. Unnecessary agitation of the sample is avoided by lowering bailers slowly into the well and transferring samples gently from the bailers to the sample containers. Wells are evacuated and sampled from "clean" to "dirty" based on previous monitoring results. Upgradient wells are always sampled first.

Samples for inorganics analysis (i.e. cyanide, metals) are filtered through a 0.45-micron membrane filter before being transferred to the appropriate container. Field filtering is employed to remove soil or rock particles not inherent in the ground water. The filter apparatus is either a pre-assembled, plastic, disposable filter unit or a magnetic, plastic/ceramic filter device attached to an Erlenmeyer flask. The filter apparatus is connected to a vacuum source. When necessary, the sample may be filtered through a more porous membrane prior to the 0.45 micron membrane. All nondedicated filtration equipment is cleaned between sampling locations by following Steps 1 through 4 above. After filtration, the sample is transferred to the sample container and preserved as described in Section 3.5.

Samples for organics analysis are not filtered. These samples are transferred directly to the containers. Volatile organic samples are filled completely so that no headspace remains in the container. Volatile organics samples must be collected within three hours of completing well evacuation.

Field Measurements

Field measurements include temperature, pH, and specific conductance. Temperature is measured with a thermometer calibrated to 0.1 C. A pH meter is used for pH measurements. The meter is calibrated before each measurement by placing the electrode in the appropriate buffer solutions. Specific conductance is measured with a S-C-T meter. The meter is calibrated between wells.

Temperature is always determined first so pH and specific conductance can be adjusted accordingly. The monitoring probes are rinsed with distilled

TABLE 3-1

SAMPLE COLLECTION PRIORITY

Priority	Parameter
1	Volatile Organics
2	Acid Extractable Organics
3	Base/Neutral Organics
4	Pesticides/PCBs
5	Metals
6	Phenolics
7	Oil and Grease
8	Cyanides

Source: NYSDEC, "Draft Ground Water Sampling Protocols," January 1987.

water prior to obtaining measurements. Monitoring probes are never placed directly into sample containers or used in such a manner that they could contaminate samples.

3.5 Sample Preservation and Handling

Sample containers, preservation techniques, and holding time requirements for specific parameters are as listed in Table 3-2. All sample containers are cleaned in the laboratory based on the analyte of interest in accordance with EPA-approved procedures.

3.6 Sample Custody

The sample custody program includes the following:

- Sample labels
- Sample seals
- Chain-of-custody/record

Sample labels are affixed to each sample container and include: sample identification number, date, time, location, and analysis. The label is covered with clear plastic tape to ensure that it does not peel off or become damaged. A unique identification number is assigned to each sample. Each sample has a corresponding entry on the chain-of-custody record.

Chain-of-custody records include the following:

- Site name
- Sample collectors signatures
- Sample identification numbers
- Date and time of collection
- Number of containers
- Matrix
- Analyses requested
- Signatures of samplers
- Signatures and dates of persons involved in chain of possession

The shipping container is sealed for shipment to the laboratory. Sample containers are checked and logged at the laboratory. The laboratory then returns the signed chain-of-custody records to the sampling team.

3.7 Recordkeeping

Field logs are maintained by sampling personnel to record all pertinent information about the sampling event. The data recorded should be sufficient

TABLE 3-2

SAMPLE CONTAINERS, PRESERVATION TECHNIQUES AND HOLDING TIMES

Parameter	Container[1]	Preservative[2]	Holding Time[3]
Volatile Organics	G	Cool, 4 C	14 days
Acid Extractable Organics	G	Cool, 4 C	7 days/30 days
Base/Neutral Extractable Organics	G	Cool, 4 C	7 days/30 days
Pesticides/PCBs	G	Cool, 4 C	7 days/30 days
Metals (except Hg and Cr^{+6})	P,G	Cool, 4 C HNO_3 to pH<2	6 months
$Chromium^{+6}$	P,G	Cool, 4 C HNO_3 to pH<2	24 hours
Mercury	P,G	Cool, 4 C HNO_3 to pH<2	28 days
Cyanides	P,G	Cool, 4 C NaOH to pH>12 0.6g ascorbic acid/liter	14 days
Phenolics	G	Cool, 4 C H_2SO_4 to pH<2	28 days
Oil & Grease	G	Cool, 4 C H_2SO_4 to pH<2	28 days

Notes:

1. P = plastic, G = glass. Teflon-lined caps are required for volatile organics and acid and base/neutral extractables. Polyethylene containers are preferred for metals.

2. More specific instructions for preservation are found in the analytical procedure for each parameter.

3. Acid and base/neutral extractables and pesticides/PCBs must be extracted within 7 days and analysed within 30 days.

to allow reconstruction of the well evacuation, sample collection, and sample preservation and handling procedures at a later time. The field log for each sample includes:

- Personnel
- Date
- Weather conditions
- Well identification
- Static water level depth and measurement technique
- Total well depth
- Well condition
- Purge volume and pumping rate (if applicable)
- Time well purged
- Well evacuation procedure/equipment
- Sample identification
- Sample appearance
- Preservative used
- Parameters requested for analysis
- Sample withdrawal procedure/equipment
- Field measurements and methods
- Time sample collected
- Other relevant information

3.8 Sample Analysis

Only EPA-approved methods are used for analyses. These methods are found in the following documents:

- Methods for Chemical Analysis for Water and Wastes, EPA 600/4-79-020, 1979.
- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA 600/4-82-057, 1982.
- Test Methods for Evaluating Solid Waste - Physical Chemical Methods, EPA 530-SW846, 1982.
- Statement of Work for Organics Analysis and Statement of Work for Inorganics Analysis, EPA-CLP-IFB, October 1986.

3.9 Quality Assurance/Quality Control

Field QA/QC Program

Two types of QC blanks are collected and analyzed: trip blanks and equipment blanks. Trip blanks are sample containers filled with analyte free water at the laboratory, transported to the sampling location, and returned to

the laboratory in a manner identical to the handling procedure used for the samples. A trip blank is brought to site at the rate of one per day. Trip blanks are analyzed for volatile organic constituents.

Equipment blanks are prepared to ensure that nondedicated sampling equipment is properly cleaned. Distilled water is poured into or pumped through the equipment and transferred to sample containers. An equipment blank is prepared for each constituent included in the sampling program at the rate of one per day whenever nondedicated sampling equipment is employed.

One set of duplicate samples is collected for each sampling event. The duplicate samples are obtained at a different well each time. The identity of the duplicate samples is not revealed to the laboratory.

Laboratory QA/QC Program

Only laboratories which are certified by the New York State Department of Health and approved by the NYSDEC Division of Solid and Hazardous Waste are used to perform the analyses. These laboratories provide for the use of standards, laboratory blanks, duplicates, and spiked samples.

4. POST-CLOSURE CARE

4.1 Post-Closure Contact

Any inquiries about the facility during the post-closure period should be addressed to:

Mr. Charles Hansen
Plant Engineering Manager
Channel Master
Division of Avnet, Inc.
P. O. Box 1416
Industrial Park Drive
Smithfield, North Carolina 27577
Telephone: (919) 934-9711

Channel Master shall report any changes in the name or location of the post-closure contact to NYSDEC so they may be incorporated into the permit.

4.2 Post-Closure Security

There are no exposed wastes remaining at the facility, and the site does not pose a hazard to human health. Monitoring wells remain on site. All wells are secured with steel caps and locks.

4.3 Inspection Plan

Site inspections will be made quarterly during the post-closure period. The lagoon area will be visually inspected for settlement and displacement. Monitoring wells will be visually inspected to ensure that they have not been damaged or tampered with. A photographic log will be maintained for the facility and updated with each inspection.

4.4 Maintenance Plan

The facility does not require any regular maintenance other than mowing of the vegetative cover. The current owner has agreed to assume this responsibility. If any correction of settlement or displacement is required, or if monitoring wells should require repair or replacement, Channel Master will ensure that such work is performed expeditiously and in accordance with NYSDEC-approved procedures. If well depth measurements indicate that greater

than ten percent of the screen is blocked due to silting in of the well, the well will be cleaned out and redeveloped.

4.5 Personnel Training

Only qualified personnel will be employed to perform inspection, monitoring, and maintenance activities. Ground water monitoring will be conducted by individuals who are trained in sample collection and other appropriate procedures and will conform to the approved Sampling and Analysis Plan. Similarly, inspections and maintenance activities will only be conducted only by qualified personnel.

4.6 Cost Estimate and Financial Assurance

The estimated costs for compliance, monitoring and post-closure care are provided in Table 4-1. The "financial test and corporate guarantee" has been selected as the financial assurance mechanism. A letter from Channel Master's chief financial officer was sent to the appropriate USEPA representative on June 25, 1985. A copy of this letter is provided in Exhibit 7 of the Closure Plan.

TABLE 4-1

CHANNEL MASTER LAGOON SITE

POST-CLOSURE COST ESTIMATE

1.	Appendix 23 Analyses (2 wells annually for 3 years)	$ 22,500
2.	Quarterly Monitoring (VOCs, CN, other constituents)	73,400
3.	Sample Collection and Report Preparation	60,000
4.	Inspection and Maintenance	15,000
	Total Cost*	$170,900

*Costs are adjusted for 6 percent inflation over the 15 year period.

MALCOLM PIRNIE

5. REFERENCES

Malcolm Pirnie, Inc., "Closure Plan", prepared on behalf of Channel Master, Division of Avnet, Inc., Ellenville, New York, June 1985.

Malcolm Pirnie, Inc., "Closure Report", prepared on behalf of Channel Master, Division of Avnet, Inc., Ellenville, New York, December 1986.

Malcolm Pirnie, Inc., "Post-Closure Permit Application Part Two: Plant Building", prepared on behalf of Channel Master, Division of Avnet, Inc.; Ellenville, New York, August 1987.

NYSDEC, "Identification and Listing of Hazardous Wastes", 6 NYCRR Part 371, Revised July 1, 1986.

NYSDEC, "Hazardous Waste Treatment, Storage, and Disposal Facility Permitting Requirements", 6 NYCRR Subpart 373-1, Revised July 1, 1986.

NYSDEC, "Final Status Standard for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities", 6 NYCRR Subpart 373-2, Revised July 1, 1986.

NYSDEC, " Draft Ground Water Sampling Protocols", January 1987.

USEPA, "Maximum Concentration of Constituents for Ground Water Protection", 40 CFR 264.94.

USEPA, "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods", EPA 530/SW846, 2nd edition, 1982.

USEPA, "Ground Water Monitoring List - Appendix IX", 52 FR 25942, July 9, 1987.

USEPA, "Synthetic Organic Chemicals - Final MCLs for the VOCs", 52 FR25720, July 8, 1987.

Exhibit "C1"
Post-Closure Plan for the Facility dated May 1991

POST - CLOSURE CARE PLAN

FILE NAME

Channel Master, Inc.
Division of Avnet, Inc.

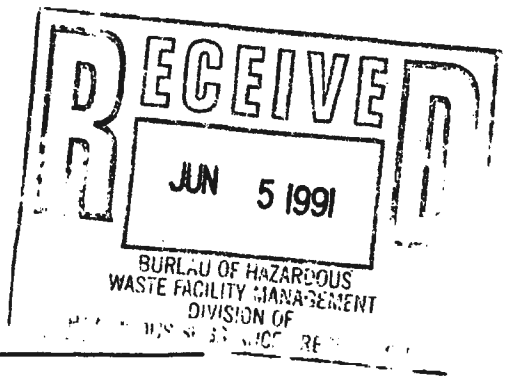
MAY 1991

PROJECT: 0395-05-1

MALCOLM PIRNIE

ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

MALCOLM PIRNIE



POST-CLOSURE CARE PLAN

CHANNEL MASTER, INC.
ELLENVILLE, NEW YORK

MAY 1991

MALCOLM PIRNIE, INC.

100 Eisenhower Drive
P.O. Box 36
Paramus, New Jersey 07653

2 Corporate Park Drive
P.O. Box 751
White Plains, New York 10602

MALCOLM PIRNIE

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

MALCOLM PIRNIE

1.0 INTRODUCTION

This post-closure care plan is being submitted as an amendment to the document titled "Post-Closure Plan" submitted to the New York State Department of Environmental Conservation (NYSDEC) in August 1987. This amendment has been prepared in accordance with 6NYCRR Subpart 373-2.7(h) and comments provided in the NYSDEC Part 373 permit No. NYD042457788, dated March 29, 1991 for the surface impoundment at the former Channel Master facility in Ellenville, New York. While other solid waste management units (SWMUs) have been identified at the facility, this document addresses only the former surface impoundment.

Waste material was removed and the surface impoundment was closed in accordance with Channel Master's approved Closure Plan dated June 1985. Closure was completed and a certification report was submitted to the NYSDEC on December 19, 1986.

A compliance monitoring program has been developed to monitor hazardous constituents in the ground water downgradient of this former surface impoundment. This program was originally developed in the post-closure plan submitted in 1987. It has been amended as required by the permit in the document titled "Ground Water Monitoring Plan" which was submitted to the NYSDEC in April 1991.

MALCOLM PIRNIE

2.1 POST-CLOSURE CONTACT

Inquiries concerning the facility during the post-closure period can be directed locally to Channel Master's maintenance contractor:

Thorton Electric
Route 209
Ellenville, New York 12428
Telephone: (914) 647-5321

If direct contact with the Channel Master is required, the inquiries should be addressed to:

Mr. Charles Hansen
Plant Engineering Manager
Channel Master
Division of Avnet, Inc.
P.O. Box 1416
Industrial Park Drive
Smithfield, North Carolina 27577
Telephone: (919) 934-9711

The current facility owner is:

Imperial Shrade Corporation
Mr. Robert Andersen
General Manager
Route 209
Ellenville, New York 12428
Telephone: (914) 647-6700

2.2 POST-CLOSURE SECURITY

There are no exposed wastes remaining at the SWMU, and the site does not pose a hazard to human health. Monitoring wells remain on site. All wells are secured with steel caps and locks.

MALCOLM PIRNIE

2.3 INSPECTION PLAN AND SCHEDULE

To allow for consistent and standardized inspections during the post-closure care period, the Post-Closure Plan Inspection Chart has been developed. This chart is presented as Appendix A. The inspection chart addresses the following required items:

- Inspector's name and title;
- Date and time of inspection;
- Inspection items:
  - erosion damage
  - soil settlement, subsidence, and displacement;
  - vegetative conditions;
  - drainage and runoff control;
  - security, i.e., well casing and lock; and,
  - well condition.
- Anticipated problems associated with the inspection items; and,
- Date and type of repairs/maintenance for each inspection item, as required.

Inspections will be performed twice a year, during the spring and fall seasons, at a minimum. Generally, the inspections will be performed during ground water monitoring activities.

The purpose of the standard inspection items listed above is to determine the condition of the area and to allow for the collection of representative ground water quality samples. The inspection of the former surface impoundment area includes: erosion damage to determine the need for regrading or revegetation of the area; soil settlement, subsidence, and displacement to determine the possibility of subsurface changes in the impoundment; vegetative cover conditions, drainage and runoff control; security of the well, in particular the integrity of the casing and the condition of the lock, to ensure that no outside factors influence the monitoring of the ground water quality; and, the well condition which includes the physical aspects of the well along with total depth of the well to determine if silt accumulation has occurred.

MALCOLM PIRNIE

2.4 MAINTENANCE PLAN

The SWMU does not require any regular maintenance other than mowing of the vegetative cover. The current owner and co-permittee, Imperial Schrade Corporation, has entered into an agreement with Channel Master to provide for this service. The mowing will be conducted on a monthly basis during the growing season or such that the vegetative growth does not exceed eight (8) inches in height. During the normal inspection of the area, the need for reseeding or other measures to maintain a vegetative cover will be noted.

During each sampling event, the sampled wells will be sounded to determine if sediment has accumulated in the well. If sufficient sediment has accumulated to block ten percent or more of a well screen, the ability of that well to yield a representative sample has been compromised. The well will therefore be redeveloped prior to the next quarterly sampling event.

If, during the implementation of the maintenance plan, any correction due to settlement or displacement is required, or if monitoring wells should require repair or replacement, Channel Master will perform such work expeditiously and in accordance with applicable NYSDEC-approved procedures.

2.5 PERSONNEL TRAINING

Personnel employed to perform inspection, monitoring, and sampling activities will be trained in accordance with OSHA regulations 29 CFR 1910.120 (e)(8) for operations at hazardous materials sites. Ground water monitoring will be conducted by individuals who are trained in sample collection and other appropriate procedures so as to conform to the approved Ground Water Monitoring Plan.

2.6 COST ESTIMATE AND FINANCIAL ASSURANCE

The estimated costs associated with the compliance monitoring and post-closure care have been updated from those presented in the Post-Closure Plan dated August 1987. The costs, presented in Table 2-1, have been adjusted to reflect a post-closure care period of thirty (30) years and a compliance ground water monitoring period of ten (10) years. The

TABLE 2-1

Estimates of Post-Closure Care Costs
Channel Master, Inc.

ITEM	YEARS	COST/YEAR *	TOTAL COST
Ground Water Monitoring			
- sampling & reporting	10	$36,000	$360,000
- laboratory analysis			
- Years 1 - 3	3	$35,300	$105,900
- Years 4 - 10	7	$24,200	$169,400
Inspection	30	$1,000	$30,000
Maintenance (mowing, reseeding, etc.)	30	$2,000	$60,000
		TOTAL:	$725,300

Notes: * - Calculated in 1991 dollars.

MALCOLM PIRNIE

"financial test and corporate guarantee" has been selected as the financial assurance mechanism, as established in the Post-Closure Plan. A letter on this topic dated May 1991 from Channel Master's chief financial officer is attached as Appendix B.

The post-closure cost estimate will be adjusted annually for inflation within 30 days after the close of Channel Master's fiscal year in accordance with 6 NYCRR Part 373-2.8 (e)(2). This estimate will be submitted as part of an updated letter of financial assurance.

APPENDIX A

FIELD INSPECTION CHART

FORMER SURFACE IMPOUNDMENT
FIELD INSPECTION CHART
Channel Master, Ellenville, New York
Malcolm Pirnie, Inc. Project # 0395-05-1

Inspector: _____

Title: _____

Date/Time: _____

	Yes	No		Yes	No
Area Erosion:			Area Subsidence:		
Sufficient Vegetative Growth:			Proper Drainage: Vegetation > 8 inches:		

Monitoring Well (MW)	Lock Intact		Casing Intact		Collar Intact		TOC Drilled Well Depth (ft)	TOC Measured Well Depth (ft)	Difference (ft)	Difference Greater Than...?		
	Yes	No	Yes	No	Yes	No				(ft)	Yes *	No
2S							18.2			1.0		
2D							36.5			1.0		
3							20.3			1.0		
4												
6							31.0			1.0		
7												
8S							18.7			1.0		
8D							36.7			1.0		
10S							24.2			1.0		
10D												
11S												
11D												
12S												
12D												
13S							11.0			0.5		
13D												
14							15.3			0.5		
15												
16												
17A												
17B												
18							17.7			1.0		

Comments: _____

Notes: Boxes shaded in are not to be filled out.
* - Silt has accumulated to greater than 10% of the well screen.
Well must be redeveloped.

APPENDIX B

CHANNEL MASTER FINANCIAL ASSURANCE LETTER

Channel Master®
Division of Avnet, Inc.
P.O. Box 1416 ■ Industrial Park Drive ■ Smithfield, NC 27577
Telephone (919) 934-9711 ■ Fax (919) 989-2200

May 28, 1991

Mr. Paul R. Counterman
Director, Bureau of Hazardous Waste Facility Permitting
Division of Hazardous Substances Regulation
New York State Department of Environmental Conservation
Room 228, 50 Wolf Road
Albany, New York 12233-7253

Mr. Andrew Bellina
Chief, Hazardous Waste Facilities Branch
Air and Waste Management Division
United States Environmental Protection Agency - Region II
26 Federal Plaza
New York, New York 10278

Dear Messirs Counterman and Bellina:

I am the chief financial officer of Channel Master, Division of Avnet, Inc., Industrial Park Drive, Smithfield, NC 27577. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and post-closure and corrective measures as specified in 6 NYCRR 373-2.8 and 272.3.8.

The firm identified above is the owner or operator of the following facilities for which liability coverage for both sudden and nonsudden accidental occurrences is being demonstrated through the financial test specified in 6 NYCRR 373-2.8 and 373-3.8.

The firm identified above guarantees, through the corporate guarantee specified in 6 NYCRR 373-2.8 and 373-3.8, liability coverage for both sudden and nonsudden accidental occurrences at the following facilities owned or operated by the following subsidiaries of the firm: NONE

1. The firm identified above owns or operates the following facilities for which financial assurance for post-closure and corrective measures is demonstrated through the financial test specified in 6 NYCRR 373-2.8 and 373-3.8. The current post-closure and corrective measures estimates covered by the test are shown for each facility:

EPA NYD04247788
Channel Master
Division of Avnet, Inc.
Route 209
Ellenville, NY 12428

Closure Cost Estimate:	Complete
Post-closure Cost Estimate:	$725,300
Corrective Measures:	$315,300
Total:	$1,040,600

2. The firm identified above guarantees, through the corporate guarantee specified in 6NYCRR 373-2.8 and 373-3.8, the post-closure and corrective measures of the following facilities owned or operated by its subsidiaries. The current cost estimates for the post-closure and corrective measures so guaranteed are shown for each facility: NONE

3. For facilities not located in New York, this firm is demonstrating financial assurance for the post-closure and corrective measures of the following facilities through the use of a test equivalent or substantially equivalent to the test specified in Subpart H of 40 CFR Parts 264 and 265. The current post-closure and corrective measures estimated covered by such a test are shown for each facility: NONE

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to USEPA or New York or other states through financial test or any other financial assurance mechanisms specified in Subpart H or 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current post-closure and corrective measures estimates not covered by such financial assurance are shown for each facility: NONE

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is requires under 40 CFR Part 144 (see 6 NYCRR 370.1(e)). The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility: NONE

This firm is required to file a Form 10K with the Securities and Exchange Commissioner (SEC) for the latest fiscal year.

The fiscal year of this firm ends on June 30. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended June 30, 1990.

Alternative I

1.	Sum of current post-closure and corrective measures (total of all cost estimates shown above)	$ 1,040,600
2.	Amount of annual aggregate liability coverage to be demonstrated	$ 11,000,000
3.	Sum of lines 1 and 2	$ 12,040,600
*4.	Total liabilities (if any portion of your post-closure and corrective measures cost estimate is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 & 6)	$ 387,783,000
*5.	Tangible net worth	$ 750,538,000
*6.	Net worth	$ 769,731,000
*7.	Current assets	$1,029,676,000
*8.	Current liabilities	$ 185,872,000
9.	Net working capital (line 7 minus line 8)	$ 843,804,000
*10.	The sum of net income plus depreciation, depletion, and amortization	$ 84,952,000
*11.	Total assets in U.S. (required only if less than 90% of assets are located in the U.S.)	$ N/A

		Yes	No
12.	Is line 5 at least $10 million?	X	
13.	Is line 5 at least 6 times line 3?	X	
14.	Is line 9 at least 6 times line 3?	X	
*15.	Are at least 90% of assets located in the U.S.? If not, complete line	X	
16.	Is line 11 at least 6 times line 3?	N/A	
17.	Is line 4 divided by line 6 less than 2.0?	X	
18.	Is line 10 divided by line 4 greater than 0.1?	X	
19.	Is line 7 divided by line 8 greater than 1.5?	X	

I hereby certify that the wording of this letter is identical to the wording specified in 6 NYCRR 373-2.8(j)(9) as such regulations were constituted on the date shown immediately below.

Very truly yours,

CHANNEL MASTER
Division of Avnet, Inc.

Wayne Abrams

(Name) Wayne E. Abrams
(Title) Controller
(Date) June 19, 1987

cc: United States Environmental Protection Agency
Office of Policy and Management
Permits Administration Branch
Region II
26 Federal Plaza
New York, New York 10278

Regional Hazardous Substances Engineer
New York State Department of Environmental Conservation
Region 3 Office
21 South Putt Corners Road
New Paltz, New York 12561

Bob Andersen
Imperial Schrade
Route 209 N.
Ellenville, NY 12428

Channel Master

Estimates of Post-Closure Care Costs

ITEM	YEARS	COST/YEAR*	TOTAL COST
Ground Water Monitoring			
-sampling & reporting	10	$36,000	$360,000
-laboratory analysis			
-Years 1 - 3	3	$35,300	$105,900
-Years 4 - 10	7	$24,200	$169,400
Inspection	30	$1,000	$30,000
Maintenance (mowing, reseeding, etc.)	30	$2,000	$60,000
		TOTAL:	$725,300

Notes: * - Calculated in 1991 dollars.

Estimates of Corrective Measures Costs

ITEM	YEARS	COST/YEAR*	TOTAL COST
Ground Water Monitoring			
-sampling & reporting	5	$48,100	$240,500
-laboratory analysis			
-Years 1 - 3	3	$18,200	$54,600
-Years 4 - 5	2	$10,100	$20,200
		TOTAL:	$315,300

Notes: * - Calculated in 1991 dollars.

Exhibit "D"
Statement of Basis

STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION II
ID# 7788

Channel Master
Division of Avnet, Inc.
Ellenville, NY
(Signed April 17, 1991)

Facility/Unit Type:	**Former television antenna manufacturer**
Contaminants:	**1,1,1-Trichloroethane (1,1,1-TCA); 1,1-dichloroethane (1,1-DCA); 1,1-Dichloroethylene (1,1-DCE); Trans 1,2-Dichloroethylene (trans 1,2-DCE); VOCs; Heavy metals**
Media:	**Ground water**
Remedy:	**Ground-water pump and treat with packed column air stripper**

FACILITY DESCRIPTION

In 1990, EPA issued a HSWA permit to Channel Master pursuant to Section 3004(u) of RCRA. The permit required Channel Master to conduct an RFI. Channel Master manufactured television antennas and related accessory items including mounting hardware, transmission cable and installation kits until operations ceased in 1984 when Channel Master moved its operations to North Carolina. In December 1984, Channel Master sold the main plant property to Imperial Shrade Company. At the time of the sale, Channel Master agreed to be responsible for any corrective action at the site related to its past operations. The land use surrounding the facility is commercial, light industrial, and residential. Manufacturing processes generated hazardous wastes that were stored on-site in containers and a surface impoundment.

At the time of the sale of the property, Channel Master closed the container storage area and the chemical treatment system SWMUs through cleaning and dismantling. In 1985, the solvent storage tank was removed. In 1986, Channel Master closed the surface impoundment. Recent data indicate the presence of slightly elevated levels of arsenic and lead in two downgradient monitoring wells. A ground-water program has been implemented to monitor the contaminants. In 1986, Channel Master commenced a groundwater pump and treat interim corrective measure to remediate contamination beneath the plant building.

Ground water beneath the facility generally flows to the east. The average depth to groundwater is approximately 10 feet. The topography of the site is fairly level, sloping towards Sandburg Creek, to the east. The Fantine Kill Creek is located to the south of the facility. The underlying geologic materials consist of glacial outwash sands covered by lacustrine deposits.

During facility closure activities at the Channel Master facility, ground-water contamination was found beneath the main plant building in an area where process wastewaters were believed to have

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Est. Vol.	Contaminant	Maximum Concentration (ppb)	Action Level	Cleanup Goal (ppb) [A]	Point of Compliance**
ground water	not given	Benzene	1,200*	ND [B]	non-detectable [B]	BH-16, BH-11B
		Chlorobenzene	840	5.0	5.0	
		Chloroform	6,000	100.0 [A]	100.0 [A]	
		1,2-Dichlorobenzene	2.6	5.0	5.0	
		1,3-Dichlorobenzene	1,800	5.0	5.0	
		1,1-DCA	3,200	5.0	5.0	
		1,2-DCA	14,000	5.0	5.0	
		1,1-DCE	17,000	5.0	5.0	
		trans 1,2-DCE	134	5.0	5.0	
		Methylene Chloroide	830,000	5.0	5.0	
		1,1,2,2-PCA	1.0	5.0	5.0	
		Toluene	8,100	5.0	5.0	
		1,1,1-TCA	900,000	5.0	5.0	
		TCE	3.0	5.0	5.0	
		Bis(2-ethylhexyl) phthalate	6.2*	50.0	50.0	
		Naphthalene	3.6*	50.0	50.0	
		Pentachlorophenol	77*	5.0	5.0	
		4,4-DDE	4.7	ND [B]	non-detectable [B]	
		Arsenic	9*	25.0	25.0	
		Barium	117*	1,000.0	1,000.0	
		Mercury	0.27	2.0	2.0	
		Silver	9.4*	50.0	50.0	

(A) The total concentration of all organic constituents, excluding pesticides, herbicides, vinyl chloride, and trihalomethanes, shall not exceed 100.0 ug/l.

(B) The concentration shall not be at or above the method detection limit established by Method 8020.

(C) Total concentration of all trihalomethanes not to exceed 100.

(D) The concentration shall not be at or above the method detection limit established by Method 8080.

* Indicates an estimated value.

** A point of compliance for the plume area has not been officially established because the downgradient limit of a waste management area has not been defined. Corrective Measures Performance monitoring program requirements normally applied to point of compliance wells will be satisfied through sampling of wells BH-16 and BH-11B.

been released from the plant sewer system. Channel Master conducted an RFI and found that groundwater contamination was limited to a 10,000 square foot area of the water table aquifer beneath an area of the plant building where solvents were used.

Nine SWMUs have been identified at the facility. The SWMUs identified include a surface impoundment; chemical treatment system; former location of solvent storage tank; container storage area; process waste/stormwater sewers; oil collection sumps; sluice box and wet well for surface impoundment; drainage ditch; and release area at the process sewer beneath the plant building.

EXPOSURE PATHWAYS

Contaminant pathways that may impact human health or the environment are somewhat limited. The town is on a public water supply system, and all withdrawal wells and reservoir are upgradient from the facility. Potential receptor of contamination would most likely be Sandburg

Creek, resulting from contaminated ground water being transported through the aquifer. Sandburg Creek is classified by the State of New York as a surface water used for recreation and fishing.

SELECTED REMEDY

The selected remedy will utilize existing ground-water pump and treat system and ground-water monitoring program to remediate the ground-water contamination beneath the main plant building. Treatment will be accomplished with air stripping to remove VOCs from the ground water.

The remedy selected will use proven technologies and protect human health and the environment.

Treated ground water will be discharged to Sandburg Creek, pursuant to a New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System Permit. NYSDEC issued an air permit to Channel Master for the construction and operation of the air stripper.

The installation cost of the stripping tower was $55,000. Channel Master has estimated that the cost (in 1991 dollars) for groundwater corrective action sampling, analysis and reporting for the five year period (1991-1996) would total approximately $315,000.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

EPA and NYSDEC issued a joint public notice regarding the EPA Hazardous and Solid Waste Amendments (HSWA) permit and State Hazardous Waste Management post-closure permit, respectively. The public comment period extended from March 9, 1990 to April 17, 1990. EPA received two sets of written comments on the HSWA permit. The comments were not significant and did not result in changes to the original proposed corrective measure. EPA responded to all comments on the HSWA permit in the Response to Comments.

NEXT STEPS

The former location of the solvent storage tank was an additional study area investigated as part of the permit. In addition, the permit requires implementation of a RFI for the soils beneath the building when the release area at the process sewer beneath the plant building becomes accessible for investigation.

KEY WORDS
ground water; ingestion, dermal contact; VOCs; air stripping,

CONTACT
Alan Straus
U. S. EPA, Region II
26 Federal Plaza
New York, NY 10278
(212) 264-5131