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AR410606

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

IN THE MATTER OF:)	FINAL ADMINISTRATIVE
)	ORDER ON CONSENT
American Color & Chemical Corporation)	
)	U.S. EPA Docket No.
Mount Vernon Street)	RCRA-III-082-CA
Lock Haven, Pennsylvania)	
)	
)	
RESPONDENT)	
EPA I.D. No. PAD 00 304 7792)	
)	Proceeding under Section
)	3008(h) of the Resource
)	Conservation and Recovery
)	Act, as amended, 42 U.S.C.
)	Section 6928(h).

FINAL ADMINISTRATIVE ORDER ON CONSENT

The Parties to this Final Administrative Order on Consent ("Consent Order" or "Order"), the United States Environmental Protection Agency ("EPA") and American Color & Chemical Corporation ("ACCC" or "Respondent"), having agreed to entry of this Consent Order, it is therefore ordered and agreed that:

I. JURISDICTION

This Consent Order is issued pursuant to the authority vested in the Administrator of the EPA by Section 3008(h) of the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984 ("RCRA"), 42 U.S.C. Section 6928(h). The authority vested in the Administrator has been delegated to the Regional Administrators by EPA Delegation Nos. 8-31 and 8-32 dated March 6, 1986.

Effective January 30, 1986, the EPA granted to the Commonwealth of Pennsylvania (the "Commonwealth") authorization to operate a hazardous waste program in lieu of the Federal program, pursuant to Section 3006(b) of RCRA, 42 U.S.C. Section 6926(b). The Commonwealth, however, does not have authority to enforce Section 3008(h) of RCRA.

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This Consent Order is issued to Respondent, the owner and operator of a facility known as American Color & Chemical Corporation, located at Mount Vernon Street, Lock Haven, Clinton County, Pennsylvania. The property on which the facility is located is referred to hereinafter as the "Facility".

Respondent consents to and agrees not to contest EPA's authority to issue this Consent Order and to enforce its terms. Further, Respondent will not contest EPA's authority to: compel compliance with this Consent Order in any subsequent enforcement proceedings, either administrative or judicial; require Respondent's full or interim compliance with the terms of this Consent Order; or impose sanctions for violations of this Consent Order.

Respondent's consent to the entry of this Consent Order shall not constitute or be deemed an admission by Respondent of any fact or conclusion of law made by EPA, or an admission that the environmental conditions to be addressed hereunder represent a threat to human health or the environment or to any private or public interest.

II. PARTIES BOUND

A. This Consent Order shall apply to and be binding upon EPA, Respondent and its agents, successors, and assigns.

B. No change in ownership of any part of the Facility or in corporate or partnership status of the Respondent shall in any way alter, diminish, or otherwise affect Respondent's obligations and responsibilities under this Consent Order.

C. Respondent shall provide a copy of this Consent Order to Respondent's supervisory personnel responsible for implementation of the work under this Consent Order and all contractors, subcontractors, laboratories, and consultants retained to conduct and/or monitor any portion of the work performed pursuant to this Consent Order within seven (7) calendar days of the effective date of this Consent Order or the date of such retention, whichever is later. All contracts, agreements, or other arrangements with such persons shall require such persons to conduct and/or monitor the work in accordance with the requirements of this Consent Order. Notwithstanding the terms of any such contract, agreement, or arrangement, Respondent is responsible for complying with this Consent Order and for ensuring that all such persons conduct and/or monitor such work in accordance with this Consent Order. The existence of any provision or term of any contract, agreement or other arrangement requiring a contractor, subcontractor, laboratory or consultant to conduct or monitor the work in accordance with the requirements from this Consent Order shall not excuse or

otherwise relieve Respondent of the obligation to comply with this Consent Order.

D. In the event of any change in ownership and/or operation of the Facility and/or in the event of any change in majority ownership or control of the Respondent, Respondent shall notify EPA in writing of the nature of any such change no later than thirty (30) calendar days after the effective date of such change. In addition, Respondent shall provide a copy of this Consent Order to any successor to the Respondent and/or to the subsequent operator of the Facility at least fifteen (15) calendar days prior to the effective date of such change.

III. EPA'S STATEMENT OF PURPOSE

In entering into this Consent Order, the objective of the EPA is the protection of human health and/or the environment through: (1) the implementation of the corrective measures described in the Final Decision and Response to Comments, dated July 25, 1996 (collectively referred to herein as the "FDRTC" and attached hereto as Attachment D) and in accordance with the Scope of Work attached hereto as Attachment A; and (2) if necessary, to perform Interim Measures ("IM") at the Facility to prevent or mitigate threats to human health and/or the environment in accordance with Attachment C hereto.

IV. EPA'S FINDINGS OF FACT

The following are EPA's findings of fact which Respondent neither admits nor denies:

A. Respondent is a corporation doing business in the Commonwealth of Pennsylvania and is a "person" as defined in Section 1004(15) of RCRA, 42 U.S.C. §6903(15).

B. Respondent is an owner and operator of a former chemical manufacturing facility which ceased operation in 1982. The Facility is located in Lock Haven, Pennsylvania.

C. On September 5, 1991, EPA and Respondent entered into a Final Administrative Order on Consent (the "RFI/CMS Order"), Docket Number RCRA-III-040CA, pursuant to Section 3008(h) of RCRA, 42 U.S.C. Section 6928(h). The RFI/CMS Order required Respondent to conduct a RCRA Facility Investigation ("RFI") and a Corrective Measure Study ("CMS") for the Facility. The RFI included an evaluation of the extent of releases of hazardous wastes and/or hazardous constituents from the Facility into soils, sediments, groundwater, and surface water. As part of the RFI, Respondent also conducted a hydrogeologic investigation to evaluate the flow of groundwater on-site and off-site. The CMS

provided an evaluation of various clean-up alternatives based on criteria set forth in the RFI/CMS Order. The Respondent has complied with the terms of that Order.

D. EPA's Findings of Fact in the RFI/CMS Order (Docket No. RCRA-III-040-CA) are hereby incorporated by reference. Respondent neither admits nor denies EPA's findings therein.

E. The RFI Report submitted by the Respondent concluded that there are contaminants of concern present in soil and groundwater at the Facility. EPA has determined that the contaminants of concern require further remediation.

F. On July 8, 1993, Respondent implemented an interim measures groundwater pump and treat system pursuant to Section VI.A of the RFI/CMS Order to contain and prevent migration of contaminated groundwater from the ACCC Facility.

G. On September 29, 1995 EPA issued for public comment a Statement of Basis ("SB") which described and evaluated corrective measures alternatives to mitigate or eliminate releases of hazardous waste and/or hazardous constituents at and/or from the Facility and contained EPA's preliminary determination for the recommended corrective measure. The SB also concluded that actual and threatened releases of hazardous waste and/or hazardous constituents from the Facility, if not addressed by corrective action, may present a threat to human health and/or the environment. The SB and the Administrative Record for the Facility were made available to the public for a thirty (30) day comment period. The public comment period began on October 3, 1995 and ended on November 1, 1995.

H. In the SB and in the FDRTC, EPA established media cleanup standards ("MCS") for the contaminants of concern in the soil and groundwater at the Facility. These MCS are included as Tables 1 and 2, for soil and groundwater media, respectively, and are included in Attachment A and Attachment D.

I. The human health and environmental effects of the contaminants of concern identified by EPA are described in the Administrative Record supporting the issuance of this Consent Order.

J. On July 25, 1996, EPA issued a FDRTC which identified the remedy EPA selected and provided responses to all significant written and oral comments received during the public comment period. The FDRTC is set forth in Attachment D to the Consent Order and is incorporated herein and made part hereof. Respondent neither admits nor denies the findings, conclusions or statements in that document.

V. EPA'S CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and after consideration of the Administrative Record supporting the issuance of this Consent Order, EPA has made the following Conclusions of Law and Determinations which Respondent neither admits nor denies:

A. Respondent is a "person" within the meaning of Section 1004(15) of RCRA, 42 U.S.C. Section 6903(15).

B. Respondent is the owner and operator of a facility authorized to operate pursuant to Section 3005(e) of RCRA, 42 U.S.C. Section 6925(e).

C. The substances referred to in Section IV.D and Section IV.J of this Consent Order are "hazardous wastes" within the meaning of Sections 1004(5) and 3008(h) of RCRA, 42 U.S.C. Sections 6904(5) and 6928(h).

D. There is or has been a "release of hazardous waste into the environment from a facility" within the meaning of Section 3008(h) of RCRA, 42 U.S.C. Section 6928(h).

E. The actions required by this Consent Order are necessary to protect human health and/or the environment.

VI. WORK TO BE PERFORMED

EPA acknowledges that Respondent may have completed some of the tasks required by this Consent Order and the Respondent may have available some of the information and data required by this Consent Order. This previous work may be used to meet the requirements of this Consent Order subject to EPA's review and approval pursuant to section VI.I of this Consent Order.

Pursuant to Section 3008(h) of RCRA, 42 U.S.C. Section 6928(h), Respondent agrees to and is hereby ordered to perform the following acts in the manner and by the dates specified herein. All work undertaken pursuant to this Consent Order shall be developed and performed in accordance with, at a minimum: the Scope of Work for Corrective Measures Implementation ("CMI") set forth in Attachment A; the Scope of Work for a Health and Safety Plan set forth in Attachment B; the Scope of Work for Interim Measures ("IM") set forth in Attachment C; the FDRTC set forth in Attachment D; RCRA and its implementing regulations; and relevant EPA guidance documents. All Attachments to this Consent Order are incorporated herein and made a part hereof. Relevant EPA guidance documents may include, but are not limited to, the "RCRA Ground Water Monitoring Technical Enforcement Guidance Document" (OSWER Directive 9950.1, September 1986), "Test Methods For

Evaluating Solid Waste" (SW-846, November 1986), "Construction Quality Assurance for Hazardous Waste Land Disposal Facilities" (EPA 530/SW-85-031, July 1986), Interim Guidelines and Specification for preparing Quality Assurance Project Plans (QAMS-05/80 December 29, 1980), and revisions thereto.

On or about February 14, 1996, the United States District Court for the Middle District of Pennsylvania approved a Consent Decree in United States and Pennsylvania v. American Color & Chemical Corporation, et al., Civil Action No. 4:CV-92-1352 ("Consent Decree"), with respect to the Drake Chemical Superfund Site ("Drake Site"). The Drake Site is located immediately adjacent to the Facility, and will undergo groundwater remediation in accordance with the Consent Decree.

EPA and Respondent agree to use their best efforts to cooperate in order to ensure that the groundwater remediation conducted at the Drake Site pursuant to the Consent Decree is, to the extent possible, consistent with and not duplicative of the work to be conducted under this Consent Order to the extent permissible under RCRA, the Comprehensive Environmental Response, Compensation and Liability Act, as amended ("CERCLA"), the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. Part 300, as amended, and other applicable laws and regulations. Unless otherwise agreed to by EPA, in its sole unreviewable discretion, performance or nonperformance of the requirements of the Consent Decree shall not delay or interfere with the requirements of this Consent Order, nor shall the performance or nonperformance of the requirements of this Consent Order interfere with implementation of the requirements of the Consent Decree. Such cooperation shall include, to the extent practicable, at a minimum, parallel processing and approval of Work Plans and design documents for the coordinated groundwater remediation.

"Days" as used herein shall mean calendar days unless specifically stated otherwise.

A. CORRECTIVE MEASURE WORK PLANS AND DESIGNS

1. Within ninety (90) calendar days of the effective date of this Consent Order, Respondent shall submit to EPA for approval CMI Work Plans for expeditious implementation of the remedy for soil and groundwater corrective measures set forth in the FDRTC. The requirements for soils and groundwater remediation set forth in the FDRTC are listed as follows:

a. For Soils

- i. Excavate unsaturated soils exceeding the established soil MCS in Solid Waste Management Units (SWMUs) 12 and 14 (Figure 1 of Attachment

A);

- ii. Place excavated soil from SWMUs 12 and 14, not exceeding the Pennsylvania Department of Environmental Protection (PADEP) placement criteria, in the impoundments being closed pursuant to the PADEP-approved closure plan;
 - iii. Treat excavated soils from SWMUs 12 and 14 that exceed the PADEP placement criteria in the existing onsite sludge treatment system before placement in the impoundments being closed pursuant to the PADEP-approved closure plan;
 - iv. Backfill excavated areas with clean soil which is, compacted, graded and vegetated to promote drainage in SWMUs 12 and 14; and
 - v. Cap soils that exceed the established soil MCS in SWMUs 5 and 15 pursuant to specifications described in the PADEP-approved closure plan.
- b. For Groundwater
- i. Install new groundwater extraction wells and/or use existing wells for use in the groundwater pump and treat system. Groundwater pump and treat may be conducted using ex-situ and/or in-situ methods;
 - ii. Modify the existing Interim Measures groundwater pump and treat system or construct a new groundwater pump and treat (ex-situ and/or in-situ) system to allow continuous year round operation;
 - iii. Continue operation of the existing Interim Measures groundwater pump and treat system until the existing system is modified or a new groundwater pump and treat system is operational;
 - iv. Continue discharge of treated groundwater to the sanitary sewer in accordance with acceptable limits required by to City of Lock Haven Publicly Owned Treatment Works (POTW), or if POTW use is discontinued, discharge to Bald Eagle Creek in accordance with the Clean Water Act National Pollutant Discharge Elimination System (NPDES) regulations and requirements;
 - v. Create and impose institutional controls to support operation and maintenance (O&M) activities that would include soil cap maintenance,

groundwater pumping and treat system operations, groundwater quality monitoring and groundwater level monitoring. Also require periodic monitoring and reporting of groundwater data to track compliance with established groundwater MCS and adding to the title restriction required for the PADEP-approved closure plan for the impoundments to include capped SWMUs 5 and 15. Request that the City of Lock Haven and Castanea Township place permanent industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas in the vicinity of the ACCC Facility; and

- vi. Properly decommission the existing onsite sludge treatment system (consisting of SWMU 7, SWMU 8, SWMU 9, SWMU 10, SWMU 11, and SWMU 13) when its use is discontinued following completion of the Surface Impoundment Closure activities and soil corrective measures for SWMUs 12 and 14.

The CMI Work Plans shall be developed in accordance with Attachment A of this Consent Order and shall be submitted on the same schedule as the Drake Site Remedial Design Work Plan required by the Consent Decree to the extent practicable. In accordance with Attachment A, Respondent may submit separate Work Plans for the soil and groundwater remedies to facilitate implementation of the soil remedy during RCRA/CERCLA review of groundwater plans in order to promote consistency and coordination between these programs. In accordance with Attachment A, the Soil CMI Work Plan shall incorporate the soils corrective measures design, and the design for the groundwater corrective measure shall include the phases outlined in Paragraphs A.2-A.5, below. The Soils and Groundwater CMI Work Plans shall include the schedules for the implementation of the work required under this Consent Order. Following receipt of EPA's comments to the Soils and Groundwater CMI Work Plans, a working meeting will be held between EPA and the Respondent to discuss any comments on the CMI Work Plans. The CMI Work Plans shall be developed in accordance with the Scope of Work, shall provide for the design of the respective corrective measures, and shall be incorporated into and enforceable under this Consent Order once approved by EPA.

2. Following approval of and in accordance with the schedule provided in the Groundwater CMI Work Plan, Respondent shall submit to EPA for comment a Preliminary (30%) Groundwater CMI Design Report. The 30% Groundwater CMI Design Report shall be developed in accordance with Attachment A of this Consent Order. Any comments received by the Respondent on the 30% Groundwater CMI Design Report shall be reviewed by the Respondent and a working meeting will be held between EPA and Respondent to

discuss the comments. EPA's comments and any revised EPA comments resulting from the meeting shall then be incorporated in the 90% Groundwater CMI Design Report submission. If predesign investigative activities are conducted, then the Preliminary Groundwater CMI Design shall be submitted in accordance with the schedule provided in the respective groundwater CMI Work Plan.

3. In accordance with the schedules provided in the Groundwater CMI Work Plan and following receipt of EPA comments on the 30% Groundwater CMI Design Report, Respondent shall have the opportunity to review those comments and meet with EPA to discuss the comments prior to submittal of the 90% Groundwater CMI Design Report to EPA for comment. The 90% Groundwater CMI Design Report shall be developed in accordance with Attachment A of this Consent Order. Any comments received by the Respondent on the 90% Groundwater CMI Design Report shall be reviewed by the Respondent and a working meeting shall be held between EPA and the Respondent to discuss the comments. EPA's comments and any revised EPA comments resulting from the meeting shall then be incorporated into the 100% Groundwater CMI Design Report submission.

4. In accordance with the schedule provided in the Groundwater CMI Work Plan and following receipt of the EPA comments on the 90% Groundwater Design Report, Respondent shall have the opportunity to review those comments and meet with EPA to discuss the comments prior to submittal of the Final (100%) Groundwater CMI Design Report to EPA for approval. The 100% Groundwater CMI Design Report shall be developed in accordance with Attachment A of this Consent Order.

5. Upon receipt by Respondent of EPA's approval of the 100% Groundwater CMI Design Report, the 100% Groundwater CMI Design Report shall be incorporated into and become enforceable under this Consent Order and Respondent shall implement it in accordance with the schedules and provisions contained therein.

6. Upon receipt by Respondent of EPA's approval of the Soils CMI Work Plan, the Soils CMI Work Plan shall be incorporated into and become enforceable under this Consent Order and Respondent shall implement it in accordance with the schedules and provisions contained therein.

B. CORRECTIVE MEASURE CONSTRUCTION

1. Respondent shall commence and complete construction of the Corrective Measures selected in the FDRTC in accordance with the Scope of Work for CMI set forth in Attachment A of this Consent Order, the schedule set forth in the EPA-approved soils and groundwater CMI Work Plans, and the EPA-approved 100% Groundwater CMI Design Report.

2. Within sixty (60) calendar days of completion of construction and the preliminary period of performance monitoring as specified in the respective EPA-approved Soils CMI Work Plan and the 100% Groundwater CMI Design Report, Respondent shall submit to EPA for approval a respective Soils CMI Report and a Groundwater CMI Report. The CMI Report(s) shall be developed in accordance with Attachment A of this Consent Order and shall describe activities performed during construction, provide actual specifications of the implemented remedy, and provide a preliminary assessment of CMI performance.

3. EPA shall determine, on the basis of the CMI Report(s) and any other relevant information, whether the constructed project is consistent with the EPA-approved Soils CMI Work Plan and/or the 100% Groundwater CMI Design Report and whether the Corrective Measures have achieved or are achieving the media cleanup standards and all other requirements set forth in the FDRTC. If EPA determines that the constructed project(s) is(are) consistent with the EPA-approved Soils CMI Work Plan and/or the 100% Groundwater CMI Design Report and that the Corrective Measures have achieved or are achieving the media cleanup standards and all other requirements set forth in the FDRTC, EPA shall notify Respondent of such determination, in writing, and the CMI Report(s) shall be considered the Final CMI Report(s).

4. EPA may determine that (1) the construction project(s) is(are) inconsistent with the respective EPA-approved Soils CMI Work Plan and/or the EPA-approved 100% groundwater CMI Design Report; or (2) the construction project(s) implementing the requirements of the FDRTC and set forth in Section VI.A.1 of this Consent Order are not achieving the media cleanup standards. If EPA makes a determination as set forth in the preceding sentence, EPA shall notify Respondent of those activities that EPA believes must be undertaken to complete the construction of the Corrective Measures consistent with the respective EPA-approved Soils CMI Work Plan and/or the EPA-approved 100% groundwater CMI Design Report, or to achieve the media cleanup standards that are consistent with the requirements of the FDRTC established in Attachment D and set forth in Section VI.A.1 of this Consent Order. In its notification, EPA shall set forth a schedule for the completion of those activities. Respondent and EPA shall confer and, if necessary, meet in response to any EPA notification concerning those activities. Respondent shall complete the activities in accordance with the schedule set forth in the EPA notification.

C. CORRECTIVE MEASURE ASSESSMENT REPORT

1. No later than April 15th of the fifth year of the effective date of this Consent Order and every five (5) years thereafter until receipt of approval by EPA of a Certificate of

Completion submitted pursuant to Section VI.C.5 of this Consent Order, Respondent shall submit a Corrective Measure Five Year Assessment Report. Such Report shall contain an evaluation of the past and projected future effectiveness of the Corrective Measures in attaining the media cleanup standards set forth in the FDRTC.

2. Respondent may, as part of a Corrective Measure Five Year Report or at any other time following EPA approval of all predesign or investigative activities required under the Work Plans, request that EPA select, for the purpose of this Consent Order, Alternative and/or Supplemental Corrective Measure(s), which may include the use of natural attenuation mechanisms, proposed changes to media cleanup standards, the use of innovative remedial technologies, no further action, a technical impracticability waiver, or other applicable changes. Specific details as to the implementation of above-referenced issues shall be described in detail within the respective CMI Work Plans. Any decision by EPA to require Alternative and/or Supplemental Corrective Measures shall be made pursuant to applicable EPA regulations and/or guidance regarding selection of corrective measures under Section 3008(h) of RCRA.

3. In the event EPA selects an Alternative and/or Supplemental Corrective Measure(s) either in response to a request by Respondent pursuant to paragraph 2 immediately above, or on its own initiative, EPA may provide Respondent with a period of thirty (30) calendar days from the date Respondent receives written notice from EPA of the selection of an Alternative and/or Supplemental Corrective Measure(s) within which to reach an agreement with EPA regarding performance of Alternative and/or Supplemental Corrective Measure(s) in lieu of, or in addition to, the Corrective Measures. Any such agreement between EPA and Respondent shall be incorporated into and become enforceable under this Consent Order as a subsequent modification and Respondent shall implement the activities required under any such agreement in accordance with any schedules and provisions contained therein.

4. Nothing in this Section VI.C shall limit EPA's authority to implement Alternative and/or Supplemental Corrective Measure(s) or to take any other appropriate action under RCRA, the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. Section 9601 et seq. ("CERCLA"), or any other legal authority, including the issuance of a unilateral administrative order or the filing of a civil action.

5. In the event Respondent concludes that the Corrective Measures have been fully implemented and the media cleanup standards have been met, the Respondent shall notify EPA in

writing and request EPA approval to discontinue the Corrective Measure(s) in accordance with Section VI.I of this Consent Order. The request shall explain the basis for Respondent's conclusion and include all available documentation supporting such conclusion.

6. Upon receipt of EPA's approval of Respondent's request to discontinue all Corrective Measures, Respondent may discontinue such Corrective Measures except that Respondent shall continue to monitor the groundwater every quarter for a one (1) year period and semiannually for an additional two (2) year period after the Corrective Measures have been discontinued. Respondent shall submit the results of such quarterly and/or semiannual sampling with the Quarterly and Annual Progress Reports in accordance with Section VI.I of this Consent Order.

7. If at anytime during the three (3)-year groundwater monitoring period, EPA determines that the level of any hazardous constituent, hazardous waste and/or contaminant of concern in the groundwater has increased to a statistically significant level above the groundwater media cleanup standards set forth in Attachment A, the SB and the FDRTC (Attachment D), EPA may determine that Alternative and/or Supplemental Corrective Measures or additional monitoring needs to be initiated to achieve the established groundwater media cleanup standards. The statistical method will be based on EPA guidance including "Methods for Evaluating the Attainment of Cleanup Standards, July 1992 (EPA 230-R-92-014)", and generally accepted scientific protocols to account for data variability caused by sampling, analytical, seasonal and temporal effects. EPA shall notify Respondent in writing of any such determination under this Section VI.C.7. Any decision by EPA to require Alternative and/or Supplemental Corrective Measures or additional monitoring shall be made pursuant to applicable EPA regulations and guidance regarding selection of Corrective Measures and shall be implemented in accordance with Section VI.C.3 and 4 of this Consent Order.

8. If after the three (3)-year groundwater monitoring period the established media cleanup standards for groundwater, or any established alternate groundwater media cleanup standard, have been maintained, Respondent shall submit a Certification of Completion for all corrective measures ("Certification of Completion") to EPA for approval in accordance with Section VI.I of this Consent Order. The Certification of Completion shall provide documentation sufficient to support a determination that media cleanup standards have been maintained and include all available documentation supporting such a determination.

D. HEALTH AND SAFETY PLAN

Concurrent with the submission of the CMI Work Plans, the Respondent shall submit to EPA a CMI Health and Safety Plan developed and/or revised in accordance with the provisions of Attachment B of this Consent Order.

E. CORRECTIVE MEASURE OPERATION AND MAINTENANCE

The Respondent shall perform the Operation and Maintenance ("O&M") activities in accordance with the timetable set forth in the EPA-approved soils CMI Work Plan and the final groundwater CMI Design Report(s) and O&M Plan(s) described in Attachment A, and submitted pursuant to this Consent Order. Groundwater corrective measure operation and maintenance shall be completed in a manner consistent with the adjacent Drake Site remedial program to the extent practicable.

F. CONTRACTOR REVIEW

1. All work performed pursuant to this Consent Order shall be under the direction and supervision of a qualified professional (the Supervising Contractor) with expertise in the relevant aspects of hazardous waste site investigation and remediation. Respondent's Supervising Contractor is:

Neale J. Misquitta
Senior Hydrogeologist
Key Environmental Incorporated
Rosslyn Farms Industrial Park
1200 Arch Street
Suite 200
Carnegie, PA 15106
(412) 279-3363/2694 (Telephone)
(412) 279-4332 (Facsimile)

Within fifteen (15) calendar days of retaining any other contractors to be used in carrying out the terms of this Consent Order, Respondent shall submit to EPA, in writing, the names, titles and qualifications of any such additional contractors. After the soils and groundwater CMI Work Plans are approved by EPA and prior to commencement of any work thereunder, the Respondent shall submit to EPA the names and qualifications of any potential additional contractors and subcontractors. Notwithstanding Respondent's selection of any qualified contractor, nothing herein shall relieve Respondent of its obligation to comply with the terms and conditions of this Consent Order.

2. EPA shall have the right to disapprove at any time the use of any Supervising Contractor and/or any contractor(s) selected by Respondent pursuant to Paragraph 1 immediately above

and Paragraph 3 immediately below. This disapproval shall not be subject to review under Section XV of this Consent Order ("DISPUTE RESOLUTION") or otherwise. Within fifteen (15) calendar days of receipt from EPA of a written notice disapproving the selection of the Supervising Contractor and/or any other contractor(s), Respondent shall notify EPA, in writing, of the names, titles and qualifications of the personnel who will replace the personnel disapproved by EPA. Respondent may request, in writing, additional time to notify EPA of the names, titles and qualifications of the personnel who will replace the personnel disapproved by EPA, and EPA may in its sole unreviewable discretion grant all or part of such extension of time.

3. Respondent shall notify EPA fifteen (15) calendar days prior to replacing voluntarily a professional engineer, geologist, contractor or subcontractor to be used in carrying out the terms of this Consent Order, and shall submit to EPA the names, titles, and qualifications of replacement personnel.

G. ADDITIONAL WORK

1. EPA may determine that certain tasks and deliverables, including, but not limited to, investigatory work, or engineering evaluation, or procedure/methodology modifications, are necessary in addition to or in lieu of the tasks included in any EPA-approved Submissions, to meet the purposes set forth in Section III ("EPA'S STATEMENT OF PURPOSE") of this Consent Order.

2. EPA may request, in writing, that Respondent perform such additional work. EPA shall specify the basis and reasons for its determination that additional work is necessary.

3. Within thirty (30) calendar days after the receipt of such request, Respondent shall have the opportunity to meet or confer with EPA to discuss the additional work. In the event that Respondent agrees to perform such additional work, Respondent shall submit to EPA for approval a work plan for the additional work. Such work plan shall be submitted within ninety (90) calendar days of Respondent's receipt of EPA's determination that additional work is necessary, or otherwise in accordance with a later alternative schedule established by EPA. Upon EPA's approval of a work plan, the work plan shall be incorporated into and become enforceable under this Consent Order and Respondent shall implement it in accordance with the schedule and provisions contained therein.

4. If Respondent declines to perform the additional work, EPA reserves the right to order Respondent to perform such additional work; to perform such additional work itself and seek to recover all costs of performing such additional work from Respondent; and/or to take any other appropriate action under

RCRA, CERCLA, or any other legal authority.

H. INTERIM MEASURES ("IM")/SITE STABILIZATION

1. Respondent shall continue operating the existing groundwater pump and treat system as developed pursuant to the IM described in the RFI/CMS Order at the Facility until Respondent's receipt of EPA's approval of the groundwater CMI Report in accordance with Section VI.B.3 of this Consent Order. At such time the IM will be superseded by implementation of the Corrective Measures as required by this Consent Order. Respondent may request changes to the existing IM system or operations prior to EPA approval of the Final CMI Work Plans. EPA-approved changes to the IM and/or implementation of alternate or supplemental IM may be completed upon mutual agreement of EPA and the Respondent.

2. If at any time during the pendency of this Consent Order, the Respondent obtains or discovers information concerning a release of any hazardous waste or hazardous constituent, except a Federally-permitted release, at or from the Facility into the environment in addition to or different from that described in Section IV, "EPA'S FINDINGS OF FACT" above, and the administrative record supporting issuance of this Consent Order, the Respondent shall address such releases as follows:

a. For any such releases which may pose a threat or potential threat to human health and/or the environment and which require an IM Work Plan pursuant to Section VI.H.3, below, Respondent shall within one (1) day notify EPA verbally of such release and shall notify EPA in writing within three (3) calendar days of providing verbal notification. Within twenty (20) calendar days after the effective date of this Consent Order, Respondent shall submit for EPA approval the criteria for those releases requiring an IM Work Plan. Verbal and written notifications shall describe, to the extent known, the nature and extent of the release and any threat or potential threat to human health and/or the environment posed by such release. Respondent may confer with EPA as soon as practicable to review the available information regarding the release and to discuss what corrective interim measure, if any, must be implemented to protect human health and/or the environment. Regardless of whether any such conference is held, if EPA determines, based on its decision regarding the nature and extent of the release, the threat or potential threat to human health and/or the environment, and any other relevant information, that interim measures for such release must be implemented to protect human health or the environment, EPA shall notify the Respondent. Within twenty (20) calendar days of receipt of such notice from EPA, Respondent shall

submit to EPA for approval an IM Work Plan which identifies Interim Measures which will protect human health and the environment from such release and which are, to the extent practicable, consistent with and integrated into the Corrective Measures set forth in the FDRTC. Respondent shall have the opportunity to meet with EPA to discuss the contents of, and any EPA comments to, the IM Work Plan. Prior to submission of such IM Work Plan for EPA approval, Respondent may request that EPA waive one or more of items A and B set forth in Task I and II of Attachment C to this Consent Order. Upon receipt of EPA approval of the IM Work Plan, Respondent shall implement the EPA-approved IM Work Plan in accordance with the requirements and schedules contained therein.

b. Respondent shall provide summaries of all other releases not requiring an IM Work Plan in the quarterly and annual progress reports submitted pursuant to Section VI.I.3 and VI.I.4, below. Such summaries shall contain the information required by Task V.A of the IM Scope of Work in Attachment C to this Consent Order. For all such releases, Respondent shall implement those Interim Measures necessary to protect human health and/or the environment. Thereafter, Respondent shall summarize the progress and results of all such Interim Measures in the quarterly and annual progress reports. If EPA determines that any releases reported pursuant to this Section VI.H.2.b required an IM Work Plan and should have been reported pursuant to Section VI.H.2.a, immediately above, Respondent shall be liable for the stipulated penalties set forth in Section XIV.A.1, below.

3. Each IM Work Plan shall be developed in accordance with the IM Scope of Work in Attachment C to this Order. Each IM Work Plan shall document the procedures to be used by Respondent for the implementation of IM and shall include the documents listed in Attachment C including, but not limited to, design plans and specifications and a project schedule.

4. Concurrent with submission of an IM Work Plan, Respondent shall amend the existing IM Health and Safety Plan ("IMH&SP"), as necessary, or prepare a new IMH&SP and submit to EPA the amended or new IMH&SP in accordance with Attachment B of this Consent Order.

5. Upon receipt of EPA approval of an IM Work Plan, Respondent shall implement the EPA-approved IM Work Plan in accordance with the requirements and schedules contained therein.

I. SUBMISSIONS/EPA APPROVAL

1. EPA will review documents submitted pursuant to this Consent Order (hereinafter collectively referred to as

"Submissions") and will notify Respondent in writing of EPA's approval or disapproval of the Submission(s) or any part thereof (except for Health and Safety Plans and Progress Reports which will be submitted for review but not approval). In the event of EPA's disapproval, EPA shall specify in writing any deficiencies in the Submission(s). Such disapproval shall not be subject to the dispute resolution procedures of Section XV, below. Notwithstanding any notice of disapproval, Respondent shall implement, at the direction of EPA, any action required by any non-deficient portion of the Submission(s).

2. Within thirty (30) calendar days of receipt of EPA's comments on a Submission, or fifteen (15) calendar days in the case of an IM Work Plan, Respondent shall submit to EPA for approval a revised Submission which responds to EPA's comments and/or corrects any deficiencies identified by EPA. In the event that EPA disapproves the revised Submission, EPA reserves the right to revise or prepare such Submission and seek to recover from Respondent the costs thereof, in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), 42 U.S.C. § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, and any other applicable laws, and/or to take any other appropriate action under RCRA, CERCLA, or any other legal authority. Any Submission prepared by Respondent that is approved or revised by EPA under this Consent Order shall be deemed incorporated into and made an enforceable part of this Consent Order.

3. On January 15, July 15th and October 15th of each year during which this Consent Order is effective, Respondent shall submit to EPA a Quarterly Progress Report for the first, second and third calendar quarters, respectively, which contains the information required in Attachment A.

4. On April 15th of each year during which this Order is effective, Respondent shall submit to EPA an Annual Progress Report which contains the information described in Attachment A and for the previous calendar year. Respondent shall not be required to submit an Annual Progress Report in any year a Corrective Measure Five-Year Assessment Report is submitted pursuant to Section VI.C. of this Order.

5. Four (4) copies of all Submissions required by this Consent Order shall be hand-delivered or sent by an acceptable and recognized overnight mail service to the Project Coordinator designated pursuant to Section XII ("PROJECT COORDINATORS"), below.

VII. QUALITY ASSURANCE

Throughout all sample collection and analysis activities,

Respondent shall use EPA-approved quality assurance, quality control, and chain-of-custody procedures, as specified in the EPA-approved Work Plans. In addition, Respondent shall:

A. Ensure that laboratories used for analyses by Respondent perform such analyses according to the EPA methods included in "Test Methods for Evaluating Solid Waste" (SW-846, November 1986) or other methods deemed satisfactory to EPA. If methods other than EPA methods are to be used, Respondent shall submit all protocols to be used for analyses to EPA for approval pursuant to Section VI.I. at least thirty (30) calendar days prior to the commencement of such analyses.

B. Ensure that laboratories used by Respondent for analyses participate in a quality assurance/quality control program equivalent to that which is followed by EPA. As part of such a program, and upon request by EPA, such laboratories shall perform analyses of samples provided by EPA to demonstrate the quality of the analytical data.

C. Inform EPA at least fifteen (15) calendar days in advance of any laboratory analysis required by this Consent Order regarding which laboratory will be used by Respondent and ensure that EPA personnel and/or EPA authorized representatives are allowed reasonable access to the laboratory(ies), records, and personnel utilized by Respondent for analysis of samples collected pursuant to this Consent Order.

VIII. PUBLIC REVIEW OF ADMINISTRATIVE RECORD

The Administrative Record supporting the issuance of this Consent Order will be available for public review during business hours at the following locations:

U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, Pennsylvania 19107
Telephone Number: (215) 566-3418
Attn: Mr. Kevin B. Boyd

and

Ross Library
232 W. Main Street
Lock Haven, Pennsylvania 19107
Telephone Number: (717) 748-3321

IX. ON-SITE AND OFF-SITE ACCESS

A. EPA and/or its authorized representatives shall have the

authority to enter and freely move about all property at the Facility during the effective dates of this Consent Order for the purposes of, inter alia: interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts related to work undertaken pursuant to the Consent Order; reviewing the progress of Respondent in carrying out the terms of this Consent Order; conducting such tests, sampling or monitoring as EPA or its Project Coordinator deem necessary; using a camera, sound recording, or other documentary type equipment; and verifying the reports and data submitted to EPA by Respondent. Respondent shall permit EPA and its authorized representatives to inspect and copy records, files, photographs, documents, and other writings, in its possession or under its control, including all sampling and monitoring data, that pertain to work undertaken pursuant to this Consent Order.

B. To the extent that work required by this Consent Order, or by any approved Work Plan prepared pursuant hereto, must be done on property not owned or controlled by Respondent, Respondent shall use its best efforts to obtain site access agreement(s) from the present owner(s) and/or lessee(s) of such property, as appropriate, within forty five (45) calendar days of receipt of EPA approval of any Work Plan pursuant to this Consent Order which requires work on such property. For the purposes of this paragraph, best efforts shall include, at a minimum, but shall not be limited to: (a) a certified letter from Respondent to the present owner(s) or lessee(s) of such property, as appropriate, requesting agreements to permit Respondent, EPA, and its authorized representatives access to such property; b) prompt communication by the Respondent with the property owner(s) or lessee(s) to inform them of the nature of the work to be done on their property, the time it will take, the disturbance (if any) to be caused, and the restoration (if necessary) to be done when the work is finished. In the event that such agreements for access are not obtained within forty five (45) calendar days after receipt of EPA approval of any Work Plan pursuant to this Consent Order which requires work on property which is not owned or controlled by Respondent, Respondent shall notify EPA, in writing, within seven (7) calendar days after failure to obtain such agreements, regarding both the efforts undertaken to obtain access and the failure to obtain such agreements. In the event that Respondent fails to obtain access, after using best efforts as described in this paragraph, EPA, in its sole unreviewable discretion, may assist Respondent in obtaining off-site access for Respondent.

C. Nothing in this Consent Order limits or otherwise affects EPA's rights of access and entry pursuant to applicable law, including, but not limited to, RCRA and CERCLA.

X. SAMPLING AND DATA/DOCUMENT AVAILABILITY

A. Respondent shall submit to EPA the results of all sampling and/or tests or other data generated by, or on behalf of, Respondent in accordance with the requirements of this Consent Order and the Attachments appended hereto and incorporated herein.

B. Respondent shall notify EPA, in writing, at least fifteen (15) calendar days in advance of any field activities, such as well drilling, installation of equipment, or sampling. At the request of EPA, Respondent shall provide or allow EPA or its authorized representatives to take split or duplicate samples of all samples collected by Respondent pursuant to this Consent Order. EPA shall provide Respondent, under the circumstances, with reasonable notice and opportunity to accompany EPA during any sampling event conducted pursuant to this Consent Order and to split samples taken by EPA under this Consent Order. Nothing in this Consent Order shall limit or otherwise affect EPA's authority to collect samples pursuant to applicable law, including, but not limited to, RCRA and CERCLA.

C. Respondent may assert a business confidentiality claim covering all or part of any information submitted to EPA pursuant to this Consent Order in the manner described in 40 C.F.R. Section 2.203(b). Any assertion of confidentiality shall be adequately substantiated by Respondent when the assertion is made in accordance with 40 C.F.R. Section 2.204(e)(4). Information subject to a confidentiality claim shall be disclosed only to the extent allowed by, and in accordance with, the procedures set forth in 40 C.F.R. Part 2, Subpart B. If no such confidentiality claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to Respondent. Respondent shall not assert any confidentiality claim with regard to any physical, sampling, monitoring, or analytical data sampled pursuant to this Consent Order.

D. If Respondent asserts a privilege with respect to any document which EPA seeks to inspect or copy pursuant to this Consent Order, the Respondent shall provide the EPA within fifteen (15) days from the date of EPA's request to inspect or copy such document with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information, to the extent that such disclosure does not compromise the privilege asserted; and (6) the nature and basis of the privilege asserted by the Respondent.

to the extent such disclosure does not compromise the privilege asserted. For the purposes of this Consent Order, privileged documents are those documents exempt from discovery under the attorney-client privilege or any other privilege recognized by federal courts. However, no document, record, or information created, generated or collected in order to implement the terms of this Consent Order shall be withheld on the grounds that it is privileged.

XI. RECORD PRESERVATION

Respondent shall preserve, during the pendency of this Consent Order and for a minimum of at least six (6) years after its termination, at least one copy of all nonidentical data, records and documents in its possession or in the possession of its divisions, officers, directors, employees, agents, contractors, successors, and assigns which relate in any way to this Consent Order or to hazardous waste management and/or disposal at the Facility. After six (6) years, Respondent shall make such records available to EPA for inspection or shall provide copies of such records to EPA. Respondent shall notify EPA at least thirty (30) calendar days prior to the proposed destruction of any such records, and shall provide EPA with a reasonable opportunity to inspect, copy and/or take possession of any such records. Respondent shall not destroy any record to which EPA has requested access for inspection and/or copying until the earliest of the following has occurred: (1) EPA has obtained such access; (2) EPA has withdrawn its request for such access; or (3) one (1) year has elapsed since Respondent received EPA's request, Respondent has offered access, EPA has not requested an extension, and EPA has failed to complete copying and inspection. Nothing in this Section XI shall in any way limit the authority of EPA under Section 3007 of RCRA, 42 U.S.C. Section 6927, or any other access or information-gathering authority.

XII. PROJECT COORDINATORS

A. EPA hereby designates Kevin Boyd as the EPA Project Coordinator. Respondent hereby designates Richard J. Omlor as Respondent's Project Coordinator. Addresses and telephone numbers for the two Project Coordinators are provided in Section XIII.A, below. Each Project Coordinator shall be responsible for overseeing the implementation of the Consent Order. The EPA Project Coordinator will be EPA's primary designated representative at the Facility. To the maximum extent possible, all communications between Respondent and EPA, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Consent Order, shall be directed through the Project

Coordinators.

B. Each party agrees to provide at least seven (7) calendar days written notice to the other party prior to changing Project Coordinators. Neither party's legal counsel shall serve as that party's Project Coordinator.

C. The absence of the EPA Project Coordinator from the Facility shall not be cause for the delay or stoppage of work, unless this work cannot proceed without the EPA Project Coordinator's on-site review and/or approval.

XIII. NOTIFICATION

A. Unless otherwise specified, reports, correspondence, approvals, disapprovals, notices, or other submissions relating to or required under this Consent Order shall be in writing and shall be sent as follows:

1. Four copies of all documents to be submitted to the EPA shall be sent to:

Kevin Boyd
U.S. Environmental Protection Agency (3HW80)
841 Chestnut Building
Philadelphia, Pennsylvania 19107
(215) 566-3418 (Telephone)
(215) 566-3113 (Facsimile)

2. Documents submitted to Respondent shall be sent to:

Richard J. Omlor
American Color & Chemical Corporation
Mount Vernon Street
P.O. Box 88
Lock Haven, Pennsylvania 17745
(717) 748-6747 (Telephone)
(717) 748-3974 (Facsimile)

3. One copy of all documents to be submitted to EPA shall also be sent to:

John Hamilton
Pennsylvania Department of Environmental
Protection
200 Pine Street
Williamsport, Pennsylvania 17701

4. Respondent shall send one copy of all progress reports, assessment reports and EPA approved

Work Plans and Reports to:

Ken Dale
Clinton County Department of Emergency Services
22 Cree Drive
Lock Haven, Pennsylvania 17745

B. Any notice, report, certification, data presentation, or other document submitted by Respondent pursuant to this Consent Order which discusses, describes, demonstrates, or supports any finding or makes any representation concerning Respondent's compliance or noncompliance with any requirement of this Consent Order shall be certified by a responsible corporate officer or a duly authorized representative of a responsible corporate officer. A "responsible corporate officer" means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. A person is a "duly authorized representative" only if: (1) the authorization is made in writing by a person described above; (2) the authorization specifies either an individual or position having responsibility for overall operation of the regulated facility or activity (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and (3) the written authorization is submitted to the Project Coordinator designated by EPA Section XII ("PROJECT COORDINATOR") of this Consent Order.

C. The certification required by paragraph B, above, shall be in the following form:

I certify that the information contained in or accompanying this [type of submission] is true, accurate, and complete.

As to [the/those identified portion(s)] of this [type of submission] for which I cannot personally verify [its/their] accuracy, I certify under penalty of law that this [type of submission] and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of

my knowledge, information, and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature : _____
Richard J. Omlor
Project Coordinator

XIV. DELAY IN PERFORMANCE/STIPULATED PENALTIES

A. Unless there has been a written modification of a compliance date by EPA pursuant to Section XXIII ("SUBSEQUENT MODIFICATION"), or excusable delay as defined below in Section XVI ("FORCE MAJEURE AND EXCUSABLE DELAY"), in the event that Respondent fails to comply with any requirement set forth in this Consent Order, Respondent shall pay stipulated penalties, as set forth below, within thirty (30) days of written demand by EPA. Compliance by Respondent shall include commencement or completion of any activity, plan, study or report required by this Consent Order in accordance with the requirements of the Consent Order and within the specified time schedules in and approved under this Consent Order. Stipulated penalties shall accrue as follows:

1. For failure to commence, perform or complete work as prescribed in this Consent Order or for failure to report a release which may pose a threat or potential threat to human health and/or the environment and which requires an IM Work Plan in accordance with Section VI.H.2.a, above: \$2,000 per day for one to seven days or part thereof of noncompliance, and \$4,000 per day for each day of noncompliance, or part thereof, thereafter;
2. For failure to submit any draft or final plans, plans, or reports as required by this Consent Order: \$1,000 per day for one to seven days or part thereof of noncompliance, and \$3,000 per day for each day of noncompliance, or part thereof, thereafter;
3. For failure to submit quarterly progress reports as required by this Consent Order: \$1,000 per day for one to seven days or part thereof of noncompliance, and \$2,000 per day for each day of noncompliance, or part thereof, thereafter;
4. For failure to submit other deliverables as

required by this Consent Order: \$750 per day for one to seven days or part thereof of noncompliance, and \$1,500 per day for each day of noncompliance, or part thereof, thereafter;

5. For any failure to comply with the provisions of this Consent Order after receipt of notice of noncompliance by EPA: \$1,000 per day for one to seven days or part thereof of noncompliance, and \$2,000 per day for each day of noncompliance, or part thereof, thereafter, in addition to any stipulated penalties imposed for the underlying noncompliance;
6. For any material failure to comply with this Consent Order not described in subparagraphs 1 through 5, above; \$750 per day for one to seven days or part thereof of noncompliance, and \$1,500 per day for each day of noncompliance, or part thereof, thereafter.

B. Unless there has been a written modification deleting a requirement or changing a deadline pursuant to Section XXIII ("SUBSEQUENT MODIFICATION") or EPA has determined that there has been an excusable delay under the Force Majeure provisions of Section XVI, below, all penalties shall begin to accrue on the date that complete performance is due or a violation occurs, and shall continue to accrue through the final day of or correction of the violation. In the case of the exceptions set forth in this paragraph B, penalties shall begin to accrue on the date specified for performance in the modification or on the delay date set in accordance with Section XVI, whichever is later. Nothing in this Section XIV herein shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Order.

C. All penalties owed to EPA under this Section XIV shall be due within thirty (30) calendar days of receipt of a demand for payment unless Respondent invokes the dispute resolution procedures under Section XV, below. Such notification shall describe the noncompliance and shall indicate the amount of penalties due. Interest shall begin to accrue on the unpaid balance at the end of the thirty (30) calendar day period and shall accrue at the United States Tax and Loan Rate. In addition, a penalty charge of six (6) percent will be assessed on any unpaid balance which remains delinquent more than ninety (90) days after payment is due. However, should assessment of the penalty be required, it will be assessed from the first day payment is due. The date on which payment is due shall be determined in accordance with Paragraphs A and B of this Section XIV.

D. All penalty payments shall be made by certified or cashier's check payable to the Treasurer of the United States of America and shall be remitted to:

Regional Hearing Clerk
U.S. Environmental Protection Agency
Region III
P.O. Box 360515
Pittsburgh, Pennsylvania 15251-6515

All payments shall reference the name of the Facility, Respondent's name and address, and the EPA Docket Number of this Consent Order. Copies of the transmittal of payment shall be sent simultaneously to the EPA Project Coordinator and the Regional Hearing Clerk (3RC00), U.S. Environmental Protection Agency, Region III, 841 Chestnut Building, Philadelphia, Pennsylvania 19107.

E. Respondent may dispute EPA's demand for payment of stipulated penalties for any alleged violation of this Consent Order by invoking the dispute resolution procedures below under Section XV ("DISPUTE RESOLUTION"). Stipulated penalties and interest shall continue to accrue, but need not be paid, for any alleged noncompliance which is the subject of dispute resolution during the period of such dispute resolution. To the extent that Respondent does not prevail upon resolution of the dispute, Respondent shall remit to EPA within thirty (30) calendar days of receipt of such resolution any outstanding penalty payment, including any accrued interest, in the manner described above in Paragraph D of this Section XIV. To the extent Respondent prevails upon resolution of the dispute, no penalties shall be payable. Notwithstanding the above, to the extent that Respondent does not prevail upon resolution of a dispute, EPA, in its sole and unreviewable discretion, after consideration of the nature of the dispute, Respondent's assertions relative to the matter in dispute, and any other relevant matter, may forego collection of all or a portion of the stipulated penalty and any accrued interest.

F. Except as provided in paragraphs B and E of this Section, neither the filing of a petition to resolve a dispute nor the payment of penalties shall alter in any way Respondent's obligation to comply with the requirements of this Consent Order.

G. The stipulated penalties set forth in this Section shall not preclude EPA from pursuing any other remedies or sanctions, including, without limitation, the assessment of penalties under Section 3008(h)(2) of RCRA, 42 U.S.C. Section 6928(h)(2), which may be available to EPA by reason of Respondent's failure to comply with any of the requirements of this Consent Order. However, if EPA subsequently seeks statutory penalties for Respondent's failure to comply with a requirement

of this Consent Order for which Respondent has paid a stipulated penalty, those statutory penalties shall be reduced by the amount of any stipulated penalty paid by Respondent for such failure to comply.

XV. DISPUTE RESOLUTION

A. Unless otherwise expressly provided for in this Consent Order, the Dispute Resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under every Section of this Consent Order. However, the procedures set forth in this Section shall not apply to actions by the EPA to enforce obligations of the Respondent that have not been disputed in accordance with this Section.

B. If Respondent disagrees, in whole or in part, with any EPA disapproval, modification or other decision or directive made by EPA pursuant to this Consent Order, Respondent shall notify EPA in writing of its objections, and the basis therefor, within fifteen (15) calendar days of receipt of EPA's disapproval, decision or directive. Such notice shall set forth the specific points of the dispute, the position which Respondent asserts should be adopted as consistent with the requirements of this Consent Order, the basis for Respondent's position, and any matters which it considers necessary for EPA's determination. EPA and Respondent shall have an additional fifteen (15) calendar days from the receipt by EPA of the notification of objection, during which time representatives of EPA and Respondent may confer in person or by telephone to resolve any disagreement. If an agreement is reached, the resolution shall be written and signed by an authorized representative of each party. In the event that resolution is not reached within this fifteen (15) calendar day period, the Director of the Hazardous Waste Management Division, EPA Region III, will furnish to Respondent, in writing, EPA's decision on the pending dispute, and except for disapproval of contractors pursuant to Section VI.F.2, the reasons therefor.

C. Except as provided in paragraphs B, C and E of Section XIV ("DELAY in PERFORMANCE/STIPULATED PENALTIES"), the existence of a dispute, as defined in this Section, and EPA's consideration of matters placed into dispute, shall not excuse, toll or suspend any compliance obligation or deadline required pursuant to this Consent Order (unless such obligation or deadline is itself the subject of the dispute) during the pendency of the dispute resolution process.

D. Notwithstanding any other provisions of this Consent Order, EPA maintains that no action or decision by EPA, including, without limitation, decisions of the Regional Administrator, Region III, pursuant to this Consent Order, constitutes final agency action giving rise to any right to judicial review prior to EPA's initiation of judicial action to compel Respondent's compliance with this Consent Order.

Respondent maintains that certain actions or decisions by EPA pursuant to this Consent Order would constitute final agency action and reserves any rights it may have to seek judicial review prior to EPA's initiation of judicial action to compel Respondent's compliance with this Consent Order.

XVI. FORCE MAJEURE AND EXCUSABLE DELAY

A. Respondent shall perform the requirements of this Consent Order in the manner and within the time limits set forth herein, unless the requirement or schedule is modified in accordance with the procedures set forth herein or the performance is prevented or delayed by events which constitute a force majeure. Respondent shall have the burden of proving such a force majeure. A force majeure is defined as any event arising from causes not reasonably foreseeable and beyond the control of Respondent, which cannot be overcome by due diligence and which delays or prevents performance in the manner or by a date required by this Consent Order. Such events do not include increased costs of performance, changed economic circumstances, reasonably foreseeable weather conditions or weather conditions which could have been overcome by due diligence. Respondent's failure to obtain any necessary federal, state or local permits or approvals after Respondent has made efforts to do so, including making a timely and complete application therefor, shall be considered a force majeure, provided Respondent has complied with the procedures of this Section XVI.

B. Respondent shall notify EPA, in writing, within ten (10) calendar days after it becomes or should have become aware of any event which causes or may cause a delay in complying with any requirement of this Consent Order or prevents compliance in the manner required by this Consent Order and any event which Respondent claims constitutes a force majeure. Such notice shall estimate the anticipated length of delay, including necessary demobilization and remobilization, its cause, measures taken or to be taken to prevent or minimize the delay, an estimated timetable for implementation of these measures the threat or potential threat if any, to human health or the environment caused by the delay or disruption, and if Respondent asserts that the event is a force majeure, the facts and reasoning supporting that assertion. Failure to comply with the notice provision of this Section shall constitute a waiver of Respondent's right to assert a force majeure claim with respect to such event. In addition to the above notification requirements, Respondent shall undertake all reasonable actions to prevent or to minimize any delay in achieving compliance with any requirement of this Consent Order after it becomes or reasonably should have become aware of any event which may delay such compliance.

C. If EPA determines that the failure to comply or delay has been or will be caused by a force majeure, the time for performance of that requirement of this Consent Order may be

extended, upon EPA approval, for a period equal to the delay resulting from such force majeure, in addition to reasonable time to re-mobilize work forces to the Facility. This shall be accomplished through an amendment to this Consent Order pursuant to Section XXIII ("SUBSEQUENT MODIFICATION"). Such an extension shall not alter the schedule for performance or completion of any other tasks required by this Consent Order, unless these tasks are also specifically altered by amendment of the Consent Order. In the event that EPA and Respondent cannot agree that any delay or failure has been or will be caused by a force majeure, or if there is no agreement on the length of the extension, Respondent may invoke the dispute resolution procedures set forth in Section XV ("DISPUTE RESOLUTION").

XVII. RESERVATION OF RIGHTS

A. EPA reserves all rights and defenses that it may have, including the right to disapprove of work performed by Respondent pursuant to this Consent Order, to request or require that Respondent correct and/or perform any work disapproved by EPA, and to request that Respondent perform tasks in addition to those stated in the Scope(s) of Work, Work Plans, or this Consent Order.

B. EPA hereby reserves all of its statutory and regulatory powers, authorities, rights and remedies, both legal and equitable, including any which may pertain to Respondent's failure to comply with any of the requirements of this Consent Order, including, without limitation, the assessment of penalties under Section 3008(h)(2) of RCRA, 42 U.S.C. Section 6928(h)(2). This Consent Order shall not be construed as a covenant not to sue, or as a release, waiver or limitation of any rights, remedies, powers and/or authorities, civil or criminal, which EPA has under RCRA, CERCLA, or any other statutory, regulatory or common law authority of the United States, except as specifically set forth herein.

C. Compliance by Respondent with the terms of this Consent Order shall not relieve Respondent of its obligations to comply with RCRA or any other applicable local, state, or federal laws and regulations.

D. The signing of this Consent Order and Respondent's consent to comply shall not limit or otherwise preclude EPA from taking additional enforcement action pursuant to Section 3008(h) of RCRA, 42 U.S.C. Section 6928(h), or any other authority, should EPA determine that such action is warranted.

E. This Consent Order is not intended to be, nor shall it be construed as, a permit. This Consent Order does not relieve Respondent of any obligation to obtain and comply with any local,

state, or federal permit.

F. EPA reserves the right to perform any portion of the work consented to herein or any additional site characterization, feasibility study, and response/corrective actions it deems necessary to protect public health and/or welfare and/or the environment. EPA may exercise its authority under RCRA, CERCLA or any other authority to undertake, request or require the performance of response actions at any time. EPA reserves whatever rights it may have to seek reimbursement from Respondent for costs incurred by the United States in connection with any such response actions, in which EPA undertakes to perform work. Respondent reserves the right to argue that EPA does not have such rights. Notwithstanding compliance with the terms of this Consent Order, Respondent is not released from liability, if any, for the costs of any response actions taken by EPA.

G. EPA reserves whatever rights it may have under CERCLA or any other law, or in equity, to recover from Respondent any costs incurred by EPA in overseeing the implementation of this Consent Order. Respondent reserves the right to argue that EPA does not have the right to recover its oversight costs.

H. If EPA determines that Respondent's activities, whether or not in compliance with this Consent Order, have caused or may cause a release or threatened release of hazardous wastes, hazardous constituents, hazardous substances, pollutants, or contaminants, which threaten or may pose a threat to human health and/or the environment, EPA may direct Respondent to stop further implementation of this Consent Order for such period of time as may be needed to abate any such release or threatened release and/or undertake any action which EPA determines is necessary to abate such release or threatened release.

I. Because this Consent Order was entered with the consent of both parties, Respondent waives its right to request a public hearing pursuant to Section 3008(b) of RCRA, 42 U.S.C. Section 6928(b).

XVIII. OTHER CLAIMS

Nothing in this Consent Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person, firm, partnership, or corporation, or other entity for any liability it may have arising out of, or relating in any way, to the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous constituents, hazardous substances, hazardous wastes, pollutants, or contaminants found at, taken to, or taken from the Facility.

XIX. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to this Consent Order shall be undertaken in accordance with the requirements of all applicable local, state, and federal laws and regulations. Respondent shall obtain or require its authorized representatives to obtain all permits and approvals necessary under such laws and regulations.

XX. INDEMNIFICATION OF THE UNITED STATES GOVERNMENT

Respondent agrees to indemnify and save and hold harmless the United States Government, its agencies, departments, agents, and employees, from any and all claims or causes of action arising from or on account of acts or omissions of Respondent or its agents, independent contractors, receivers, trustees, and assigns in carrying out activities required by this Consent Order. This indemnification shall not be construed in any way as affecting or limiting the rights or obligations of Respondent or the United States under their various contracts.

XXI. NOTICE OF NON-LIABILITY OF EPA

Neither the United States nor EPA shall be deemed a party to any contract involving Respondent and relating to activities at the Facility nor shall the United States or EPA be held liable for any claim or cause of action arising from or on account of any act, or omission of Respondent, its officers, employees, contractors, receivers, trustees, agents or assigns, in carrying out the activities required by this Consent Order.

XXII. FINANCIAL RESPONSIBILITY

A. Within thirty (30) calendar days after receipt of EPA approval of the 100% Groundwater CMI Design Report, Respondent shall submit to EPA for approval an assurance of its financial ability ("Financial Assurance") to meet the final cost estimate as set forth in the Final (100%) Groundwater CMI Design Report for the Corrective Measures, including both capital and operation and maintenance costs ("Final Cost Estimate"). Respondent's Financial Assurance shall be in one (or a combination of) the following forms:

1. A surety bond guaranteeing performance of the Corrective Measures;
2. One or more letters of credit equaling the Final Cost Estimate;

3. A trust agreement establishing a trust fund equaling the Final Cost Estimate;
4. A demonstration that Respondent satisfies the requirements of the financial test set forth in Paragraph B of this Section; or
5. A guarantee to perform the Corrective Measures by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with Respondent, as set forth in Paragraph C of this Section.

B. If Respondent seeks to demonstrate Financial Assurance through the financial test, as discussed in Subparagraph A.4. of this Section, it shall provide EPA with a letter from its chief financial officer (supported by its most recent annual audited financial statements prepared in accordance with Generally Accepted Accounting Principles ("GAAP")) certifying that Respondent meets the following criteria:

1. Either a ratio of total liabilities to net worth of less than 1.5; or a ratio of the sum of net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities greater than 0.10; and
2. Tangible net worth greater than the sum of the current closure, post-closure care, corrective action cost estimate and any other environmental obligations covered by a financial test plus \$10 million; and
3. Assets located in the United States amounting to at least the sum of the current closure, post-closure care, corrective action cost estimate and any other environmental obligations covered by a financial test plus \$10 million;

C. If Respondent seeks to demonstrate Financial Assurance through a guarantee by a third party pursuant to subparagraph A.5. of this Section, Respondent shall demonstrate that the guarantor satisfies the requirements of the financial test set forth in paragraph B of this Section.

D. The Final Cost Estimate shall be updated annually to take into account the rate of inflation. In the event the Corrective Measures described in the FDRTC are modified in accordance with the procedures set forth in this Consent Order, the Respondent shall revise the Final Cost Estimate for the Corrective Measures no later than thirty (30) calendar days after its receipt of notification of such EPA determination, if the

change in the Corrective Measures increases the cost or the expected duration of the CMI. The foregoing deadline shall run from final approval of any Work Plan revisions which may be required. This revision shall reflect any changes in the total number of years to perform the CMI and any changes in the estimated costs for each year of the CMI. Respondent may request EPA approval to reduce the Final Cost Estimate to reflect work performed and completed during the previous year.

E. If Respondent determines at any time that it is unable, or reasonably expects that it will be unable, to maintain the Financial Assurance provided pursuant to this Section, Respondent shall obtain and submit to EPA for approval one (or a combination of) the other forms of Financial Assurance listed in Paragraph A of this Section within thirty (30) calendar days of the earlier of (1) the event that causes such inability, or (2) receipt of information that gives rise to the reasonable expectation of such inability.

F. If EPA determines at any time that the Financial Assurance provided pursuant to this Section is inadequate, Respondent shall, within thirty (30) calendar days of its receipt of notification of such determination, obtain and present to EPA for approval one (or a combination of) the other forms of Financial Assurance listed in paragraph A of this Section.

G. Respondent's inability to demonstrate financial ability to meet the Final Cost Estimate for the Corrective Measures shall not excuse performance of any activities required under this Consent Order.

XXIII. SUBSEQUENT MODIFICATION

A. This Consent Order may only be amended in writing by mutual agreement of EPA and Respondent. Any such amendment shall be in writing, shall be signed by both parties, shall have as its effective date the date on which it is signed by EPA, and shall be incorporated into this Consent Order by reference.

B. Any reports, plans, specifications, schedules, other submissions and attachments required by this Consent Order are, upon written approval by EPA, incorporated into this Consent Order by reference. Any noncompliance with such EPA-approved reports, plans, specifications, schedules, submissions and attachments shall be considered a violation of this Consent Order and shall subject Respondent to the stipulated penalty provisions included in Section XIV ("DELAY IN PERFORMANCE/STIPULATED PENALTIES").

C. Minor modifications in the studies, techniques, procedures, designs or schedules utilized in carrying out this

Consent Order and necessary for the completion of the project may be made by written agreement of the Project Coordinators. Such modifications shall have as an effective date the date on which the agreement is signed by the EPA Project Coordinator. In emergency situations, minor modifications may be agreed to by oral agreement of the Project Coordinators, subject to written confirmation by the Project Coordinators within seven (7) days of such oral agreement.

D. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by Respondent shall be construed as relieving Respondent of its obligation to obtain written approval, if and when required by this Consent Order.

XXIV. SEVERABILITY

If any provision or authority of this Consent Order or the application of this Consent Order to any party or circumstance is held by any judicial or administrative authority to be invalid, the application of such provision to other parties or circumstances and the remainder of this Consent Order shall not be affected thereby and shall remain in full force.

XXV. TERMINATION AND SATISFACTION

The provisions of this Consent Order shall be deemed satisfied upon Respondent's receipt of written notice from EPA that Respondent has demonstrated, to the satisfaction of EPA, that the terms of this Consent Order, including any additional tasks determined by EPA to be required pursuant to this Consent Order, have been satisfactorily completed. This notice shall not, however, terminate Respondent's obligation to comply with any continuing obligations hereunder including, but not limited to, Sections XI ("RECORD PRESERVATION"), XVII ("RESERVATION OF RIGHTS"), XVIII ("OTHER CLAIMS"), XIX ("OTHER APPLICABLE LAWS"), XX ("INDEMNIFICATION OF THE UNITED STATES GOVERNMENT"), XXI ("NOTICE OF NON-LIABILITY OF EPA"), AND XXVII ("ATTORNEYS' FEES").

XXVI. SURVIVABILITY/PERMIT INTEGRATION

A. Subsequent to the issuance of this Consent Order, Respondent may request, and EPA may issue, a RCRA permit for the Facility that incorporates the requirements of this Consent Order by reference into the permit.

B. No requirement of this Consent Order shall terminate upon the issuance of a RCRA permit for the Facility unless such

requirement is expressly replaced by a requirement in the permit.

XXVII. ATTORNEYS' FEES

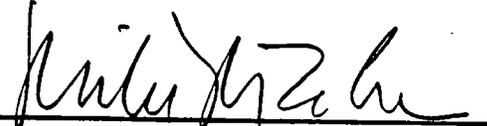
The Respondent shall bear its own costs and attorneys' fees.

XXVIII. EFFECTIVE DATE

The effective date of this Consent Order shall be the date on which a fully executed, true and correct copy of this Consent Order is received by Respondent.

IT IS SO AGREED AND ORDERED:

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

DATE: 3/25/97 BY: 
W. MICHAEL MCCABE
REGIONAL ADMINISTRATOR
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, REGION III

FOR AMERICAN COLOR & CHEMICAL CORPORATION:

DATE: 3/11/97 BY: 
OFFICER OR AUTHORIZED
REPRESENTATIVE: ASSISTANT SECRETARY
AMERICAN COLOR & CHEMICAL
CORPORATION

ATTACHMENT A

AR410642

ATTACHMENT A

SCOPE OF WORK FOR THE CORRECTIVE MEASURE IMPLEMENTATION

PURPOSE

This Scope of Work ("SOW") sets forth the requirements for the implementation of the design, construction, operation, maintenance, and monitoring of the corrective measure or measures pursuant to the Final Administrative Order on Consent ("Consent Order" or "Order") to which this SOW is attached. The work performed under this Order will implement the corrective measures that have been selected by EPA in the Final Decision and Response to Comments ("FDRTC") and any amendments thereto. The Respondent will furnish all personnel, materials, and services necessary for the implementation of the corrective measure or measures.

The corrective measures for remediation of soils at the Facility are anticipated to be completed entirely independently of the remediation of groundwater at the Facility. Therefore, corrective measures activities are separated by medium within this SOW. Separate deliverables will be prepared and separate schedules followed for the soils and groundwater corrective measures.

The corrective measures activities anticipated in this SOW are to be conducted in a manner that is consistent with, compatible to, and non-duplicative of the remedial activities required under the Drake Site Consent Decree. The two remedial programs will be parallelly implemented, to the extent possible.

SCOPE

Section II of the FDRTC describes the corrective measures for the Facility soils as follows:

- * Excavate unsaturated soils exceeding the established soil Media Cleanup Standards (MCS) (listed in Table 1) in Solid Waste Management Units (SWMUs) 12 and 14 (Figure 1);
- * Place excavated soil from SWMUs 12 and 14, not exceeding the PADEP placement criteria, in the impoundments being closed pursuant to the PADEP-approved closure plan;
- * Treat excavated soils from SWMUs 12 and 14 that exceed the Pennsylvania Department of Environmental Protection (PADEP) placement criteria in the existing onsite sludge treatment system before placement in the impoundments being closed pursuant to the PADEP-approved closure plan;

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- * Backfill excavated areas with clean soil which is, compacted, graded and vegetated to promote drainage in SWMUs 12 and 14; and,
- * Cap soils that exceed the established soil MCS in SWMUs 5 and 15 pursuant to specifications described in the PADEP-approved closure plan.

The FDRTC describes the corrective measures for the Facility groundwater (Section II) is as follows:

- * Install new groundwater extraction wells and/or use existing wells for use in the groundwater pump and treat system. Groundwater pump and treat may be conducted using ex-situ and/or in-situ methods;
- * Modify the existing Interim Measures groundwater pump and treat system or construct a new groundwater pump and treat (ex-situ and/or in-situ) system to allow continuous year round operation;
- * Continue operation of the existing Interim Measures groundwater pump and treat system until the existing system is modified or a new groundwater pump and treat system is operational;
- * Continue discharge of treated groundwater to the sanitary sewer in accordance with acceptable limits required by to City of Lock Haven Publicly Owned Treatment Works (POTW), or if POTW use is discontinued, discharge to Bald Eagle Creek in accordance with the Clean Water Act National Pollutant Discharge Elimination System (NPDES) regulations and requirements;
- * Create and impose institutional controls to support operation and maintenance (O&M) activities that would include soil cap maintenance, groundwater pumping and treat system operations (ex-situ and/or in-situ), groundwater quality monitoring and groundwater level monitoring. Also require periodic monitoring and reporting of groundwater data to track compliance with established groundwater MCS (listed in Table 2) and adding to the title restriction required for the PADEP-approved closure plan for the impoundments to include capped SWMUs 5 and 15. Request that the City of Lock Haven and Castanea Township place permanent industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas in the vicinity of the ACCC Facility; and,

- * Properly decommission the existing onsite sludge treatment system (consisting of SWMU 7, SWMU 8, SWMU 9, SWMU 10, SWMU 11, and SWMU 13) when its use is discontinued following completion of the Surface Impoundment Closure activities and soil corrective measures for SWMUs 12 and 14.

Figure 2 depicts the general location of the respective areas on the ACCC Facility that are to be addressed during the implementation of the groundwater corrective measures. The Facility groundwater is to be pumped and treated until all MCS have been achieved throughout the entire aquifer at the points of compliance (to be chosen at a later date). At this time, groundwater corrective measures are anticipated to occur at the northern Facility boundary and at the RW-01 area. Groundwater at these locations are anticipated to be extracted from the sand and gravel groundwater unit.

The Corrective Measure Implementation for soils and groundwater each consists of four tasks:

Task I: Corrective Measure Implementation Work Plan(s)

- A. Management Plan
- B. Community Relations Plan
- C. Sampling and Analysis Plan
- D. Corrective Measures Permitting Plan
- E. Supplemental Field Investigation Work Plan

Task II: Corrective Measure Design(s)

- A. Design Plans and Specifications
- B. Operation and Maintenance Plan
- C. Cost Estimate
- D. Construction Quality Assurance Objectives
- E. Health and Safety Plan
- F. Sampling and Analysis Plan Revision
- G. Design Phases

Task III: Corrective Measure Construction

- A. Preconstruction Inspection and Meeting
- B. Inspections
- C. CMI Report(s)

Task IV: Reports

- A. Progress
- B. CMI Work Plans
- C. CMI 30% Groundwater Design
- D. CMI 90% Groundwater Design

- E. CMI 100% Groundwater Design
- F. CMI Report(s)

All of the above tasks will be completed for the groundwater corrective measures. For the soils corrective measures, Task I and II will be integrated in to the Soils CMI Work Plan. Task III will be completed as outlined above and only the necessary portions of Task IV will be completed.

Further specifications of the work outlined in this SOW will be provided in the Corrective Measures Implementation Work Plan(s) and subsequent plans to be approved by EPA. Variations from the SOW will be made, if necessary, to fulfill the objectives of the Corrective Measures set forth in the FDRTC and any amendments thereto.

Additional studies may be needed as part of the Corrective Measures Implementation to supplement the available data. At the direction of EPA for any such studies required, the Respondent shall furnish all services, including field work, materials, supplies, plant, labor, equipment, investigations, and superintendence. Sufficient sampling, testing and analysis shall be performed to optimize the required treatment and/or disposal operations system.

TASK I: CORRECTIVE MEASURE IMPLEMENTATION WORK PLAN(S)

The Respondent shall prepare a Soils Corrective Measures Implementation Work Plan and a Groundwater Corrective Measures Implementation Work Plan. Each Work Plan shall describe the remedy in detail, outline the design, construction, operation, maintenance, and monitoring of all actions taken to implement the corrective measures as defined in the Order and the FDRTC, and amendments thereto. Each Work Plan will include the development and implementation of several plans, which may require concurrent preparation. These plans may be revised as necessary during the performance of this Order. Each Work Plan shall include the following:

A. Management Plan

The Respondent shall prepare a Management Plan which will include:

1. Documentation of the overall management strategy for performing the design, construction, operation, maintenance, and monitoring of corrective measure(s);

2. Description of the responsibility and authority of all organizations and key personnel involved with the implementation;
3. Description of the qualifications of key personnel directing the CMI, including contractor personnel;
4. Conceptual design of the treatment and/or disposal system or any corrective measures to be installed as set forth in the requirements of the FDRTC;
5. An outline of proposed field activities necessary to complete the CMI Design;
6. For groundwater corrective measures a description of proposed locations of groundwater monitoring wells and a detailed well development plan;
7. For groundwater corrective measures a description of proposed discharge options for treated ground water, with a proposed option upon which the CMI Design will be based;
8. For groundwater corrective measures a description of proposed detailed performance criteria for groundwater treatment;
9. A description of how the conceptual design is expected to meet the technical requirements of the FDRTC and any amendments thereto; and
10. A flow chart and schedule of work to be performed during the CMI.
11. A description of conditions that would lead to the suspension or termination of the operating system and/or performance monitoring of the groundwater extraction system.
12. A description of requirements and conditions for the potential demonstration of technical impracticability of groundwater remediation.
13. A description of the technical approach to be followed for the development of alternate groundwater media cleanup levels.

B. Community Relations Plan

The Respondent shall submit and/or revise the Community Relations Plan to include any material changes in the level of concern or information needs of the community during design and construction activities.

1. Specific activities which must be conducted during the design stage are the following:
 - a. The facility Community Relations Plan is to reflect knowledge of citizen concerns and involvement at this stage of the process; and
 - b. Prepare and distribute a public notice and an updated fact sheet at the completion of engineering design.
2. Specific activities to be conducted during the construction stage could be the following: depending on citizen interest at a facility at this point in the corrective action process, community relations activities could range from group meetings to fact sheets on the technical status.
3. The Community Relations Plan will address both the soils and groundwater corrective measures.

C. Sampling and Analysis Plan

Respondent shall submit and/or revise the Sampling and Analysis Plan describing work to be performed during Corrective Measures Design, which shall be comprised of:

1. Data quality objectives for design phase activities,
2. A Quality Assurance Project Plan (QAPP),
3. A Field Sampling Plan, and
4. A Data Management Plan describing the steps to be followed in compiling, organizing, and reviewing data collected in accordance with the Sampling and Analysis Plan and identifying the frequency of periodic data reviews and evaluations.

The Sampling and Analysis Plan will include the existing soil and well sampling and analysis program, with appropriate revisions as necessary.

D. Corrective Measures Permitting Plan

Respondent shall submit a Corrective Measures Permitting Plan identifying all federal, state, interstate and local permits and approvals required for the implementation of the Corrective Measures required by the Consent Order, and for the implementation of any institutional controls required by the Consent Order. The plan shall also identify all agreements or other arrangements with adjoining landowners, if any, known by Respondent to be necessary for the implementation of the Corrective Measures, including, but not limited to, site access and easement agreements. The plan shall include a schedule indicating the time needed to obtain all such approvals and permits and to enter into such agreements and arrangements (this may be integrated with the design/implementation schedule items).

E. Supplemental Field Investigation Work Plan

Respondent shall submit a work plan setting forth the protocols and methodologies for any additional hydrogeologic investigations or other field work, if any such additional investigation or field work is necessary, for the proper design of the soils corrective measures and the groundwater extraction and treatment systems.

The Work Plan shall include an expeditious schedule for the completion of any such supplemental field work.

TASK II: CORRECTIVE MEASURE DESIGN(S)

The Respondent shall prepare final construction plans and specifications to implement the corrective measures for soils and groundwater at the facility as defined in the Corrective Measures set forth in the FDRTC and any amendments thereto. The corrective measure design(s) for soils and groundwater shall include the following.

A. Design Plans and Specifications

The Respondent shall develop clear and comprehensive design plans and specifications which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basis, including:
 - a. Compliance with all applicable or relevant environmental and public health standards;

- b. Minimization of environmental and public health impacts; and
 - c. Updated schedules, if necessary, from commencement through completion of construction of the CMI.
2. Discussion of the technical factors of importance including:
- a. Use of currently accepted environmental control measures and technology;
 - b. The constructibility of the design; and
 - c. Use of currently acceptable construction practices and techniques.
3. Description of assumptions made and detailed justification of these assumptions;
4. Discussion of the possible sources of error and references to possible operation and maintenance problems;
5. Detailed drawings of the proposed design including, but not limited to:
- For soils:
- a. Areas to be addressed by soils corrective measures;
 - b. Backfill and grading details for appropriate SWMUs;
 - c. Conceptual cap details for appropriate SWMUs; and,
 - d. Performance of the soils remedy pursuant to the PADEP-approved Surface Impoundment Closure Plan.
- For groundwater:
- a. Qualitative flow sheets; and
 - b. Quantitative flow sheets.
6. Tables listing equipment and specifications;
7. Tables giving material and energy balances;

3. Appendices including:

- a. Sample calculations (one example presented and explained clearly for significant or unique design calculations);
- b. Derivation of equations essential to understanding the report; and
- c. Results of laboratory or field tests.

B. Operation and Maintenance Plan

The Respondent shall prepare or revise the Operation and Maintenance ("O&M") Plan(s) to cover both implementation and long term maintenance of the corrective measure(s). The O&M Plan(s) is to identify the processes to occur, submissions during O&M, and schedule for O&M activities consistent with remedial objectives set forth in the FDRTC and any amendments thereto. The plan(s) shall be composed of the following elements:

1. Description of normal O&M:
 - a. Description of tasks for operation;
 - b. Description of tasks for maintenance;
 - c. Description of prescribed treatment or operation conditions; and
 - d. As necessary, schedule showing frequency of each O&M task, also to be included in the Management Plan.
2. Description of potential operating problems:
 - a. Description and analysis of potential operation problems;
 - b. Sources of information regarding problems; and
 - c. Common and/or anticipated remedies.
3. Description of routine monitoring and laboratory testing:
 - a. Description of monitoring tasks;

- b. Description of required laboratory tests and their interpretation;
 - c. Required QA/QC; and
 - d. As necessary, schedule of monitoring frequency and date, if appropriate, when monitoring may cease.
4. Description of alternate O&M:
- a. Should systems fail, alternate procedures to prevent undue hazard; and
 - b. Analysis of vulnerability and additional resource requirements should a failure occur.
5. Safety plan:
- a. Description of precautions, of necessary equipment, etc., for site personnel; and
 - b. Safety tasks required in event of systems failure.
6. Description of equipment:
- a. Equipment identification;
 - b. Installation of monitoring components;
 - c. Maintenance of site equipment; and
 - d. Replacement schedule for equipment and installed components.
7. Records and reporting mechanisms required:
- a. Daily operating logs;
 - b. Laboratory records;
 - c. Records for operating and maintenance costs;
 - d. Mechanism for reporting emergencies;
 - e. Personnel and maintenance records;
 - f. Contents of periodic progress reports described in Task IV.A and providing details on how Task IV. A requirements will be met; and

9. Quarterly/annual reports to State agencies.

The soils O&M Plan(s) shall be submitted with the Soils Corrective Measures Implementation Work Plan.

For groundwater an initial O&M Plan(s) shall be submitted simultaneously with the Preliminary Design document submissions, and the Final O&M Plan(s) with the Final Design documents.

Any raw data that is submitted by the Respondent to EPA in Quarterly Reports or as a data submittal will not be resubmitted with Annual or other reports. Instead, data tables summarizing raw data will be included and referenced, as necessary.

C. Cost Estimate

The Respondent shall develop cost estimates of the Corrective Measures for the purpose of assuring that the Respondent has the financial resources necessary to construct and implement the corrective measure. The cost estimates developed in the Corrective Measure Study shall be refined to reflect the more detailed/accurate design plans and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs.

D. Construction Quality Assurance Objectives

The Respondent shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; and documentation.

E. Health and Safety Plan

The Respondent shall prepare a Health and Safety Plan(s) or modify the Health and Safety Plan developed for the RCRA Facility Investigation to address the activities to be performed at the facility to implement the corrective measures.

F. Sampling and Analysis Plan Revision

Respondent shall update the Sampling and Analysis Plan(s), including the QAPP(s), during each phase of Design, as appropriate, to reflect changes in the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; documentation, and other changes to the sampling and analysis program.

G. Design Phases

The design for the soils corrective measure should include the following:

1. The soils corrective measures are primarily, but not limited to, excavation, backfilling with clean soil, compacting, grading and vegetating, capping, etc., so limited design activities and design phases are probably only necessary. The Soils Corrective Measures Implementation Work Plan shall incorporate the soils corrective measures design.

The design for the groundwater corrective measure should include the phases outlined below:

1. Preliminary (30%) CMI Design
 - a. The Respondent shall submit the 30% CMI Design Report when the design effort is approximately 30% complete. At this stage the Respondent shall have field verified the existing conditions of the facility. The 30% design shall reflect a level of effort such that the specifications may be reviewed to determine if the final design will provide effective, operable and usable corrective measures. Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. The 30% construction drawings shall reflect organization and clarity. The Respondent shall include with the 30% design submission, calculations reflecting the same percentage of completion as the designs they support.
 - b. Correlating plans and specifications. The project specifications to be included in the 30% CMI Design Report shall demonstrate that the Respondent has:
 - i. Coordinated and cross-checked the specifications and drawings; and
 - ii. Completed the proofing of the edited specifications and required cross checking of all drawings and specifications.

c. Equipment start-up and operator training

The Respondent shall prepare, and include in the technical specifications governing treatment and or disposal systems; contractor requirements for providing appropriate service visits by experienced personnel to supervise the installation, adjustment, startup and operation of the treatment systems, and training covering appropriate operational procedures once the startup has been successfully accomplished.

2. Final (90% and 100%) CMI Design

The Respondent shall execute the required revisions and submit the final documents as draft Final (90% complete) CMI Design Report and Final (100% complete) CMI Design Report with reproducible drawings and specifications.

The Final CMI Design submittal shall consist of the Final Design Plans and Specifications (100% complete), the Respondent's Final Cost Estimate, the Final Draft Operation and Maintenance Plan, Final Quality Assurance Plan, Final Project Schedule, and Final Health and Safety Plan specifications. The quality of the design documents should be such that the Respondent would be able to include them in a bid package and invite contractors to submit bids for the construction project.

TASK III: CORRECTIVE MEASURE CONSTRUCTION

For soils:

Following EPA approval of the Soils Corrective Measures Implementation Work Plan, the Respondent shall implement soils corrective measures construction in accordance with procedures, specifications, and schedules in the EPA-approved Soils CMI Work Plan. During the construction phase, Respondent will continue to submit quarterly progress reports and will also implement, as necessary, elements of the approved O&M plan.

For groundwater:

Following EPA approval of the Final CMI Design Report, the Respondent shall develop and implement construction in accordance with procedures, specifications, and schedules in the EPA-approved Final CMI Design Report and the EPA approved Groundwater

CMI Work Plan. During the Construction Phase, Respondent will continue to submit periodic progress reports. The Respondent shall also implement the elements of the approved O&M plan.

The Respondent shall update each Sampling and Analysis Plan, including the QAPP, during the Construction Phase(s), as appropriate, to reflect changes in the following: responsibility and authority, personnel qualification, construction quality assurance, inspection activities, documentation, and other changes affecting quality assurance.

The Respondent shall conduct the following activities during construction for soils and groundwater corrective measure(s):

A. Preconstruction Inspection(s) and Meeting(s)

The Respondent shall conduct a preconstruction inspection(s) and meeting(s) to:

1. Review methods for documenting and reporting inspection data;
2. Review methods for distributing and storing documents and reports;
3. Review work area security and safety protocol;
4. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and
5. Conduct a site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection(s) and meeting(s) shall be documented by a designated person and minutes should be transmitted to all parties.

B. Inspections

1. Respondent will conduct inspections to monitor the construction(s) and/or installation(s) of components of the corrective measure(s). Inspections shall verify compliance with all environmental requirements and include, but not limited to, review of air quality and emissions monitoring records, waste disposal records (e.g. RCRA transportation manifests), etc, as applicable. Inspections will also ensure compliance

with all health and safety procedures. Treatment and/or disposal equipment will be operationally tested by the Respondent. The Respondent will certify that the equipment has performed to meet the purposes and intent of the specifications. Retesting will be completed where deficiencies are revealed.

2. Once construction for soils and groundwater corrective measure(s) is complete, the Respondent shall notify EPA for the purposes of conducting a final inspection(s). The final inspection(s) will consist of a walk through inspection(s) of the project site(s). The inspection(s) is to determine whether the project(s) is complete and consistent with contract documents and the EPA approved corrective measures.

Any outstanding construction items will be identified and noted. If necessary, Respondent shall notify EPA upon completion of any outstanding construction items and another final inspection consisting of a walk-through inspection of the project site(s) to confirm all outstanding items have been resolved.

C. CMI Report

After completion of construction for soils and after completion of construction for groundwater and also an initial period of performance monitoring after starting, and in accordance with the schedule included in the Management Plan(s), Respondent will prepare and submit a CMI Report(s).

TASK IV: REPORTS

The Respondent shall prepare plans, specifications, and reports as set forth in Tasks I through III to document the design(s), construction(s), operation(s), maintenance(s), and monitoring of the corrective measure(s). The documentation shall include, but not be limited to the following:

A. Progress Reports

Quarterly

The Respondent shall provide the EPA with signed, quarterly progress reports containing:

1. A description of the work performed during the preceding monitoring interval and estimate of the percentage of the CMI completed;

2. Summaries of all findings;
3. Summaries of all changes made in the CMI during the reporting period;
4. Summaries of all contacts with representative of the local community, public interest groups, or State government during the reporting period;
5. Summaries of system performance during the reporting period including a summary of all problems or potential problems encountered or anticipated during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

Annual

Annual Progress Reports shall contain: '

1. A narrative summary of principal activities conducted during the reporting period;
2. Graphical or tabular presentations of monitoring data, including but not limited to average monthly system pumping rates and throughput, efficiency, groundwater levels and flow direction, and groundwater quality;
3. A schedule of sampling and field activities to be performed in the following year; and
4. An O&M Evaluation shall assess performance of the corrective measure over time and provide one basis for EPA's Five-Year Evaluation of the corrective measure. Annual O&M Evaluation shall include:
 - a. Summarized data representing corrective measure performance during respective two-year intervals;
 - b. Any proposed changes to the corrective measure and summary of changes to have been previously made;

- c. Isoconcentration maps for each contaminant of concern listed in the Order;
- d. Statistical assessment of the progress of the corrective measure towards achievement of media clean-up standards;
- e. When appropriate, notification that corrective action media clean-up standards have been achieved.

An Annual Progress Report shall not be required for any year in which the Respondent is required to submit a Corrective Measures Five Year Assessment Report. Where data has been provided in Quarterly Reports, these data will only be tabulated and/or referenced in Annual Progress Reports and the Corrective Measures Five Year Report.

B. CMI Work Plan(s)

The Respondent shall submit separate Soils and Groundwater CMI Work Plans as outlined above. The QAPP(s), included with the CMI Work Plan(s), will be revised, as appropriate, throughout the CMI.

C. The 30% CMI Groundwater Design Report

The 30% CMI Groundwater Design Report shall include:

1. Draft Design Plans and Specifications reflecting 30% of design work to be completed;
2. A draft O&M Plan;
3. A preliminary cost estimate;
4. A revised project schedule, also to be included in a revised CMI Management Plan.

D. The 90% CMI Groundwater Design Report

The 90% CMI Groundwater Design Report shall include:

1. A summary of activities performed and data generated during Corrective Measure Design, including results and interpretation of treatability studies;

2. Draft detailed Corrective Measure Design Plans and Specifications reflecting 90% of design work to be completed;
3. Final performance criteria for the corrective measures, consistent with comments to have been provided by EPA on the Conceptual Design proposed in the Management Plan;
4. Proposal of means to evaluate system performance against media cleanup standards listed in the FDRTC and any amendments thereto;
5. A Final O&M Plan;
6. A revised Cost Estimate;
7. Revision to the Sampling and Analysis Plan, including the QAPP, to address sampling activities to be performed during the Corrective Measures Construction Phase, including the sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems as addressed in the project specification;
8. Sampling and construction activities to be performed during the Corrective Measure Construction Phase;
9. Proposed changes to the Project Schedule, if appropriate; with emphasis on short-term Construction schedule. These proposed changes in schedule also will be included in the revised Management Plan.

E. Final (100%) CMI Groundwater Design Report

The Respondent shall submit a Final (100%) CMI Groundwater Design Report as outlined in Task II to this SOW.

F. CMI Report(s)

The Respondent shall submit the soils and groundwater CMI Report(s) as outlined in Task III to this SOW. The CMI Report(s) shall describe activities performed during construction(s), provide actual specifications of implemented remedies, and provide a preliminary assessment of CMI performance. The CMI Report(s) shall include, but not be limited to, the following elements:

1. Synopsis of the corrective measure and certification of the design and construction;
2. Explanation of any modifications to the EPA-approved construction and/or design plans and why these were necessary for the project;
3. Listing of the criteria, established in the EPA-approved CMI Work Plan, for judging whether the corrective measure is functioning properly, and also explaining any modification to these criteria;
4. Certification by registered professional engineer that the construction is complete, consistent with contract documents, and the EPA-approved corrective measure, and that the equipment performs to meet the intent of the specifications;
5. Results of Facility monitoring, assessing the likelihood that the Corrective Measure will meet or exceed the media clean-up standards set forth in the FDRTC and any amendment thereto.

This report should include all of the daily inspection summary reports, inspection summary reports, inspection data sheets, problem identification and corrective measure reports, block evaluation reports, photographic reporting data sheets, design engineers' acceptance reports, deviations from design and material specifications (with justifying documentation), and as-built drawings, unless otherwise agreed to by EPA.

TABLE 1

CONTAMINANTS OF CONCERN
FOR SURFACE SOIL

CONTAMINANT OF CONCERN	MEDIA CLEANUP STANDARD (mg/kg)
Arsenic	.37
Lead	1000
Benzo (a) anthracene	3.9
Benzo (b) fluoranthene	3.9
Benzo (a) pyrene	.39

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TABLE 1 (cont.)

CONTAMINANTS OF CONCERN
IN SOIL FOR POTENTIAL
LEACHING TO GROUNDWATER

CONTAMINANT OF CONCERN	MEDIA CLEANUP STANDARD (mg/kg)
Carbon disulfide	.53
Chlorobenzene	20.5
Methylene chloride	538
Trichloroethene	.24
1,2-Dichlorobenzene	6,500
1,3-Dichlorobenzene	6,500
1,4-Dichlorobenzene	813
2,4-Dinitrophenol	1.11
2-Nitroaniline	2,300
4-Nitroaniline	273
Nitrobenzene	613
Pentachlorophenol	400
Arsenic	1.79
Chromium	59
Copper	113
Lead	17
Mercury	1.15
Zinc	1,800
Cyanide	10.9

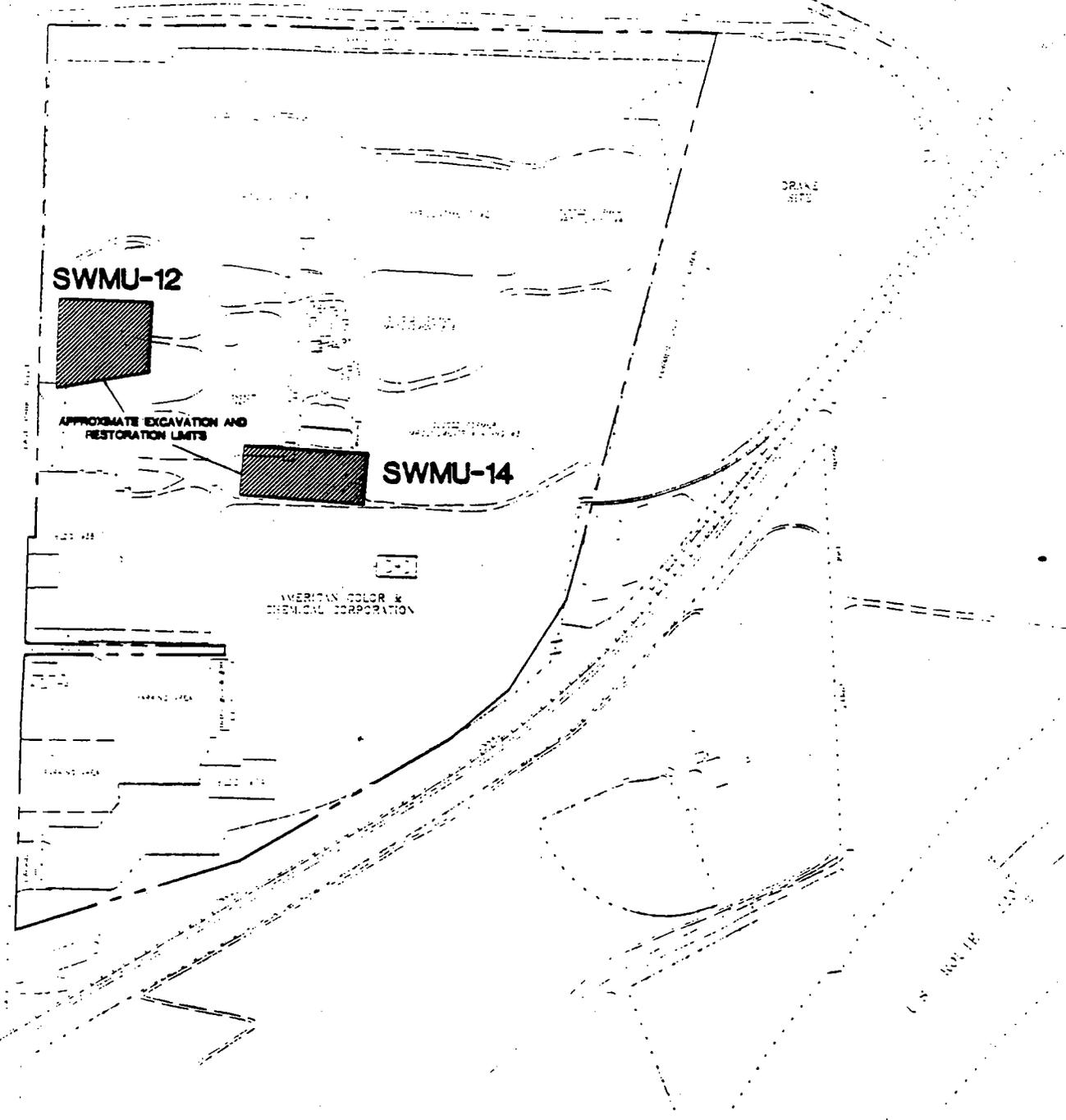
AR410662

TABLE 2

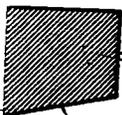
CONTAMINANTS OF CONCERN
FOR GROUNDWATER

CONTAMINANT OF CONCERN	MEDIA CLEANUP STANDARD (ug/L)
Benzene	5
Chlorobenzene	19
Methylene Chloride	4.1
Toluene	1,000
Trichloroethane	5
Bis(2-ethylhexyl) phthalate	6
4-Chloroaniline	150
1,2-Dichlorobenzene	500
1,4-Dichlorobenzene	75
4-Methylphenol	130
2-Nitroaniline	2.2
4-Nitroaniline	110
Nitrobenzene	3.4
2,4,6-Trichlorophenol	1
Phenol	22,000
Aluminum	37,000
Arsenic	50
Chromium	100
Copper	1,400
Lead	15
Mercury	2

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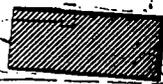


SWMU-12



APPROXIMATE EXCAVATION AND RESTORATION LIMITS

SWMU-14

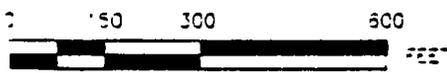


AMERICAN COLOR & CHEMICAL CORPORATION

DRAINAGE DITCH

LEGEND

- ANTICIPATED AREAS OF SOILS CORRECTIVE MEASURES
- STREAMS, RIVERBANK
- ACCC FACILITY BOUNDARY
- RAILROAD TRACKS
- FENCE LINE



AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

DRAWN: MEL	DATE: '0/04/98
CHKD: NJM	DATE: '0/04/98
APPO: NJM	DATE: '0/04/98
SCALE: AS SHOWN	



ACCC COMMENTS TO U.S. EPA
PROPOSED ACC

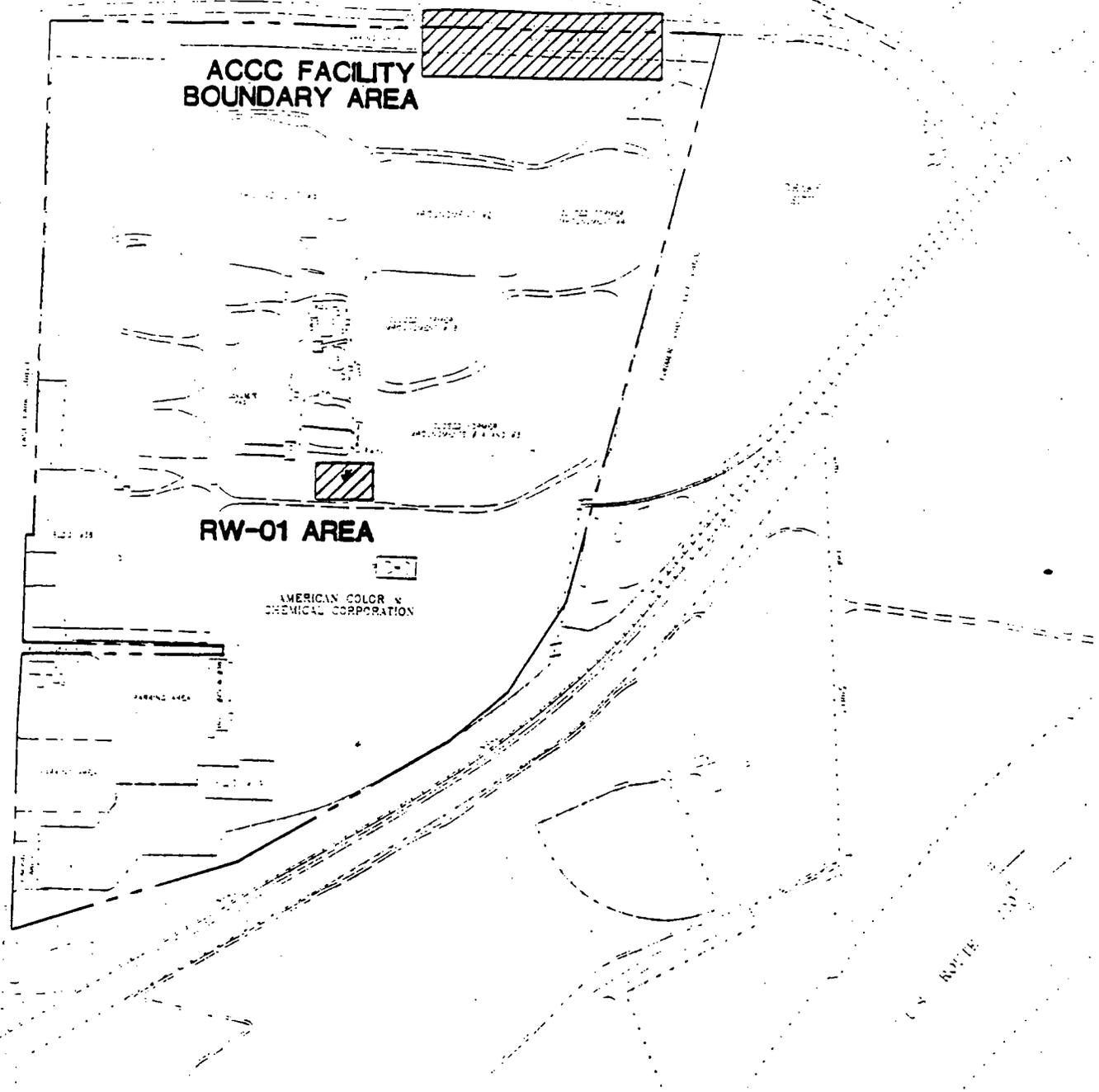
REFERENCE: FINAL REPORT: CORRECTIVE MEASURES STUDY, MCLAREN/HART ENVIRONMENTAL ENGINEERING CORPORATION APRIL 1995, SUBMITTED TO U.S. EPA REGION II ON BEHALF OF AMERICAN COLOR & CHEMICAL CORPORATION

KEY ENVIRONMENTAL, INC. ISSUE DATE:
ROSELYN FARMS INDUSTRIAL PARK
1200 HIGH ST., SUITE 200
CARNEGIE, PA 15108

ANTICIPATED AREAS OF SOILS CORRECTIVE MEASURES

DRAWING NUMBER
15-52
FIGURE

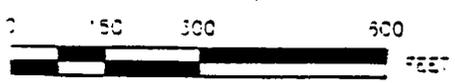
AR410665



AR410666

LEGEND

-  ANTICIPATED AREAS OF GROUNDWATER CORRECTIVE MEASURES
-  STREAMS, RIVERBANK
-  ACCC FACILITY BOUNDARY
-  RAILROAD TRACKS
-  FENCE LINE



AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

DRAWN: MEL	DATE: 10/04/96
CHKD: NLM	DATE: 10/04/96
APPR: NLM	DATE: 10/04/96
SCALE: AS SHOWN	



ACCC COMMENTS TO U.S. EPA
PROPOSED ACC

KEY ENVIRONMENTAL, INC.	ISSUE DATE:
ROSLYN FARMS INDUSTRIAL PARK 1200 ARCH ST., SUITE 200 CAMBRIE, PA 15106	

ANTICIPATED AREAS OF GROUNDWATER CORRECTIVE MEASURES	DRAWING NUMBER 10666
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ATTACHMENT B

AR410007

Attachment B

HEALTH AND SAFETY PLAN

The Respondent shall prepare a facility Health and Safety Plan.

1. Major elements of the Health and Safety Plan shall include:
 - a. Facility description including availability of resources such as roads, water supply, electricity, and telephone service;
 - b. Description of the known hazards and evaluations of the risks associated with the incident and with each activity conducted, including, but not limited to, on-site and off-site exposure to contaminants;
 - c. List of key personnel and alternates responsible for site safety, response operations, and protection of public health;
 - d. Delineation of work area;
 - e. Description of levels of protection to be worn by personnel in work area;
 - f. Establishment of procedures to control site access;
 - g. Description of decontamination procedures for personnel and equipment;
 - h. Establishment of site emergency procedures;
 - i. Emergency medical care for injuries and toxicological problems;
 - j. Description of requirements for an environmental surveillance program;
 - k. Routine and special training required for responders; and
 - l. Establishment of procedures for protecting workers from weather-related problems.
2. The facility Health and Safety Plan shall be consistent with:
 - a. NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1985);
 - b. EPA Order 1440.3 - Respiratory Protection;
 - c. EPA Order 1440.2 - Health and Safety Requirements for Employees Engaged in Field Activities;
 - d. Facility Contingency Plan;
 - e. EPA Standard Operating Safety Guide (1984);

- f. OSHA regulations, particularly in 29 C.F.R. 1910 and 1926;
 - g. State and local regulations; and
 - h. Other EPA guidance as provided.
3. The Health and Safety Plan must be revised to address any additions and/or changes in planned activities.

ATTACHMENT C

AR410670

Attachment C

INTERIM MEASURES
SCOPE OF WORK

PURPOSE

The purpose of Interim Measures are to identify and correct any actual or potential releases of hazardous waste or constituents from regulated units, solid waste management units, and other sources or areas at the facility which may present an endangerment to human health or the environment.

SCOPE

The Interim Measures consist of five tasks:

TASK I: INTERIM MEASURES WORKPLAN

- A. Interim Measures Objectives
- B. Community Relations Plan

TASK II: INTERIM MEASURES INVESTIGATION PROGRAM

- A. Data Collection Quality Assurance Plan
- B. Data Management Plan

TASK III: INTERIM MEASURES DESIGN PROGRAM

- A. Design Plans and Specifications
- B. Operation and Maintenance Plan
- C. Project Schedule
- D. Final Design Documents

TASK IV. INTERIM MEASURES CONSTRUCTION QUALITY ASSURANCE PLAN

- A. Construction Quality Assurance Objectives
- B. Inspection Activities
- C. Sampling Requirements
- D. Documentation

TASK V. REPORTS

- A. Progress
- B. Interim Measures Workplan
- C. Final Design Documents
- D. Draft Interim Measures Report
- E. Final Interim Measures Report

TASK I: INTERIM MEASURES WORKPLAN

Respondent shall prepare an Interim Measures Workplan. The workplan shall include the development of several plans which shall be prepared concurrently.

A. Interim Measures Objectives

The workplan shall specify the objectives of the interim measures, demonstrate how the interim measures will abate releases and threatened releases, and, to the extent possible, be consistent and integrated with any long term solution at the facility. The Interim Measures Workplan will include a discussion of the technical approach, engineering design, engineering plans, schedules, budget, and personnel. The Workplan will also include a description of qualifications of personnel performing or directing the interim measures, including contractor personnel. This plan shall also document the overall management approach to the interim measures.

B. Community Relations Plan

Respondent shall prepare a plan for the dissemination of information to the public regarding interim measure activities and results. These activities shall include the preparation and distribution of fact sheets and participation in public meetings

TASK II: INTERIM MEASURES INVESTIGATION PROGRAM

A. Data Collection Quality Assurance Plan

The Respondent shall prepare a plan to document all monitoring procedures: sampling, field measurements, and sample analysis performed during the investigation to characterize the source and contamination, so as to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented.

1. Data Collection Strategy

The strategy section of the Data Collection Quality Assurance Plan shall include, but not be limited to, the following:

- a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses;
- b. Description of methods and procedures to be used to assess the precision, accuracy, and completeness of the measurement data;
- c. Description of the rationale used to assure that the data accurately and precisely represent a characteristic of a population, parameter variations a

a sampling point, a process condition, or an environmental condition. Examples of factors which shall be considered and discussed include:

- i) Environmental conditions at the time of sampling;
 - ii) Number of sampling points;
 - iii) Representativeness of selected media; and
 - iv) Representativeness of selected analytical parameters.
- d. Description of the measures to be taken to assure that the following data sets can be compared to each other:
- i) Data generated by the Respondent over some time period;
 - ii) Data generated by an outside laboratory or consultant versus data generated by the Respondent;
 - iii) Data generated by separate consultants or laboratories; and
 - iv) Data generated by an outside consultant or laboratory over some time period.
- e. Details relating to the schedule and information to be provided in quality assurance reports. The reports should include, but not be limited to:
- i) Periodic assessment of measurement data accuracy, precision, and completeness;
 - ii) Results of performance audits;
 - iii) Results of system audits;
 - iv) Significant quality assurance problems and recommended solutions; and
 - v) Resolutions of previously stated problems.

2. Sampling and Field Measurements

The Sampling and Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

- a. Selecting appropriate sampling and field measurement locations, depths, etc.;

- b. Providing a statistically sufficient number of sampling and field measurement sites;
- c. Measuring all necessary ancillary data;
- d. Determining which media are to be sampled (e.g., ground water, soil, sediment, etc.);
- e. Determining which parameters are to be measured and where;
- f. Selecting the frequency of sampling and field measurement and the length of sampling period;
- g. Selecting the types of sample (e.g., composites vs. grabs) and the number of samples to be collected;
- h. Documenting field sampling and field measurement operations and procedures, including;
 - i) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters and adsorbing reagents);
 - ii) Procedures and forms for recording the exact location and specific considerations associated with sample and field measurement data acquisition;
 - iii) Documentation of specific sample preservation method;
 - iv) Calibration of field devices;
 - v) Collection of replicate samples;
 - vi) Submission of field-biased blanks, where appropriate;
 - vii) Potential interferences present at the facility;
 - viii) Construction materials and techniques, associated with monitoring wells and piezometers;
 - ix) Field equipment listing and sample containers;
 - x) Sampling and field measurement order; and
 - xi) Decontamination procedures.
- i. Selecting appropriate sample containers;

- j. Sample preservation; and
- k. Chain-of-custody, including:
 - i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and
 - ii) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

- a. Chain-of-custody procedures, including:
 - i) Identification of a responsible party to act as sample custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
 - ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and
 - iii) Specification of laboratory sample custody procedures for sample handling, storage, and dispersment for analysis.
- b. Sample storage and holding times;
- c. Sample preparation methods;
- d. Analytical procedures, including:
 - i) Scope and application of the procedure;
 - ii) Sample matrix;
 - iii) Potential interferences;
 - iv) Precision and accuracy of the methodology; and
 - v) Method detection limits.
- e. Calibration procedures and frequency;
- f. Data reduction, validation and reporting;

- g. Internal quality control checks, laboratory performance and systems audits and frequency, including:
- i) Method blank(s);
 - ii) Laboratory control sample(s);
 - iii) Calibration check sample(s);
 - iv) Replicate sample(s);
 - v) Matrix-spiked sample(s);
 - vi) "Blind" quality control sample(s);
 - vii) Control charts;
 - viii) Surrogate samples;
 - ix) Zero and span gases; and
 - x) Reagent quality control checks.

A performance audit may be conducted by EPA on the laboratories selected by the Respondent.

- h. Preventive maintenance procedures and schedules;
- i. Corrective action (for laboratory problems); and
- j. Turnaround time.

B. Data Management Plan

The Respondent shall develop and initiate a Data Management Plan to document and track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

- a. Unique sample or field measurement code;
- b. Sampling or field measurement location and sample or measurement type;
- c. Sampling or field measurement raw data;
- d. Laboratory analysis ID number;

- e. Property or component measured; and
- f. Result of analysis (e.g., concentration).

2. Tabular Displays

The following data shall be presented in tabular displays:

- a. Unsorted (raw) data;
- b. Results for each medium, or for each constituent monitored;
- c. Data reduction for numerical analysis;
- d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and
- e. Summary data.

3. Graphical Displays

The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- a. Display sampling location and sampling grid;
- b. Indicate boundaries of sampling area, and areas where more data are required;
- c. Display levels of contamination at each sampling location;
- d. Display geographical extent of contamination;
- e. Display contamination levels, averages, and maxima;
- f. Illustrate changes in concentration in relation to distance from the source, time, depth, or other parameters; and
- g. Indicate features affecting intramedia transport and show potential receptors.

TASK III: INTERIM MEASURES DESIGN PROGRAM

A. Design Plans and Specifications

Respondent shall develop clear and comprehensive design plans and specifications which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basis, including:
 - a. Compliance with all applicable or relevant environmental and public health standards; and
 - b. Minimization of environmental and public impacts.
2. Discussion of the technical factors of importance, including:
 - a. Use of currently accepted environmental control measures and technology;
 - b. The constructibility of the design; and
 - c. Use of currently acceptable construction practices and techniques.
3. Description of assumptions made and detailed justification of these assumptions;
4. Discussion of the possible sources of error and references to possible operation and maintenance problems;
5. Detailed drawings of the proposed design, including:
 - a. Qualitative flow sheets;
 - b. Quantitative flow sheets;
 - c. Facility layouts;
 - d. Utility locations.
6. Tables listing materials, equipment, and specifications;
7. Tables giving material balances; and
8. Appendices, including:
 - a. Sample calculations (one example presented and explained clearly for a significant or unique design calculation);
 - b. Derivation of equations essential to understanding the report; and
 - c. Results of laboratory or field tests.

General correlation between drawings and technical specifications, is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, Respondent shall coordinate and cross-check the specifications and drawings and complete the proofing

of the edited specifications and required cross-checking of all drawings and specifications.

B. Operation and Maintenance Plan

Respondent shall prepare an Operation and Maintenance Plan to cover both implementation and long term maintenance of the interim measure(s). The plan shall be composed of the following elements:

1. Equipment start-up and operator training;

Respondent shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, startup, and operation of the treatment system and training covering appropriate operational procedures once the startup has been successfully accomplished.

2. Description of normal operation and maintenance (O&M), including:

- a. Description of tasks for operation;
- b. Description of tasks for maintenance;
- c. Description of prescribed treatment or operation conditions;
- d. Schedule showing frequency of each O&M task; and
- e. Common and/or anticipated remedies.

3. Description of routine monitoring and laboratory testing, including:

- a. Description of monitoring tasks;
- b. Description of required laboratory tests and their interpretation;
- c. Required QA/QC; and
- d. Schedule of monitoring frequency and date, if appropriate, when monitoring may cease.

4. Description of equipment, including:

- a. Equipment identification;
- b. Installation of monitoring components;
- c. Maintenance of site equipment; and

- d. Replacement schedule for equipment and installed components.
5. Records and reporting mechanisms required, including:
 - a. Daily operating logs;
 - b. Laboratory records;
 - c. Mechanism for reporting emergencies;
 - d. Personnel and maintenance records; and
 - e. Monthly/annual reports to Federal/state agencies.

The Operation and Maintenance Plan shall be submitted with the Final Design Documents.

C. Project Schedule

Respondent shall develop a detailed Project Schedule for construction and implementation of the interim measure(s) which identifies timing for initiation and completion of all critical path tasks. Respondent shall specifically identify dates for completion of the project and major interim milestones which are enforceable terms of this order. A Project Schedule shall be submitted simultaneously with the Final Design Documents.

D. Final Design Documents

The Final Design Documents shall consist of the Final Design Plans and Specifications (100% complete), the Final Draft Operation and Maintenance Plan, and the Project Schedule. Respondent shall submit the final documents, 100% complete, with reproducible drawings and specifications. The quality of the design documents should be such that Respondent would be able to include them in a bid package and invite contractors to submit bids for the construction project.

TASK IV: INTERIM MEASURES CONSTRUCTION QUALITY ASSURANCE PLAN

A. Construction Quality Assurance Objectives

In the CQA plan, Respondent shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; and documentation. The responsibility and authority of all organizations (i.e., technical consultants, construction firms, etc.) and key personnel involved in the construction of the interim measures shall be described fully in the CQA plan. Respondent must identify a CQA officer and the necessary supporting inspection staff.

B. Inspection Activities

The observations and tests that will be used to monitor the construction and/or installation of the components of the interim measure(s) shall be summarized in the CQA plan. The plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection should also ensure compliance with all health and safety procedures. In addition to oversight inspections, Respondent shall conduct the following activities:

1. Preconstruction inspection and meeting;

Respondent shall conduct a preconstruction inspection and meeting to:

- a. Review methods for documenting and reporting inspection data;
- b. Review methods for distributing and storing documents and reports;
- c. Review work area security and safety protocol;
- d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that site-specific considerations are addressed; and
- e. Conduct a site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by a designated person and minutes should be transmitted to all parties.

2. Prefinal inspection;

Upon preliminary project completion, Respondent shall notify EPA for the purposes of conducting a prefinal inspection. The prefinal inspection will consist of a walk-through inspection of the entire project site. The inspection is to determine whether the project is complete and consistent with the contract documents and with the EPA approved interim measure(s). Any outstanding construction items discovered during the inspection will be identified and noted. Additionally, treatment equipment will be operationally tested by Respondent. Respondent will certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed. The prefinal inspection report should outline the outstanding construction items,

actions required to resolve items, completion date for these items, and date for final inspection.

3. Final inspection;

Upon completion of any outstanding construction items, Respondent shall notify EPA for the purposes of conducting a final inspection. The final inspection will consist of a walk-through inspection of the project site. The prefinal inspection report will be used as a checklist with the final inspection focusing on the outstanding construction items identified in the pre-final inspection. Confirmation shall be made that outstanding items have been resolved.

C. Sampling Requirements

The sampling and testing activities, sample size, sample and test locations, frequency of testing, acceptance and rejection criteria, and plans for correcting problems should be presented in the CQA plan.

D. Documentation

Reporting requirements for CQA activities shall be described in detail in the CQA plan. This plan shall include such items as daily summary reports, inspection data sheets, problem identification and interim measures reports, design acceptance reports, and final documentation. Provisions for the final storage of all records shall be presented in the CQA plan.

TASK V: REPORTS

A. Progress

Respondent shall at a minimum provide the EPA with signed, bimonthly progress reports containing:

1. A description and estimate of the percentage of the interim measures completed;
2. Summaries of all findings;
3. Summaries of all changes made in the interim measures during the reporting period;
4. Summaries of all contacts with representative of the local community, public interest groups, or state government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;

8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

B. Interim Measures Workplan

Respondent shall submit an Interim Measures Workplan as described in this Attachment.

C. Final Design Documents

Respondent shall submit the Final Design Documents as described in this Attachment.

D. Draft Interim Measures Report

At the "completion" of the construction of the project (except for long term operation, maintenance, and monitoring), Respondent shall submit an Interim Measures Implementation Report to the Agency. The Report shall document that the project is consistent with the design specifications and that the interim measures are performing adequately. The Report shall include, but not be limited to the following elements:

1. Synopsis of the interim measures and certification of the design and construction;
2. Explanation of any modifications to the plans and why these were necessary for the project;
3. Listing of the criteria, established before the interim measures were initiated, for judging the functioning of the interim measures and also for explaining any modification to these criteria;
4. Results of facility monitoring, indicating that the interim measures will meet or exceed the performance criteria; and
5. Explanation of the operation and maintenance (including monitoring) to be undertaken at the facility.

This report shall include the inspection summary reports, inspection data sheets, problem identification and corrective reporting data sheets, design engineers' acceptance reports, deviations from design and material specifications (with justifying documentation), and as-built drawings.

E. Final Interim Measures Report

Respondent shall finalize the Interim Measures Workplan and the Interim Measures Implementation Report incorporating comments received on the draft submissions.

ATTACHMENT D

ARLINC01

FINAL DECISION AND RESPONSE TO COMMENTS
ON PROPOSED CORRECTIVE MEASURES UNDER RCRA SECTION 3008(h)

AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

I. INTRODUCTION

This Final Decision and Response to Comments ("Final Decision") is being presented by the U.S. Environmental Protection Agency ("EPA"). The purpose of the Final Decision is to describe the Corrective Measures selected by EPA to address releases of hazardous waste and/or hazardous constituents at or from the American Color & Chemical Corporation ("ACCC") Facility, located in Clinton County, Lock Haven Pennsylvania ("Facility"), present the concerns and issues raised during the public comment period and respond to all significant comments received by the EPA regarding the proposed Corrective Measure. See Figure 1 of Attachment 1 for the general location of the Facility.

EPA has described and evaluated corrective measure alternatives to mitigate or eliminate releases of hazardous waste and/or hazardous constituents at the Facility in an official document called the Statement of Basis ("SB"), which was issued on September 29, 1995. The SB also describes EPA's preferred Corrective Measure to cleanup the contamination which exists at the Facility and is incorporated by reference and is attached to this document as Attachment 1.

The comments addressed by EPA in this document were communicated to EPA during a thirty (30)-day public comment period which began on October 3, 1995 and ended on November 1, 1995. All of the comments received were carefully reviewed by EPA during the final selection of the Corrective Measure and have been answered in this Response to Comments. Comments received by EPA during the public comment period did not propose any additional corrective measure alternatives and did not suggest any need to change EPA's preferred corrective measure, except for one comment indicating that no corrective action is necessary for Bald Eagle Creek. The SB described that proposed corrective measure as follows:

Evaluate the high concentration of arsenic found at the one location downstream from the ACCC stormwater NPDES discharge outfall in Bald Eagle Creek, to determine if there is any risk to human health or the environment. If the evaluation of the high concentration of arsenic is determined to present a risk to human health or the environment, the appropriate remediation of the contamination will be undertaken to eliminate that risk.

ACCC conducted an investigation of Bald Eagle Creek during the public comment period. Based on the results of this investigation, EPA has concluded that there is no risk to human

health and the environment from exposure to the creek sediments and no corrective action is required. The results of the Bald Eagle Creek investigation are included in Attachment 2 of this document.

Commentors also did not propose any additional alternatives that had not been considered in the Corrective Measure Study ("CMS") and no reasons were provided for altering the proposed Corrective Measure with the exception of no further action being required for Bald Eagle Creek as described above. EPA reviewed and considered all comments expressed to and/or received by EPA prior to the issuance of this Final Decision. These comments and questions, as well as EPA's responses, are recorded in the following sections.

II. THE SELECTED REMEDY

The corrective measure selected for the Facility is identified as a combination of S-2, S-3, S-4, G-2 and G-3 in the SB. Based on the findings of the RFI, soil and groundwater at the Facility have been identified as the environmental media requiring corrective measures. EPA's selected remedy requires the Facility to:

- Excavate unsaturated soils exceeding the established media cleanup standards in solid waste management units ("SWMUs") 12 and 14;
- Place excavated soil from SWMUs 12 and 14, not exceeding Pennsylvania Department of Environmental Protection ("PADEP") placement criteria in the impoundments being closed pursuant to the PADEP-approved closure plan;
- Treat excavated soils from SWMUs 12 and 14 that exceed PADEP placement criteria in the existing onsite sludge treatment system before placement in the impoundments being closed pursuant to the PADEP-approved closure plan;
- Backfill excavated areas with clean soil which is, compacted, graded and vegetated to promote drainage in SWMUs 12 and 14;
- Cap soils that exceed the established media cleanup standards in SWMUs 5 and 15 pursuant to specifications described in the PADEP-approved closure plan;
- Install new extraction wells and/or use existing wells for use in the groundwater pump and treat system;

- Modify the existing Interim Measures groundwater pump and treat system or construct a new groundwater pump and treat system to allow continuous year round operation;
- Continue operation of the existing Interim Measures groundwater pump and treat system until the existing system is modified or a new groundwater pump and treat system is operational;
- Continue discharge of treated groundwater to the sanitary sewer in accordance with acceptable limits required by the City of Lock Haven Publicly Owned Treatment Works ("POTW"), or if POTW use is discontinued, discharge to Bald Eagle Creek in accordance with the Clean Water Act National Pollutant Discharge Elimination System ("NPDES") regulations and requirements;
- Create and impose institutional controls to support operation and maintenance ("O&M") activities that would include cap maintenance, groundwater pump and treat system operations, groundwater quality monitoring and water level monitoring. Also, require periodic monitoring and reporting of groundwater data to track compliance with established media cleanup standards and adding to the title restrictions required for the PADEP-approved closure plan for the impoundments to include capped SWMUs 5 and 15. Request that the City of Lock Haven and Castenea Township place permanent industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas.
- Properly decommission the existing onsite sludge treatment system (consisting of SWMU 7, SWMU 8, SWMU 9, SWMU 10, SWMU 11 and SWMU 13) when its use is discontinued.

EPA has established media cleanup standards for soil and groundwater at the ACCC Facility. These standards are shown on Table 1 and Table 2, respectively, of the SB which is attached as Attachment 1 of this document. Soil excavation and capping shall continue until all the media cleanup standards have been achieved. Pumping and treating of groundwater at the Facility shall continue until all media cleanup standards have been achieved throughout the entire aquifer at the points of compliance (to be chosen at a later date).

III. PUBLIC COMMENTS AND EPA RESPONSES

EPA held a thirty (30)-day public comment period for the public to raise any issues relating to the remedy that EPA proposed in the SB. The public comment period began on October 3, 1995 and ended November 1, 1995. EPA received oral comments via telephone and written comments via mail.

A. Comments Received Via Telephone.

* EPA received a telephone call from Mr. Ken Dale from the Clinton County Department of Emergency Services on 10/4/95.

Comment 1: Mr. Dale requested that he be sent a copy of the SB and any relevant documents in the future so that the Clinton County Department of Emergency Services could be kept up to date on what activities are ongoing at ACCC.

EPA's Response: EPA sent a copy of the SB to Mr. Dale on 10/4/95 and also indicated that the Clinton County Department of Emergency Services would receive a copy of any relevant documents relating to ACCC in the future.

* EPA received a telephone call from Mr. Richard Omlor and Mr. Primo Marchesi from ACCC on October 4, 1995.

Comment 2: Mr. Omlor and Mr. Marchesi requested that EPA and ACCC have a meeting to discuss how to proceed with the remedy at the ACCC Facility.

EPA's Response: EPA indicated to Mr. Omlor and Mr. Marchesi that EPA could not meet with ACCC until after the public comment period.

* EPA received a telephone call from Ms. Pearl Limey in Lock Haven on 10/31/95.

Comment 3: Ms. Limey asked when the public meeting was held.

EPA's Response: No public meeting has been held to date.

Comment 4: Ms. Limey asked if a public meeting was scheduled in the future.

EPA's Response: No public meeting has been scheduled in the future unless there is any public interest in having a public meeting.

Comment 5: Ms. Limey asked why corrective measure alternative S-4 (capping) was proposed for a remedy at the Facility.

EPA's Response: Capping was proposed as a remedy for two (2) locations at the ACCC Facility. These 2 areas (SWMU 5 and 15) are in the proximity of the waste water treatment impoundments that are undergoing closure under the authority of the PADEP. These waste water treatment impoundments will have a cap placed over them when they are closed. Since the 2 areas (SWMU 5 and SWMU 15) in question are immediately adjacent to the waste water treatment impoundments, the proposed remedy recommends extending the cap to cover these 2 areas.

Comment 6: Ms. Limey asked what "SWMU" stands for and what they are.

EPA's Response: SWMU stands for "Solid Waste Management Unit" which is defined in part by EPA as "any discernable unit at which solid wastes have been placed at any time. . . ." 55 Fed. Reg. 30874. The four (4) SWMUs that were investigated by ACCC at the Facility were SWMUs 5, 12, 14 and 15.

Comment 7: Ms. Limey asked if any better figures are available that show more details and are clearer than the ones provided in the SB.

EPA's Response: More figures are provided in the RCRA Facility Investigation Report and the Corrective Measure Study contained in the Administrative Record for ACCC which can be found at the Ross Library.

* EPA received a telephone call from Mr. Richard Omlor and Primo Marchesi from ACCC on 10/4/95.

Comment 8: Mr. Omlor and Mr. Marchesi asked if it would be acceptable to send ACCC's comments to EPA by telefax and by Federal Express.

EPA's Response: That would be acceptable.

Comment 9: Mr. Omlor and Mr. Marchesi asked if EPA had reviewed the ACCC Letter Plan dated October 23, 1995 pertaining to an evaluation of the sheet pile effects on the sand and gravel aquifer hydraulics.

EPA's Response: EPA indicated to Mr. Omlor and Mr. Marchesi that EPA could not review the ACCC Letter Plan until after the public comment period. For further information, see EPA's response to comment 30.

B. Written Comments Received From ACCC.

ACCC submitted the following comments by a letter dated October 30, 1995. That letter is included as Attachment 2 to this document. All comments from this correspondences, found in Attachment 2 of this document, will be referenced by section, item and page number, with the EPA response immediately below.

Comment 10: Section 2.1, Item 1, page 4.

EPA's Response: EPA disagrees with ACCC's position that the selection of the points-of-compliance (POC) throughout the contaminant plume is contrary to either existing or proposed EPA regulations. In fact, EPA views POC selection as primarily a technical judgement based on site-specific factors and the need to protect human health and the environment. EPA has not yet chosen specific monitoring wells or locations for POC where the media cleanup standards must be met for the ACCC Facility due to current uncertainties regarding the effect of the sheet pile wall on the aquifer hydraulics.

Accordingly, EPA has decided to wait until further information is gathered before choosing exact POC. However, if the aquifer hydraulics were to remain the same as indicated in the RFI Report, EPA envisions the POC as being in the vicinity of SWMU 14 and at the northern portion of the Facility boundary downgradient from the waste water treatment impoundments that are being closed and SWMU 5. This possible monitoring arrangement would take into consideration the capped areas at the facility and establish POC throughout the aquifer.

With respect to establishing the points of compliance (POC) for the ACCC Facility, the commentor relies incorrectly on RCRA regulations for regulated units at a permitted RCRA facility.¹ Indeed, EPA's Proposed Subpart S Corrective Action Rule (hereafter referred to as "Proposed Subpart S") states that the POC would require cleanup standards to be "achieved throughout the contaminated groundwater, or, . . . when waste is left in place, up to the boundary of a waste management area encompassing the original source(s) of release." proposed 40 C.F.R. §264.525(e)(1)(i).

¹ In fact, the commentor incorrectly cites the federal RCRA regulations for regulated units, when instead, with respect to these particular requirements, the authorized Pennsylvania RCRA regulations apply in lieu of those federal regulations.

With respect to ACCC's comments regarding Media Cleanup Standards, see EPA's response to comment 11. With respect to ACCC's comments regarding characterization of the groundwater plume beneath the ACCC Facility, see EPA's response to comment 16.

The commentor relies upon an internal working EPA draft of the Advanced Notice of Proposed Rule Making for the Corrective Action Rule ("ANPRM"). While the ANPRM is primarily a request for comment on the future direction of the corrective action program, it also summarizes the Agency's approach on a number of issues, including the point of compliance. The ANPRM issued in the federal register on May 1, 1996 (61 Fed. Reg. 19431) indicates that the POC for groundwater has been generally set throughout the areas of contaminated groundwater or, when waste is left in place, at and beyond the boundary of the waste management area encompassing the original source(s) of groundwater contamination. The ANPRM's characterization of the groundwater POC is consistent with the Proposed Subpart S requirements included in Proposed 40 C.F.R. § 264.525(e)(1)(i). Until final corrective action regulations are promulgated, EPA intends to use the Proposed Subpart S regulations and the summaries of Agency policy in the ANPRM as guidance, as well as other Agency guidance available to the public when selecting corrective action remedies.

Comment 11: Section 2.1, Item 2, page 4 - 6.

EPA's Response: EPA disagrees. The methodology the Agency generally uses for determining corrective action media cleanup standards for groundwater remediation at a RCRA facility is set forth in Proposed Subpart S and EPA's Groundwater Protection Strategy. As stated in Proposed Subpart S, EPA may determine that groundwater remediation to an established media cleanup standard for a given hazardous waste and/or a hazardous constituent is not necessary if the facility demonstrates that the groundwater:

- 1) is not a current or potential source of drinking water, and
- 2) is not hydraulically connected with waters to which hazardous constituents are migrating or are likely to migrate in a concentration(s) greater than an action level(s) specified according to Proposed 40 C.F.R. § 264.522.

Proposed 40 C.F.R. § 264.525(d)(2)(ii).

Proposed Subpart S interprets an aquifer to be "a current or potential source of drinking water" according to the approach set forth in EPA's Ground-Water Protection Strategy (August 1984 and as subsequently modified) ("Strategy"). 55 Fed. Reg. 30829.

According to the Strategy and Proposed Subpart S, the groundwater is not generally considered a potential drinking water source (Class III as defined in the Strategy) if the water is heavily saline, contains total dissolved solids ("TDS") levels over 10,000 parts per million (mg/l), or is otherwise contaminated beyond levels that allow cleanup using methods reasonably employed in public water system treatment. The groundwater also should not migrate to Class I or II groundwater (as those classes of groundwater are defined in the Strategy) or have a discharge to surface water that could cause degradation.

Regardless of ACCC's willingness to implement institutional controls on the ACCC Facility and after review of the above criteria, EPA has determined that the groundwater at the Facility is a potential drinking water source that should be cleaned up to the media cleanup standards set forth in the SB. Indeed, the groundwater beneath and migrating from the ACCC Facility meets none of the criteria established by the Strategy and set forth in Proposed Subpart S for a Class III aquifer. The treatment methodology set forth in the SB in fact represents commonly available wastewater treatment technology. In addition, the ACCC-contaminated groundwater has the potential to migrate to Bald Eagle Creek which could cause environmental degradation.

The commentor's reliance on the OSWER Directive 9355.7-04 (May 25, 1995) and the ANPRM with respect to future land use considerations regarding groundwater cleanup standards is misplaced. As stated in the OSWER directive,

This land use directive may have the most relevance in situations where surface soil is the primary exposure pathway. Generally, where soil contamination is impacting groundwater, protection of the groundwater may drive soil cleanup levels. Consideration of future groundwater use for CERCLA sites is not addressed in this document." OSWER Directive 9355.7-04, page 4. (emphasis added)

Indeed, because there are separate expectations for groundwater remediation, the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300, as amended, states that "EPA expects to return usable groundwaters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site." 40 C.F.R. § 300.430 (a) (1) (iii) (F).²

² Although the OSWER directive references its applicability to RCRA cleanups, it also indicates that EPA intends to issue additional guidance with respect land use at RCRA facilities.

In addition, the ANPRM, in its request for public comment, raises EPA's concern about the reliability of institutional controls placed at a Facility which has been cleaned up to industrial, but not residential, standards. Although EPA would have some degree of certainty about the reliability of the institutional controls placed on a facility by the owner or operator, the same would not necessarily be true were that owner or operator to sell or abandon the property.

Finally, the ANPRM promotes coordination of cleanup activities between the RCRA corrective action and the CERCLA cleanup programs--a concern applicable here because the ACCC Facility is directly adjacent to, and shares the same groundwater aquifer with, the Drake Superfund site. Given the fact that groundwater from beneath the ACCC Facility migrates beneath the Drake site, Media Cleanup Standards for the ACCC Facility should be consistent with performance standards and Applicable or Relevant and Appropriate Requirements ("ARARs") for the Drake groundwater remediation.

Toward that end, EPA and several settling defendants, including ACCC, recently entered into a judicial consent decree by which the parties agreed "to cooperate in order to ensure that the groundwater remediation conducted at the [ACCC] Facility pursuant to [a] RCRA [Section 3008(h) order] is consistent with and not duplicative of" the groundwater cleanup of the Drake site³ (Pages 6-7 of the Consent Decree). Accordingly, the groundwater Media Cleanup Standards for the ACCC Facility should be consistent with those ACCC has agreed to meet in the Drake site cleanup. Those standards are set forth in Appendix A and Appendix B to the Consent Decree.

Those cleanup standards for the Drake site are consistent with or the same as the proposed Media Cleanup Standards established in the SB in accordance with Proposed 40 C.F.R. § 264.525(d)(1). It is appropriate that the Media Cleanup Standards are also necessary because the ACCC Facility-Drake Site aquifer does not meet the criteria for a Class III aquifer for which less stringent cleanup standards might be appropriate. See Proposed 40 C.F.R. § 264.525(d)(2).

With respect to the comment on establishing points POC, see EPA's response to Comment 10.

³ The consent decree partially settled the civil action entitled United States and Commonwealth of Pennsylvania v. American Color and Chemical Corporation, et al., Civil Action No. 4: CV-92-1352.

Comment 12: Section 2.1, Item 3, page 6 - 7.

EPA's Response: EPA disagrees. For the reasons stated in EPA's responses to comments 10 and 11, with respect to future land use and Media Cleanup Standards, establishment of Facility-specific Alternate Concentration Limits ("ACLs") as Media Cleanup Standards is inappropriate. In addition, as indicated in footnote 1, Pennsylvania's authorized base program RCRA regulations for these requirements operate in lieu of the federal base program RCRA regulations, including 40 C.F.R. § 264.94. Although the federal regulations include the methodology for establishing ACLs at permitted facilities,⁴ Pennsylvania's base program RCRA regulations do not provide for ACLs. With respect to the groundwater corrective action to be taken at the Facility, ACLs calculated pursuant to Proposed Subpart S would also be inappropriate because the contamination is not naturally occurring and is not from a source other than solid waste management units at the Facility. See Proposed 40 C.F.R. § 264.525(d)(1)(v).

Comment 13: Section 2.1, Item 4, page 7.

EPA's Response: EPA disagrees for the reasons set forth in EPA's response to comments 10 and 11. Also, the "point of departure" language was not included in the final ANPRM issued in the Federal Register on May 1, 1996 (61 Fed. Reg. 19431).

Comment 14: Section 2.2, page 8.

EPA's Response: With respect to the POC, EPA did take into consideration the possible effects that the Drake remediation sheet pile wall may have on the aquifer hydraulics by not selecting specific monitoring wells to monitor the media cleanup standards. Accordingly, EPA has decided to wait until further information is gathered before choosing exact POC. If the aquifer hydraulics were to remain the same as indicated in the RFI Report, EPA envisions the POC as being in the vicinity of SWMU 14 and at the northern portion of the facility boundary, downgradient from the waste water treatment impoundments that are being closed and SWMU 5. This possible monitoring arrangement would establish POC throughout the aquifer.

The possible effects of the Drake sheet pile wall will have on the aquifer hydraulics will not change the Media Cleanup Standards for returning the aquifer to its beneficial use.

⁴ 40 C.F.R. § 264.94(b) grants the Regional Administrator the authority to establish an ACL "if he finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the [ACL] is not exceeded."

Comment 15: Section 3.1, page 9.

EPA's Response: EPA offers this clarification about the aquifer. The aquifer consists of four subsurface units: 1) fill; 2) silty clay to clay; 3) fine sand, sand and gravel, and 4) bedrock. The hydrology at the Site is controlled by the: 1) fill and clayey silt unit; 2) the sand and gravel unit, and 3) the bedrock unit. EPA still contends that there is just one aquifer at the ACCC Facility, since, according to the RCRA definitions regarding aquifers, all these units are hydraulically interconnected and are unconfined.⁵ Also, some of the seepage velocity calculations in Figure A to ACCC's comments are different from those provided in the EPA-approved RFI Report. See Figure RFI-B7.

Comment 16: Section 3.2, page 10 - 11.

EPA's Response: EPA did not indicate that the contaminant plume shown in Figure 3 of the SB is solely from the ACCC Facility. EPA indicated that the Figure is a general depiction of the areas that have been affected by groundwater contamination but does not specifically show where certain contaminants are located. Also, EPA indicated that the plume in Figure 3 was drawn using a combination of contaminant plumes (1,2 dichlorobenzene, chlorobenzene, nitrobenzene, 1,2 dichlorobenzene, fenac, phenol and toluene) which are individually shown in greater detail in the EPA-approved RFI, Figures RFI-D24 through RFI-D30. There are also contaminants which were used at both ACCC and Drake. These contaminants are: 1) 1,2 dichlorobenzene, which was included in the RFI as Figure RFI-D24 and provided in this document (Attachment 3), appears to be solely on ACCC property with some contaminant on the northern tip of the Drake facility; 2) Chlorobenzene, which was included in the RFI as Figure RFI-D25 and provide in this document (Attachment 3), appears to be on both the ACCC property and Drake; and 3) Toluene, which was included in the RFI as Figure RFI-D30 and provided in this document (Attachment 3), appears to be solely on ACCC property with some contaminant on the northern tip of the Drake facility. Furthermore, ACCC's comments suggest that ACCC is not responsible for these contaminants. However, ACCC's statement that the ACCC plume is clearly of limited extent and moves very little on the ACCC property does not take into consideration the contaminant plume shown on RFI-D24, RFI-D25 and RFI-D30 in the EPA-approved RFI. Indeed, were one to use the same argument for the contaminants 1,2 dichlorobenzene, Chlorobenzene and Toluene, as ACCC used for Fenac and 1,2 dichloroethane, one could conclude

⁵ 25 Pa. Code § 260.10 defines a confined aquifer as an aquifer bounded above and below by impermeable beds or beds of distinctly lower permeability than that of the aquifer itself or an aquifer containing confined groundwater.

that these constituents originated from ACCC and contaminated the groundwater beneath Drake. EPA has always believed that both ACCC and Drake are responsible for the contaminated groundwater plume shown in Figure 3 of the SB.

This FDRTC addresses remediation of groundwater beneath the ACCC Facility. Toward that end, EPA understood ACCC's proposed design for pumping and treating the groundwater in the CMS as installing a nest of recovery wells around SWMU 14 and blocking wells along the northern facility boundary. These blocking wells would essentially contain the contaminated groundwater on the ACCC property and let the contaminated groundwater outside the ACCC property boundary continue to migrate. This proposal was acceptable to EPA since the uncontrolled portion of the contaminated groundwater would be handled under the Drake remediation.

EPA understands that the groundwater remedies for ACCC and Drake are similar. EPA therefore believes it appropriate to mutually develop a system to handle both the proposed ACCC pumping and treating system and the Drake remediation. EPA will allow this joint design effort as long as it will not cause significant delays to the remediation at ACCC and/or Drake.

ACCC's comment about not being responsible for Drake groundwater contaminants is irrelevant to this instant matter, namely, the remediation of the ACCC Facility. Indeed, EPA in the SB did not identify Fenac or 1,2 dichloroethane, which ACCC has indicated are Drake specific constituents, as contaminants of concern for ACCC in groundwater.

Comment 17: Section 3.3, page 11.

EPA's Response: EPA disagrees. In addition to EPA's response to comments 10 and 11 with respect to future land use, Proposed Subpart S sets action levels for groundwater at the levels set forth in 40 C.F.R. § 264.521(a). Any hazardous waste and/or hazardous constituent exceeding those levels is a constituent of concern.

Comment 18: Section 3.4, page 11 - 13.

EPA's Response: See EPA's responses to comments 10 and 11 with respect to establishing remediation goals. Please see EPA's response to comment 14 regarding the effect that installation of the Drake remediation sheet pile on the POC and the Media Cleanup Standards.

Comment 19: Section 4.1, page 14.

EPA's Response: See EPA's responses to comments 10 and 11.

Comment 20: Section 4.2, page 14 - 15.

EPA's Response: See EPA's responses to comments 10 and 11 with respect to the establishment of Media Cleanup Standards. EPA is willing to consider modification of Media Cleanup Standards resulting from technical impracticability or other new conditions arising from EPA's periodic review of the cleanup, but only in the context of an enforceable administrative order, judicial decree, or the result of administrative or judicial litigation relating to the Facility.

Comment 21: Section 4.3, page 15 - 16.

EPA's Response: EPA acknowledges that the court recently entered a judicial consent decree by which the parties, including ACCC, agreed "to cooperate in order to ensure that the groundwater remediation conducted at the [ACCC] Facility pursuant to [a] RCRA [Section 3008(h) order] is consistent with and not duplicative of" the groundwater cleanup of the Drake site. However, despite the connection between the groundwater beneath the Drake site and the ACCC Facility, with respect to groundwater remediation, this FDRTC only addresses remediation of that groundwater beneath the ACCC Facility. EPA understands that the groundwater remedies for ACCC and Drake are similar. EPA therefore believes it appropriate to mutually develop a system to handle both the proposed ACCC pumping and treating system and the Drake remediation. EPA will allow this joint design effort as long as it will not cause significant delays to the remediation at ACCC and/or Drake.

Comment 22: Section 5.0, page 17 - 18.

EPA's Response: EPA concurs that based on the findings from the Bald Eagle Creek Investigation, no corrective action is required for Bald Eagle Creek.

Comment 23: Section 6.0, Item 1, page 19.

EPA's Response: EPA identified constituents of concern ("COCs") that were below action levels corresponding to 1E-6. The proposed Subpart S Corrective Action Rule states that for carcinogens, action levels corresponding to 1E-6 risk level are generally appropriate. This level is at the more protective end of 1E-4 to 1E-6 risk range. Using a value from the high end of this range ensures that the hazardous constituents screened out at this point are those for which corrective measures are unlikely to be necessary. In adopting the 1E-4 to 1E-6 risk range for this proposed rule, the Agency recognized that 1E-4 risk levels of constituents may not be protective at all sites, due to multiple constituents, multiple exposure pathways, or other site-specific factors. Thus, the alternative of establishing action levels at the lower protective end of the

risk range (e.g. $1E-4$) was rejected since it would be too insensitive as a trigger - i.e., it would fail to require a Corrective Measure Study at some sites which may pose a threat to human health and the environment. The Agency believes that the selected risk levels are reasonable points to establish action levels for carcinogens.

Comment 24: Section 6.0, Item 2, page 19.

EPA's Response: EPA sees no conflict between its statement that the RME slightly exceeded the 95th percentile of risk and ACCC's statement that the RME risk was at the 98th percentile. EPA's statement was the most accurate it could make since ACCC's risk assessment did not include the detail needed to determine the exact percentile. Furthermore, within the expected accuracy of a health risk assessment, the statements are effectively identical.

ACCC's argument that the small number of workers expected on the site makes the RME risk irrelevant is not correct. The results constitute a probability that cannot be interpreted to mean that 50 workers must be present before harm can occur. Each exposed worker would have the same probability of receiving the RME exposure. EPA's policy is to assess risk at such "reasonable maximum" exposures to ensure that risk is not underestimated.

Comment 25: Section 6.0, Item 3, page 19;

EPA's Response: ACCC appears to suggest that a $2e-4$ risk from exposure to arsenic in soil is trivial because the risk from arsenic in groundwater is fifty times greater. EPA considers this soil risk to be a substantial factor in the remediation decision for the facility, even though the groundwater risk is even higher.

Comment 26: Section 6.0, Item 4, page 19.

EPA's Response: EPA concurs. The correct value for risk associated with dermal contact with soil in Table 4 should be $4e-5$. The sum of risks from incidental ingestion and dermal contact would therefore be $2e-4$.

Comment 27: Section 6.0, Item 5, page 19.

EPA's Response: Aggregate risks for future-use ingestion and dermal contact with arsenic in soil are $1.84e-4$. Risks from similar exposure to PAHs are $4.70e-5$. Thus, PAH-related risk represents about 20% of the total risk at the site. EPA disagrees with ACCC's suggestion that risk associated with PAHs in soil is irrelevant.

Comment 28: Section 6.0, Item 6, page 20.

EPA's Response: EPA concurs. ACCC's comment on dermal risk for the future use scenario is correct. The correct value is $4e-5$.

EPA disagrees with ACCC's recommendation for PAHs for three reasons: First, at a great majority of sites (including this one), PAHs are released to the environment in the form of a mixture. Second, various carcinogenic PAH compounds cause cancer by the same mechanism, though potency varies widely among individual compounds. The risk assessment has already considered this variation in potency. Third, PAHs can be cleaned only as a mixture. For these reasons, EPA assesses cancer risks, and sets cleanup levels, for all PAH compounds together, not just for benzo[a]pyrene. This approach is now widely used at PAH sites. EPA sees no merit in dropping all PAHs except benzo[a]pyrene from the risk assessment.

Comment 29: Section 6.0, Item 7, page 20.

EPA's Response: See EPA's responses to comments 10 and 11 with respect to establishing remediation goals. Please see EPA's response to comment 14 regarding the effect that installation of the Drake remediation sheet pile on the POC and the Media Cleanup Standards.

C. Letter Received From ACCC.

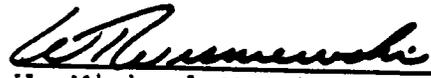
Comment 30: EPA received an ACCC Letter Plan dated October 23, 1995 which pertained to an evaluation of any possible effects the sheet pile being installed around the Drake Superfund Site might have on the sand and gravel aquifer hydraulics.

EPA's Response: EPA reviewed the ACCC Letter Plan after the public comment period. EPA approved the Letter Plan on November 30, 1995.

IV. DECLARATION

Based on the Administrative Record compiled for this Corrective Action, I have determined that the selected Corrective Measure as set forth in the Statement of Basis and modified or clarified by the Final Decision herein is appropriate and will be protective of human health and the environment.

Date: 7-25-96



W. Michael McCabe
for Regional Administrator
U.S. Environmental Protection Agency
Region III

ATTACHEMENT 1

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

AMERICAN COLOR & CHEMICAL CORPORATION
CLINTON COUNTY
LOCK HAVEN, PENNSYLVANIA

AR410702

U.S. EPA, REGION III
STATEMENT OF BASIS
AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

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**AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA
STATEMENT OF BASIS**

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STATEMENT OF BASIS FOR PROPOSED CORRECTIVE MEASURES
UNDER RCRA SECTION 3008(h)

AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

I. Introduction

This Statement of Basis explains the proposed corrective measure alternatives for environmental contamination at the American Color & Chemical Corporation ("ACCC") Facility, located in Clinton County, Lock Haven, Pennsylvania ("Facility"). This document summarizes the corrective measure alternatives that the United States Environmental Protection Agency ("EPA") and ACCC have evaluated under an Administrative Consent Order ("Order"), entered into by EPA and ACCC on September 5, 1991, Docket Number RCRA-III-040-CA, pursuant to Section 3008(h) of the Resource Conservation and Recovery Act ("RCRA")¹, as amended, 42 U.S.C. Section 6928.

In accordance with the Order, ACCC completed the tasks described in the "RCRA Facility Investigation Workplan" which EPA approved on September 22, 1992. The purpose of the RCRA Facility Investigation ("RFI") was to evaluate the nature and extent of releases of hazardous waste and/or hazardous constituents at or from the Facility. The results of that investigation are found in the RFI Report which EPA approved on August 10, 1994.

Also in accordance with the Order, ACCC conducted a Corrective Measure Study ("CMS") and completed a CMS Report which EPA approved on May 31, 1995. The purpose of the CMS was to evaluate corrective measure alternatives to address contamination revealed at the site as part of the RFI. The CMS Report sets forth the evaluation of these alternatives.

This Statement of Basis describes the corrective measure alternatives considered for the Facility, presents EPA's preferred corrective measure alternative and explains the selection of that alternative. This document also summarizes information that can be found in greater detail in the Workplans and Reports submitted by ACCC to EPA during the RFI. To gain a more comprehensive understanding of the RCRA activities that have been conducted at the Facility, EPA encourages the public to review these documents, which are found in the Administrative Record for this Statement of Basis. The Administrative Record can be found at the locations indicated in Section XI (Public Participation) below.

¹ Words and abbreviations set forth in bold italicized are

AR410705

EPA is issuing this Statement of Basis pursuant to the public participation provisions under RCRA. EPA will select a final corrective measure for the Facility after information submitted during a public comment period has been considered.

EPA may modify the proposed corrective measures or select other corrective measures based on new information and/or public comments. Therefore, the public is encouraged to review and comment on the alternatives described in this document. Since an important function of the Statement of Basis is to solicit public comment on all alternatives for site remediation, alternatives not evaluated in the CMS may be proposed by the public at this time. The public may participate in the remedy selection process by reviewing the documents contained in the Administrative Record and submitting written comments to EPA during the public comment period. Written comments may be submitted to:

Mr. Kevin B. Boyd (3HW62)
U.S. EPA, Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-2426

II. Proposed Remedy

EPA is proposing remediation of contaminated soil and groundwater at the ACCC Facility as follows:

- Excavate unsaturated soils exceeding the established media cleanup standards in *solid waste management units* ("SWMUs") 12 and 14 (location of SWMUs are shown on Figure 4);
- Place excavated soil from SWMUs 12 and 14, not exceeding Pennsylvania Department of Environmental Protection ("PADEP") placement criteria in the impoundments being closed in accordance with the PADEP approved closure plan;
- Treat excavated soils from SWMUs 12 and 14 that exceed PADEP placement criteria in the existing onsite sludge treatment system before placement in the impoundments being closed in accordance with the PADEP approved closure plan;
- Backfill excavated areas with clean soil which is, compacted, graded and vegetated to promote drainage in SWMUs 12 and 14;
- Cap soils that exceed the established media cleanup standards in SWMUs 5 and 15 (location of SWMUs are shown on Figure 4) specifications described in the PADEP approved closure plan and shown on Figure 6;

- Install new extraction wells and/or use existing wells for use in the groundwater pump and treat system;
- Modify the existing Interim Measures groundwater pump and treat system or construct a new groundwater pump and treat system to allow continuous year round operation;
- Continue operation of the existing Interim Measures groundwater pump and treat system until the existing system is modified or a new groundwater pump and treat system is operational;
- Continue discharge of treated groundwater to the sanitary sewer in accordance with acceptable limits required by the City of Lock Haven Publicly Owned Treatment Works ("POTW") or if POTW use is discontinued, discharge to Bald Eagle Creek in accordance with the Clean Water Act National Pollutant Discharge Elimination System ("NPDES") regulations and requirements;
- Create and impose institutional controls to support operation and maintenance ("O&M") activities that would include cap maintenance, groundwater pump and treat system operations, groundwater quality monitoring and water level monitoring. Also, require periodic monitoring and reporting of groundwater data to track compliance with established media cleanup standards (See Section X.B., below) and adding to the title restrictions required for the PADEP approved closure plan for the impoundments to include capped SWMUs 5 and 15. Request that the City of Lock Haven and Castanea Township place permanent industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas.
- Properly decommission the existing onsite sludge treatment system (SWMU 7, SWMU 8, SWMU 9, SWMU 10, SWMU 11 and SWMU 13) when its use is discontinued.
- Evaluate the high concentration of arsenic found at the one location downstream from the ACCC stormwater NPDES discharge outfall in Bald Eagle Creek, to determine if there is any risk to human health or the environment. If the evaluation of the high concentration of arsenic is determined to present a risk to human health or the environment, the appropriate remediation of the contamination will be undertaken to eliminate that risk.

A more detailed discussion of the proposed remedy is set forth in Section IX, below.

III. Facility Background

The ACCC Facility is located at Mount Vernon Street in Clinton County, Lock Haven, Pennsylvania, approximately 1/2-mile north of Bald Eagle Creek and approximately 3/4-mile south of the West Branch Susquehanna River. The Facility is approximately 38 acres in size (see Figure 1). From 1888 to 1900 the Lock Haven Clay Works conducted commercial operations at the facility during which it manufactured clay terra-cotta sewer pipes. From 1900 to 1915 the facility stood idle. From 1915 through the present the Facility had several different owners: Stanley Aniline Chemical Works (1915-1918), American Aniline Products (1919-1955), Koppers Company Incorporated (1956-1962), American Aniline Products (1963-1972), and, from 1973 to the present, ACCC. From 1915 through 1982 these owners manufactured and distributed various chemicals and dyes primarily used for the color processing of textiles, fibers, paper products and plastics. In 1982 all commercial operations were discontinued. As of 1995, the plant production facilities have been demolished, and all wastewater management surface impoundments have either been closed or are in the process of being closed in accordance with approved PADEP closure plans.

IV. Previous Investigations

ACCC has conducted several environmental investigations at the Facility starting in approximately 1980 through 1991. These investigations included, but are not limited to, the determination of groundwater flow direction, determination of groundwater elevation, groundwater sampling and analysis, determining hydrogeologic characteristic, and soil sampling and analysis. In September 1991, subsequent to these investigations, ACCC entered into the Order with EPA.

V. Summary of the RCRA Facility Investigation

Pursuant to the Order, the lateral and vertical distribution of contaminants for on-site soils and in both on-site and off-site groundwater was determined during the RFI. The RFI activities included: 1) a soil gas survey across the Facility; 2) an electromagnetic survey at SWMUs 5, 12 and 15; 3) test pits sampling and analysis at SWMUs 5, 12, 14 and 15; 4) drum remnant sampling and analysis of residual drum contents from SWMUs 5, 12 and 15; 5) soil sampling and analysis; 6) sediment sampling and analysis from Bald Eagle Creek; 7) installation of monitoring wells; 8) groundwater sampling and analyses from all monitoring wells (the location of the monitoring wells is shown on Figure 2); 9) groundwater level measurements; 10) aquifer testing; 11) downhole camera survey of two former plant supply wells; 12) ecological investigation and 13) performance of a human health risk assessment.

Based on the findings of the RFI, EPA has determined that there are contaminants of concern in the soil and the groundwater at the Facility which require corrective measures. The contaminants of concern for soil and groundwater are shown on Tables 1 and 2, respectively.

A. Soil Investigation

To investigate possible contamination in the soil at the Facility, ACCC conducted the following: 1) a soil gas survey; 2) a electromagnetic survey; 3) test pitting; 4) soil sampling; and 5) drum remnant material sampling. The soil gas survey was used as a screening tool across the entire Facility and was conducted to locate new areas of possible contamination that were not previously identified. The electromagnetic survey was used to locate possible buried drums at SWMUs 5, 12 and 15. The test pitting, shown on Figure 4, was conducted to confirm the results of the electromagnetic survey and to obtain samples of soils and buried drum remnant residual contents. Soil samples were also taken at eight borehole locations and at six surface locations shown on Figure 5. The above investigations concluded that contamination is present in the soils but only in the SWMU areas previously identified. Drum remnants were encountered during the test pitting; however, no intact drums were found in SWMUs 5, 12 and 15. Based on the analyses of samples documented during the RFI, contamination is related to known ACCC operations.

B. Groundwater Investigation

Based on the findings of the RFI one aquifer exists at the Facility. This aquifer consists of the following four units: 1) fill materials; 2) clay/silt layer which is nonuniform; 3) sand and gravel layer which thickens to the east and thins to the west; and 4) the bedrock layer which is highly fractured in the upper portion. These units are hydraulically interconnected and therefore contaminants have migrated between these units though in different concentrations. Most of the contaminants existing in the groundwater are in the sand and gravel layer. Groundwater flow at the Facility is northeast before changing direction to the southeast and is shown on Figure 3.

During the RFI, two rounds of groundwater samples were taken from existing monitoring wells (see Figure 2), the first in January 1993 and the second in May 1993. Based on the groundwater sampling and analyses, the area impacted by the contaminants of concern (Table 2) is shown on Figure 3 and is known as the "plume".

C. Bald Eagle Creek Investigation

Bald Eagle Creek is approximately 1/2 mile south of ACCC. Sediment samples were collected from Bald Eagle Creek at two locations shown on Figure 5, one upstream and one downstream from the ACCC stormwater NPDES discharge outfall. Analysis of the sediments did not show any contaminants of concern in excess of the U.S. EPA Region III Risk-Based Concentration table (using residential soil risk-based concentration screening criteria) or the EPA action level for lead, with the exception of the level of arsenic found in the downstream sample. The location of this high concentration of arsenic is shown as SS-01 on Figure 5. Although arsenic is a naturally occurring element, the concentration of arsenic found in the downstream sediment sample is above the naturally occurring background concentration. This high concentration of arsenic will be further evaluated to determine if there is a risk to human health or the environment. A water sample was also collected from the ACCC storm water discharge line (location shown on Figure 5) located off the ACCC Facility and which discharges to Bald Eagle Creek. At the time the water sample was collected there was no discharge occurring from the ACCC Facility. The water in the storm sewer was determined to be coming from another source. The facility adjacent to and to the east of the ACCC Facility has a lagoon approximately 200 feet northeast of the storm sewer sample location. Review of samples and analyses collected from this lagoon indicate the presence of contaminants of concern also found in the storm water. Since no discharge was occurring at the ACCC Facility and based on the findings of the RFI, ACCC suggests that the water present in the storm sewer was coming from this lagoon. This lagoon is scheduled to be remediated as part of an ongoing cleanup of the adjacent facility.

D. Ecological Investigation

During the RFI a qualitative ecological site assessment was conducted to determine the impacts to the environment and surrounding habitat from ACCC. The assessment conducted at the Facility was designed to investigate the presence of any high quality natural habitats (undisturbed by man) and the presence of any natural features (e.g., wetlands) that would be used by ecological receptors (i.e., birds, mammals, etc.).

The Facility grounds are routinely mowed so diverse terrestrial habitats are not expected to occur. There are no trees or scrubs on the Facility property that would provide cover or foragable foods for animals and birds. Mice, moles and groundhogs may be likely permanent inhabitants at the Facility. The potential exposure routes at contaminated areas at the Facility for these animals may include ingestion or dermal contact with contaminated soil, ingestion of plant material and/or inhalation of airborne particles or vapors. The available

food source is not expected to maintain a large population of animals due to mowing and maintenance activities. The ongoing closure of the five surface impoundments, subject to PADEP requirements, also prevents contamination uptake by on-site vegetation from contaminated soil and groundwater. Transient deer and birds may visit the Facility but contact with contamination would likely be minimal due to the non-intrusive nature of the visits and the limited availability of foragable food. No endangered species or sensitive environments were identified at the Facility. Contaminated groundwater from the Facility has the potential to migrate to Bald Eagle Creek, but during the RFI no contamination specifically associated with ACCC was found in the groundwater near Bald Eagle Creek.

VI. Interim Measures Groundwater Pump and Treat System

On July 8, 1993 ACCC initiated an Interim Measures groundwater pump and treat system at the Facility. The purpose of the pump and treat system is to contain and prevent migration of contaminated groundwater from the ACCC Facility. The groundwater is extracted from two on-site wells, RW-1 and RW-2 (See Figure 2). The groundwater pump and treat system runs approximately eight hours a day, five days a week, during non-freezing weather (usually from April until October) and works in conjunction with the PADEP-approved sludge treatment system used for the closure of the on-site surface impoundments. The recovered groundwater is treated for the removal of metals and organics. The treated groundwater is either recycled as process water for the sludge treatment system or discharged to the sanitary sewer meeting the effluent limits required by the Lock Haven POTW.

VII. Summary of Facility Risks

A Baseline Health Risk Assessment was completed as part of the RFI. The assessments evaluated current and future exposure scenarios. The current use scenario estimated exposures that may presently occur to industrial workers; the future use scenario assumed that the facility could be developed as a residential area.

EPA expresses cancer risk in terms of the likelihood that a person might contract cancer from exposure to contaminants from a site. For example, a risk assessment might say that a receptor has an upper bound excess cancer risk of 1 in 10,000 (also written as 1 times 10^{-4} , or $1e-4$). This conveys several facts. First, the risk is an upper bound rather than a best estimate. The true risk is likely to be less, and may be zero. Second, the numerical estimate means that if 10,000 people received this level of exposure over a 70-year lifetime, no more than one would be expected to contract cancer. Depending on site-specific

factors, the Agency's acceptable risk level ranges from $1e-6$ to $1e-4$, or from one in one million to one in ten thousand.

EPA expresses non-cancer risk as a ratio, called the Hazard Index (HI), defined as the calculated exposure divided by a reference dose. The reference dose is the level of exposure that the Agency believes will be without adverse effect in human populations, including sensitive individuals. When the exposure equals the reference dose, the HI is 1.0, which is EPA's limit of acceptable non-cancer risk. Like cancer risk estimates, EPA's HI values are upper bound estimates. Because the reference doses are very protective, HI values slightly greater than one are unlikely to produce adverse effects.

The following paragraphs describe the total health risks posed by the facility to industrial workers and hypothetical future residents. These risks were calculated by combining risks from all contaminants of concern, and from different exposure routes in cases where the same person might reasonably contact more than one medium. Cancer risks for adult and child residents were added to simulate an integrated lifetime exposure. A more detailed breakdown of risks is provided in Tables 3 and 4.

Risks by Receptor

1. Industrial workers. Workers at the ACCC facility were assumed to ingest small amounts of soil, to absorb soil contaminants through the skin, and to inhale contaminated dust and vapor. Separate risk estimates were made for workers who spend all their time in the SWMU areas, and those who work elsewhere on the site. Maximally exposed workers in the SWMU areas had an upper bound cancer risk of $5e-5$, associated with incidental ingestion and dermal contact with soils containing arsenic and polynuclear aromatic hydrocarbons (PAHs). The hazard index for these workers was 8.3, associated with ingestion and dermal contact with soils containing 2-nitroaniline and nitrobenzene. The total upper bound cancer risk and hazard index for non-SWMU workers were $1e-6$ and 0.089, respectively, which are within EPA's acceptable risk limits.

The risk estimates described above were calculated by EPA's recommended "reasonable maximum exposure" (RME) approach. This method combines central tendency and upper bound estimates of various exposure parameters to produce a risk estimate which is intentionally high but still possible. An alternative approach to calculate risks is Monte Carlo simulation. This method accepts input parameters in the form "bell curves", including the full range of possible values and the likelihood of each. Risk estimates are presented the same way--as bell-shaped curves.

By Monte Carlo simulation, the 50th percentile worker's lifetime cancer risk was $1e-6$ in the SWMU areas and $7e-8$ in non-SWMU areas. The 50th percentile worker's non-cancer hazard index was 0.12 in the SWMUs and 0.015 elsewhere. The 95th percentile worker's risk was $2e-5$ in the SWMUs and $7e-7$ in non-SWMU areas. The 95th percentile worker's non-cancer hazard index was 3.5 in the SWMUs and 0.075 elsewhere. The Monte Carlo simulation results show that the RME risk estimates slightly exceeded the 95th percentile. This means that slightly fewer than one in 20 workers would be expected to experience RME-level exposures, suggesting that the RME for this site was indeed a "reasonable maximum exposure".

2. Hypothetical future on-site residents. The risk assessment assumed that the site might be developed for residential use in the future, although no such plans currently exist. Future residents were assumed to ingest small amounts of soil, to absorb soil contaminants through the skin, to inhale contaminated dust and vapor, and to use contaminated well water as a residential tap water source. Total upper bound lifetime cancer risk was $1e-2$, or 1 in one hundred, associated primarily with arsenic in groundwater and soil. The hazard indexes for children and adults were 720 and 77, respectively, due to metals (aluminum, arsenic, chromium, copper, manganese, mercury, and nickel) in groundwater.

Risks by medium

1. Soil. Industrial and residential exposure to soils within the SWMUs produced upper bound cancer risk estimates to workers and residents of $5e-5$ and $4e-4$, respectively. Nearly all this risk was associated with ingestion and dermal contact with soils containing arsenic and PAHs. Industrial exposure to SWMU soils produced a hazard index of 8.3, suggesting a possible non-cancer threat. This elevated hazard index was associated with incidental ingestion and dermal contact with soil containing 2-nitroaniline and nitrobenzene. Future residential exposure to soils did not pose a significant non-cancer threat.

2. Groundwater. The future residential groundwater use scenario produced an upper bound lifetime cancer risk of $1e-2$, or one in one hundred, associated with ingestion of arsenic. The non-cancer hazard index for groundwater use was 720 for children and 77 for adults, associated with ingestion of aluminum, arsenic, chromium, copper, manganese, mercury, and nickel in groundwater.

VIII. Scope of Corrective Action

Based on the findings of the RFI, contaminated soil and groundwater have been identified as the environmental media requiring corrective measures. EPA is proposing that ACCC remediate contaminated soil and construct/modify and implement a groundwater pump and treat system in order to pull back, contain and treat the contaminated groundwater plume. The proposed remedy consists of the following components:

- Excavate unsaturated soils exceeding the established media cleanup standards in SWMUs 12 and 14 (location of SWMUs are shown on Figure 4);
- Place excavated soil from SWMUs 12 and 14 not exceeding PADEP placement criteria in the impoundments being closed in accordance with the PADEP approved closure plan;
- Treat excavated soils from SWMUs 12 and 14 that exceed PADEP placement criteria in the existing onsite sludge treatment system before placement in the impoundments being closed in accordance with the PADEP approved closure plan;
- Backfill excavated areas with clean soil which is, compacted, graded and vegetated to promote drainage in SWMUs 12 and 14;
- Cap soils that exceed the established media cleanup standards in SWMUs 5 and 15 (location of SWMUs are shown on Figure 4) using capping construction specifications described in the PADEP approved closure plan and shown on Figure 6;
- Install new extraction wells and/or use existing wells for use in the groundwater pump and treat system;
- Modify the existing Interim Measures groundwater pump and treat system or construct a new groundwater pump and treat system to allow continuous year round operation;
- Continue operation of the existing Interim Measures groundwater pump and treat system until the existing system is modified or a new groundwater pump and treat system is operational;
- Continue discharge of treated groundwater to the sanitary sewer in accordance with acceptable limits required by the City of Lock Haven POTW or if POTW use is discontinued, discharge to Bald Eagle Creek in accordance with the Clean Water Act NPDES regulations and requirements;

- Create and impose institutional controls to support O&M activities that would include cap maintenance, groundwater pump and treat system operations, groundwater quality monitoring and water level monitoring. Also, require periodic monitoring and reporting of groundwater data to track compliance with established media cleanup standards (See Section X.B., below) and adding to the title restrictions required for the PADEP approved closure plan for the impoundments to include capped SWMUs 5 and 15. Request that the City of Lock Haven and Castenea Township place permanent industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas.
- Properly decommission the existing onsite sludge treatment system (SWMU 7, SWMU 8, SWMU 9, SWMU 10, SWMU 11 and SWMU 13) when its use is discontinued.
- Evaluate the high concentration of arsenic found at the one location downstream from the ACCC stormwater NPDES discharge outfall in Bald Eagle Creek, to determine if there is any risk to human health or the environment. If the evaluation of the high concentration of arsenic is determined to present a risk to human health or the environment, the appropriate remediation of the contamination will be undertaken to eliminate that risk.

IX. Summary of Alternatives

During the CMS, the following corrective measure alternatives to remediate contaminated soil and groundwater at the Facility were evaluated in detail:

For Soils:

S-1 - Maintain existing institutional controls required by PADEP for the closure of the surface impoundments.

S-2 - Expand existing institutional controls to include maintenance of the Facility security fencing system; include SWMUs 5, 12, 14 and 15 on existing institutional controls; and continue industrial/commercial zoning restrictions for the Facility.

S-3 - Excavate soils in SWMUs 5, 12, 14 and 15 that exceed the established media cleanup standards; place excavated soil not exceeding PADEP placement criteria in the impoundments being closed in accordance with the PADEP approved closure plan or treat the excavated soils that exceed the PADEP placement criteria in the existing onsite sludge treatment system before placement in the impoundments being closed in accordance with the

PADEP approved closure plan; and backfill excavated areas with clean soil, compacting, grading to promote drainage and revegetating.

S-4 - Cap soils that exceed the established media cleanup standards in SWMUs 5, 12, 14 and 15 using capping construction specifications described in the PADEP approved closure plan.

For Groundwater:

GW-1 - Provide institutional controls to require periodic monitoring and reporting of groundwater data to track potential migration and to evaluate the rate of natural decrease in concentration of those contaminants which exceed the established media cleanup standards for groundwater.

GW-2 - Create and impose institutional controls to require periodic monitoring and reporting of groundwater data to track potential migration and to evaluate the rate of natural reduction of contaminants exceeding the established media cleanup standards for groundwater; and request that the city of Lock Haven and Castenea Township place permanent industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas.

GW-3 - Extract contaminated groundwater since it contains concentrations of contaminants in relevant excess of the established media cleanup standards, in order to achieve hydraulic containment at the Facility. This would involve the installation of new extraction wells and/or the use of existing wells, modifying existing pump and treat system or construct a new groundwater pump and treat system to allow continuous year round operation, discharging treated groundwater to the sanitary sewer in accordance with acceptable limits required by the City of Lock Haven POTW or, if POTW use is discontinued, discharge to Bald Eagle Creek in accordance with the Clean Water Act NPDES regulations and require periodic monitoring and reporting of groundwater data to track compliance with established media cleanup standards.

X. Evaluation of the Proposed Remedy and Alternatives

In accordance with EPA guidance, each corrective measure alternative must be evaluated using four general standards and five remedial decision factors. This section profiles the performance of the proposed corrective measure alternatives against these four general standards for corrective measures (overall protection, attainment of media clean-up standards, source control and compliance with waste management standards) and these five remedial decision factors (long-term reliability, reduction in toxicity, mobility or volume of waste, short-term effectiveness, implementability and cost). Based on the

discussion below, EPA has preliminarily identified a combination of Alternatives S-2, S-3, S-4, G-2 and G-3 as the preferred remedies since this combination would be more effective in protecting human health and the environment than either of the other remedies evaluated in the CMS. Remedial alternatives for the high concentration of arsenic found in one sample taken downstream from the ACCC stormwater NPDES discharge outfall in Bald Eagle Creek have not been discussed in this section because the evaluation of the possible risks to human health or the environment has not been determined. If the evaluation indicates that the high concentration of arsenic presents a risk to human health or the environment, EPA will appropriately notify the public about the results and possible remedial alternatives.

1. Overall Protection

a. SOILS

Under S-1 (Existing Institutional Controls), industrial zoning at the Facility and existing institutional controls for the impoundments closed under PADEP authority would continue and the existing security fence would remain. Under S-2 (Expanded Institutional Controls), industrial zoning for the Facility would continue, SWMUs 5, 12, 14 and 15 would be included on existing institutional controls for the impoundments and the existing security fence would remain, and be subject to maintenance. In addition, under S-2 all impoundment and SWMU covers and caps would be maintained. Although S-1 and S-2 provide some degree of protection, no actual remediation is contemplated.

S-3 (Soil excavation/treatment/placement) is protective since it provides for the excavation of contaminated soil from on-site SWMUs exceeding EPA risk-based concentrations, placement in on-site impoundments if contamination is below PADEP closure standards or treatment in the on-site sludge treatment plant (if soil contamination is in excess of standards of PADEP closure standards followed by final placement in on-site impoundments being closed in accordance with PADEP requirements). PADEP impoundment closure requirements include using capping construction specifications described in the PADEP approved closure plan and shown on Figure 6. Once placed in the impoundments, releases to the environment are virtually eliminated. The SWMUs from which the contaminated soil was excavated are backfilled and vegetated.

S-4 is protective since it provides for the capping of SWUMs, using capping construction specifications described in the PADEP approved closure plan and shown on Figure 6, thus preventing releases to the environment.

EPA believes that S-3 (Soil Excavation/Treatment/Placement) and S-4 (Capping) provides a similar overall environmental protection and that in combination with S-2 provides the desired degree of overall protection for soils.

b. Groundwater

Under G-1 (Monitoring and Natural Attenuation), monitoring is provided to track the rate of natural attenuation of groundwater contamination. No actual remediation is implemented and the groundwater plume is not controlled. Consequently, G-1 is not protective.

Under G-2 (Institutional Controls), groundwater sampling is provided to monitor groundwater contamination, a restriction would be placed on the Facility property title to prevent the use of contaminated groundwater as a drinking water source, and local townships would be requested to establish industrial zoning and groundwater use restrictions for downgradient areas. Although G-2 provides some degree of protection, it does not provide the required degree of overall protection.

Under G-3 (Pump and Treat), groundwater is pumped and treated. This would be accomplished by using existing wells, installing new wells, or a combination thereof, and establishing groundwater pumping rates to achieve hydraulic control of the contaminated groundwater plume. Treatment would be accomplished in a groundwater pump and treat system and the system would be winterized to allow year-round operation. Treated groundwater would be discharged to the sanitary sewer in accordance with acceptable limits required by the City of Lock Haven POTW or if POTW use is discontinued, discharged to Bald Eagle Creek in accordance with the Clean Water Act NPDES regulations and requirements. Groundwater monitoring is also included under G-3.

Although G-3 provides a high degree of environmental protection, only in combination with G-2 would the required degree of environmental protection be achieved.

2. Attainment of Media Clean-Up Standards

EPA has established media clean-up standards for soil and groundwater at the Facility; they are shown in Tables 1 and 2 respectively.

a. Soil

Neither S-1 (Existing Institutional Controls) nor S-2 (Expanding Institutional Controls) obtains media cleanup standards since no remediation measures would take place.

S-3 (Soil excavation/treatment/placement) would obtain the media clean-up standards since soils exceeding the media clean-up standards would be remediated.

Technically, S-4 (Capping) would not obtain media cleanup standards since soils exceeding the media clean-up standards would remain in place. However, media cleanup standards are satisfied under S-4 since soils exceeding media cleanup standards are capped and potential releases to the environment are virtually eliminated.

b. Groundwater

Neither G-1 (Groundwater Monitoring and Natural Attenuation) or G-2 (Institutional Controls) would serve to obtain media cleanup standards. Of the groundwater alternatives only G-3 (Groundwater Pump and Treat) would serve to meet media cleanup standards.

When establishing media clean-up standards for groundwater, it is also necessary to establish points of compliance at which progress towards obtaining the media clean-up standards will be measured. EPA has identified the points of compliance as being throughout the groundwater contamination plume. The points of compliance were selected to provide sufficient data to monitor and evaluate the overall effectiveness of the remediation and demonstrate compliance with the media cleanup standards. Media cleanup standards must be attained throughout the contaminated groundwater.

3. Controlling the Sources of Releases

a. Soil

Under S-1 (Existing Institutional Controls) the existing security fence restricts access to the areas of soil contamination, and industrial zoning and title restrictions precludes certain types of development (e.g. the type of development on impoundments and SWMUs, residential development). S-1, however, provides no source control with respect to potential environmental releases of Facility specific contaminants of concern since no active action remediation takes place.

Similarly, under S-2 (Expanding Institutional Control) the existing fence restricts access to areas of soil contamination, and industrial zoning and title restrictions precludes certain types of land development and usage. S-2 (Expanding Institutional Controls) provides no source control with respect to potential environmental releases of the Facility specific contaminants of concern, since no actual remediation takes place.

Both S-3 (Soil excavation/treatment/placement) and S-4 (Capping) provide source control since potential environmental releases are precluded by eliminating action by wind and rainwater (i.e. contaminated soil erosion and/or migration to groundwater).

b. Groundwater:

G-1 (Groundwater Monitoring and Natural Attenuation) does not provide source control since the contaminated plume is not hydraulically controlled and the contaminated plume can migrate freely.

Under G-2 (Institutional Control) title restrictions serve to prevent the use of groundwater on site as a drinking water source. In addition, in the event that the local governmental authorities respond to the Facility's request to place groundwater use restrictions for downgradient areas, additional source control will be achieved. As was the case for G-1 (Groundwater Monitoring and Natural Attenuation) no hydraulic source control would be realized under G-2 (Institutional Controls) resulting in free plume movement.

Of the groundwater alternatives, only G-3 (Pump and Treat) provides source control. Both hydraulic containment of the contaminated plume and actual elimination of contaminants of concern in groundwater is achieved under G-3 (Pump and Treat).

4. Complying with Standards for Management of Waste

a. Soil

All soil corrective measures must comply with all applicable federal and state and local requirements. No waste management standards are identified in connection with S-1 (Institutional Controls), or S-2 (Expanded Institutional Controls). Waste management standards identified in connection with S-3 (Excavation/Treatment/Placement) include PADEP closure requirements, in addition to the Federal and State RCRA rules and regulations governing the handling of hazardous waste. S-4 (Capping) must comply with Federal, State, and local requirements concerning the handling of hazardous waste.

b. Groundwater

All groundwater corrective measures must comply with all applicable federal and state and local requirements. No waste management standards are identified in connection with G-1 (Natural Attenuation and Monitoring) and G-2 (Institutional Controls). Under G-3 (Groundwater Pump and Treat) groundwater withdrawal rates may have to be reviewed and approved by local and/or state officials. The discharge of treated groundwater for

this alternative is regulated by the City of Lock Haven POTW and under the Clean Water Act NPDES requirements. Further, treatment by-products including but not limited to the spent carbon generated during the on-site treatment of groundwater must be handled in accordance with applicable State and Federal RCRA regulations. EPA intends to require compliance with applicable federal, state and local requirements through an administrative order requiring implementation of the selected corrective measure alternative.

5. Long-Term Reliability and Effectiveness

a. Soil

Neither S-1 (Existing Institutional Controls) nor S-2 (Expanded Institutional Controls) provides long-term reliability and effectiveness for controlling the release of Facility specific contaminants of concern into the environment since no actual remediation is included under these alternatives. Both S-3 (Excavation/Treatment/Placement) and S-4 (Capping) provide long-term effectiveness and reliability with respect to eliminating the release of Facility-specific contaminants of concern into the environment.

b. Groundwater

Neither G-1 (Natural Attenuation and Monitoring) nor G-2 (Institutional Controls) provides long-term reliability and effectiveness with respect to the hydraulic control and remediation of contaminated groundwater. Of the groundwater alternatives, only G-3 (Pump and Treat) serves to control the migration of contaminated groundwater. In addition, G-3 includes groundwater treatment to eliminate contaminants of concern and return the underlying aquifer to its beneficial use. Consequently G-3 is long-term reliable and effective.

6. Reduction of Toxicity, Mobility or Volume of Waste

a. Soils

Neither S-1 (Existing Institutional Controls) nor S-2 (Expanding Institutional Controls) will reduce the toxicity, mobility and volume of waste. Some reduction of toxicity will occur under S-3 (Excavation/Treatment/Placement) for soils requiring treatment prior to placement in impoundments being closed in accordance with PADEP approved closure plans since these soils will be treated in the existing onsite sludge treatment system. Under S-3 (Excavation/Treatment/Placement) the volume of waste will be reduced for soils requiring treatment since soil treatment through the sludge treatment system will yield a compacted material. The mobility of waste is virtually eliminated under S-3 (Excavation/Treatment/Placement) since soils

are placed in an impoundment with a liner and a cap as required in the PADEP approved closure plan. Under S-4 (Capping) the toxicity and volume of waste is not reduced; however, waste mobility and environmental releases are eliminated due to the cap using capping construction specifications described in the PADEP approved closure plan and shown on Figure 6.

b. Groundwater

G-1 (Natural Attenuation and Monitoring) may serve to reduce the toxicity and volume of waste over time; however, under G-1 contaminated groundwater will migrate freely, and no reduction in waste mobility will occur. G-2 (Institutional Controls) will not serve to reduce waste toxicity, volume, and mobility. Of the groundwater alternatives only G-3 (Pump and Treat) serves to reduce waste toxicity, volume, and mobility. The toxicity of contaminated groundwater is reduced since groundwater contaminants are removed from the groundwater via treatment; the volume of contaminants in groundwater is reduced since groundwater contaminants are removed from the groundwater via treatment, and the mobility of contaminated groundwater is reduced through a groundwater pumping system designed to provide hydraulic control.

7. Short-Term Effectiveness

a. Soil

S-1 (Existing Institutional Controls) is effective in the short term since these controls are already in place.

S-2 (Expanding Institutional Controls) is effective in the short term since these controls are easily implementable and supplement those already in place.

The effectiveness of Both S-3 (Excavation/Treatment/Placement) and S-4 (Capping) in the short term is dependent on the time it would take to engineer and construct these alternatives.

b. Groundwater

G-1 (Natural Attenuation and Monitoring) is effective in the short term to the extent that monitoring activities can commence immediately. G-1 (Natural Attenuation and Monitoring) however provides no short-term effectiveness with respect to aggressive groundwater remediation.

G-2 (Institutional Controls) is effective in the short term since these controls are easily implementable. The short term effectiveness of G-3 (Pump and Treat) is dependent on the time it would take to design, construct and implement the system.

A degree of short-term effectiveness is already realized under G-3 (Pump and Treat) since G-3 supplements ongoing pump and treat activities at the Facility.

8. Implementability

a. Soil

Implementability of any soil corrective measure alternatives is related to the activities required to make such alternatives operational. S-1 (Existing Institutional Controls) is already in place. The implementability of S-2 (Expanding Institutional Controls) is related to the time required to obtain additional title restrictions. Implementability of S-3 (Excavation/Treatment/Placement) and S-4 (Capping) is related to the time required to engineer and construct these alternatives. All four soil alternatives are implementable.

b. Groundwater

Implementability of any groundwater corrective measure alternative is related to activities required to make such alternatives operational. G-1 (Natural Attenuation and Monitoring) requires the collection and analysis of groundwater samples and is easily implementable. The implementability of G-2 (Institutional Controls) is related to obtaining agreements from the City of Lock Haven and Castanea to institute industrial/commercial zoning and groundwater use restrictions for the ACCC Facility and downgradient areas. Monitoring and analysis of groundwater samples under G-2 (Institutional Controls) is easily implementable. G-3 (Pump and Treat) is implementable and its implementability is related to the time required to design and construct these alternatives and receive any necessary local approvals for groundwater withdrawal rates and to comply with the City of Lock Haven POTW's requirements or comply with the Clean Water Act NPDES regulations and requirements.

9. Cost

The following are estimated present value costs for each alternative.

<u>ALTERNATIVE</u>	<u>CAPITAL COST AND OPERATION & MAINTENANCE COST</u>
S-1	\$0
S-2	\$148,900
S-3	\$2,651,700
S-4	\$1,096,300
G-1	\$0
G-2	\$0
G-3	\$5,802,400

Based on the discussion above, EPA has determined that one alternative would not be entirely protective of human health and the environment. EPA has preliminarily identified a combination of S-2, S-3, S-4, G-2 and G-3 as the preferred remedy since this combination would be most effective in protecting human health and the environment, control the sources of releases so as to reduce or eliminate, to the maximum extent practicable, further releases that may pose a threat to human health and the environment, attain the media cleanup standards, and comply with applicable standards for management of wastes.

XI. Public Participation

The Administrative Record, supporting this Statement of Basis, is available for review during business hours at the following two locations:

U.S. Environmental Protection Agency
Region III (3HW62)
841 Chestnut Street Building
Philadelphia, Pennsylvania 19107
Telephone Number: (215) 597-2426
Attn: Mr. Kevin B. Boyd (3HW62)

and

Ross Library
232 W. Main Street
Lock Haven, Pennsylvania 17745
Telephone Number: (717) 748-3321

EPA is requesting comments from the public on the seven corrective measure alternatives and on EPA's preliminary identification of a combination of Alternatives S-2, S-3, S-4, G-2 and G-3 as the preferred corrective measure alternative to remediate the contamination in the soil and groundwater at the Facility. The public comment period will last thirty (30) calendar days. Comments on, or questions regarding, EPA's preliminary identification of a preferred corrective measure alternative are to be made in writing and shall be submitted to:

Mr. Kevin B. Boyd (3HW62)
U.S. EPA, Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-2426

Following the thirty (30) calendar day public comment period, EPA will prepare a Final Decision Document and Response to Comments which identifies the selected Corrective Measure Alternative. The Response to Comments will address all significant written comments. This Final Decision and Response to Comments will be made available to the public. If, on the basis of such comments or other relevant information, significant changes are proposed to be made to the preferred Corrective Measures Alternative identified by EPA in this Statement of Basis, EPA will seek additional public comments on any proposed revised Corrective Measures Alternative.

Upon consideration of public comments, EPA will select a final remedy for the ACCC Facility. Thereafter, EPA will seek implementation of the final corrective measure alternative using available legal authorities, including, but not limited to, RCRA Section 3008(h).

9/29/95
Date


Thomas C. Voltaggio, Director
Hazardous Waste Management Division

GLOSSARY

Aquifer - An underground geologic formation, or group of formations containing useable amounts of groundwater that can supply wells and springs.

Maximum Contaminant Drinking Water Level (MCL) - Under 3009-1 of the Safe Drinking Water Act, and regulations as amended, promulgated thereto at 40 CFR Section 141, the maximum permissible level of a contaminant in water delivered to any user of a public water system. MCLs reflect health factors and technical and economic feasibility of recovering contaminants from the water supply.

National Pollutant Discharge Elimination System (NPDES) - 33 U.S.C. Section 1251 et seq. of the Clean Water Act and Pennsylvania's Clean Streams Law, as amended, 33 P.S. Section 691.1 et seq. authorize the discharge of wastewaters into water of the United States which are in accordance with effluent limitations, monitoring requirements and other conditions set forth in the NPDES permit.

Parts Per Million (ppm) - A unit of concentration of a chemical substance or compound. It is comparable to 1 inch in 16 miles, 1 penny in \$10,000 or 1 pound in 500 tons.

Parts Per Billion (ppb) - A unit of concentration of a chemical substance or compound. It is comparable to 1 inch in 16,000 miles, 1 penny in \$10,000,000, 1 pound in 500,000 tons or ppm x 1000.

Plume - The volume of contaminated groundwater.

RCRA - The Resource Conservation and Recovery Act was enacted in 1976 and directed EPA to develop and implement a program to protect human health and the environment from improper hazardous waste management practices. The program is designed to control the management of hazardous waste from its generation to its disposal.

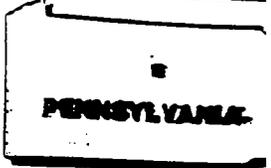
Solid Waste Management Unit (SWMU) - Includes any unit used for the collection, source separation, storage, transportation, transfer, processing, treatment or disposal of solid waste, including hazardous wastes, whether such facility is associated with facilities generating such wastes or otherwise.



REFERENCED U.S.G.S. MAPS

MILL HALL, PA.
USGS 7.5 MIN.
1965
PHOTOREVISED 1966

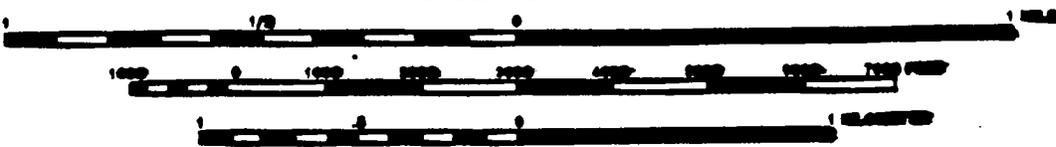
LOCK HAVEN, PA.
USGS 7.5 MIN.
1965
PHOTOREVISED 1966



QUADRANGLE LOCATI



SCALE 1:24000



AR410727



DATE: 10-10	CHIEF:	APPRO:
SCALE: AS SHOWN	DATE: 10-10	
CAGE REF: LOCATION MAP	DRAWING NO:	

10-10

N 50,000

N 48,000

N 48,000

ACCC
PROPERTY
LIMITS

IMPONDMNT #1

IMPONDMNT #2

00

LEGEND:

--- SITE BOUNDARY

--- RAILROAD TRACKS

--- FENCE LINE

--- SITE ACCESS ROADS

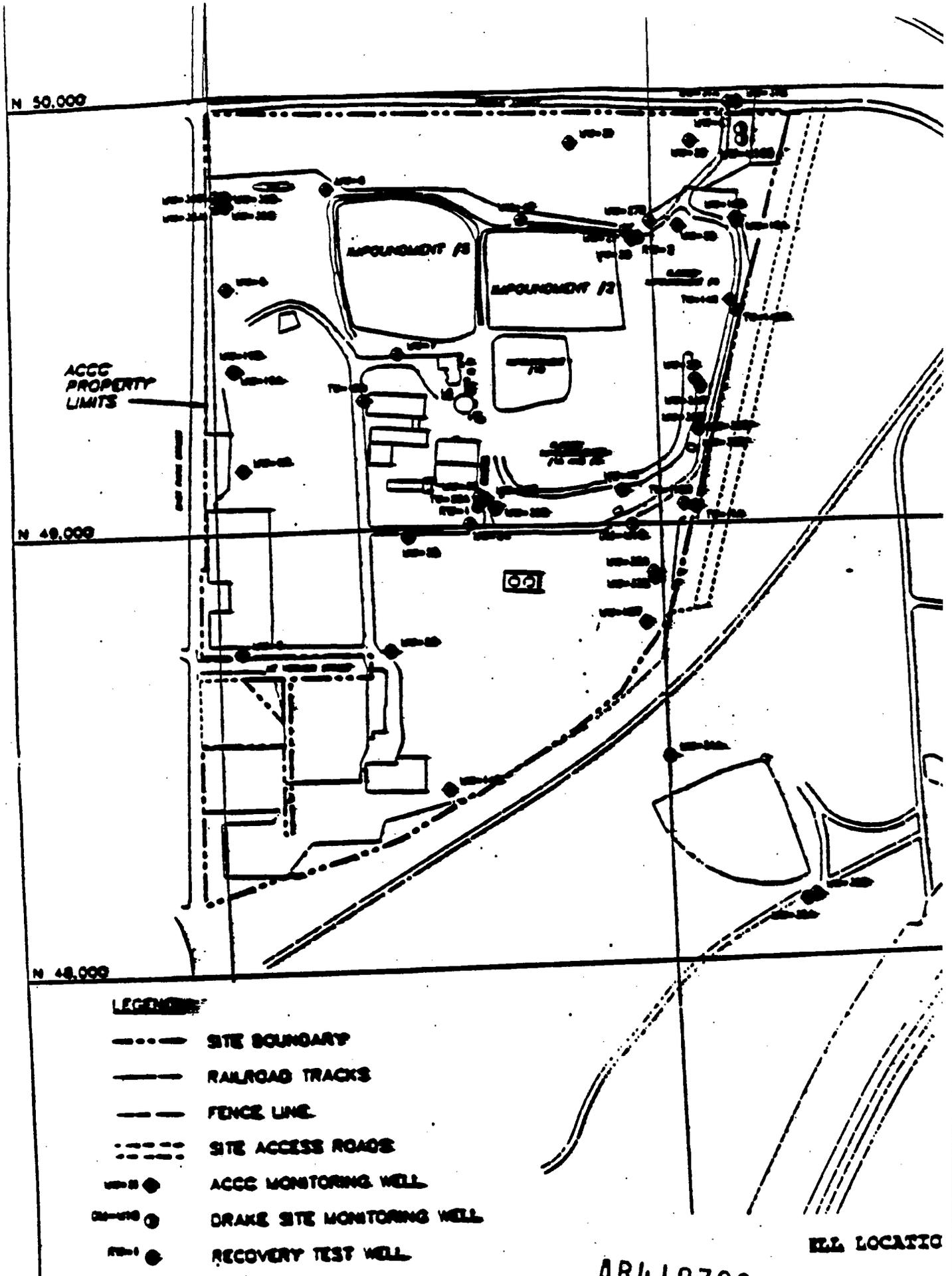
● ACCC MONITORING WELL

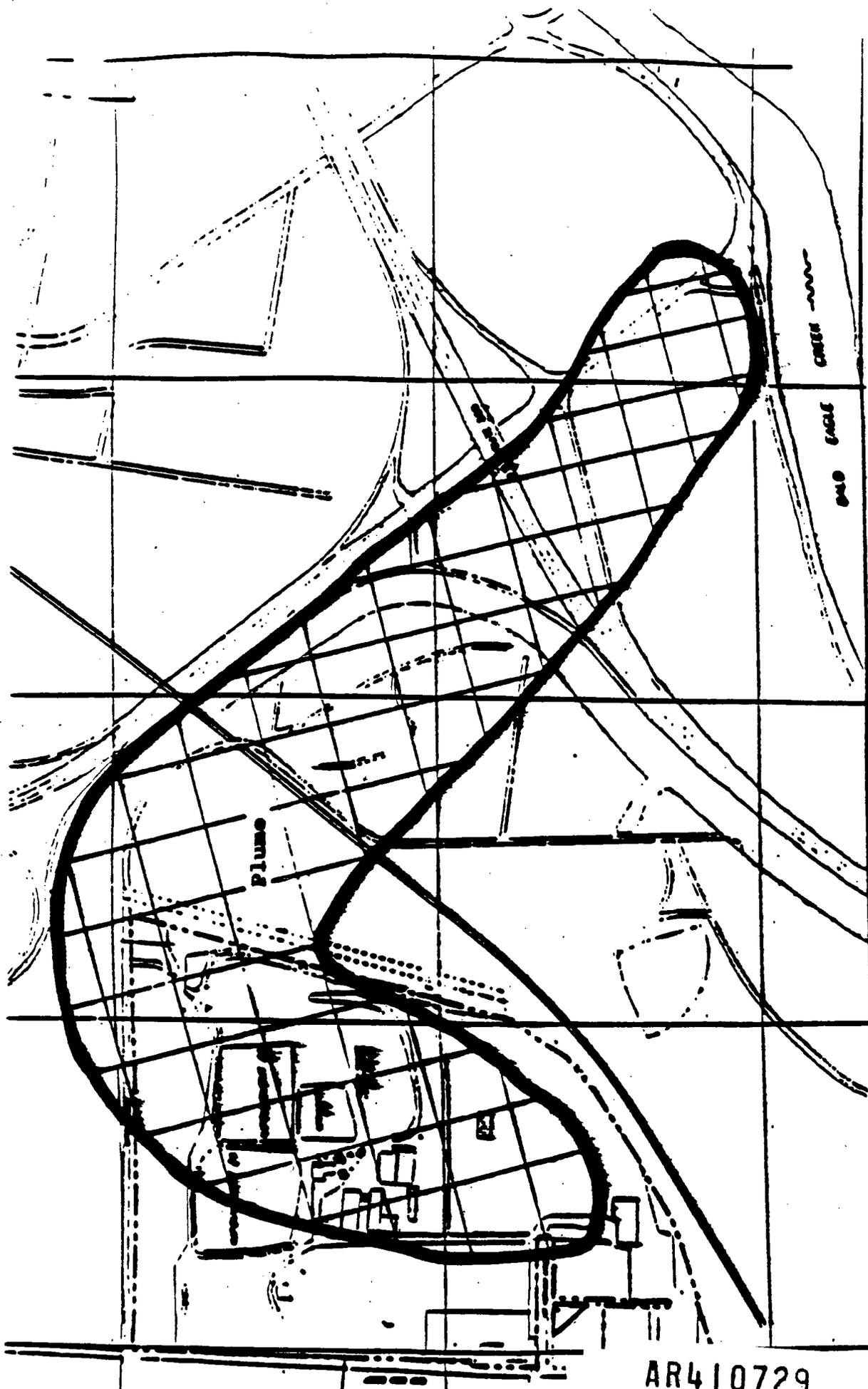
● DRAKE SITE MONITORING WELL

● RECOVERY TEST WELL

WELL LOCATIONS

ARI 10700





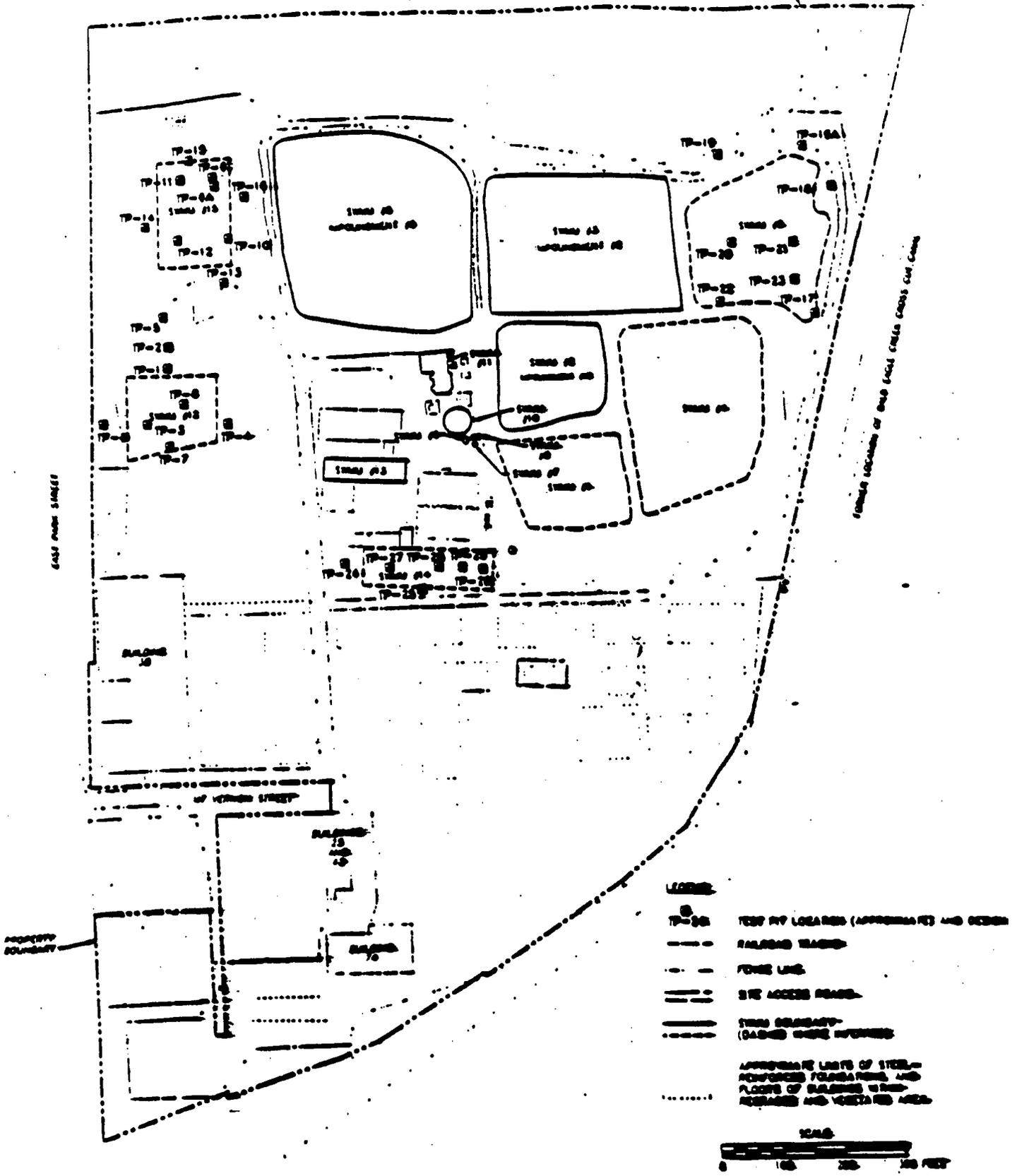
GROUNDWATER PLUMES

FIGURE 3

Plume shown is a generalization of the areas that have been identified by groundwater contamination and does not accurately locate where certain contaminants are located. The plume was drawn as a combination of contaminant plumes (1,2 dichlorobenzene, benzene, nitrobenzene, 1,2 dichloroethane, fenac, phenol

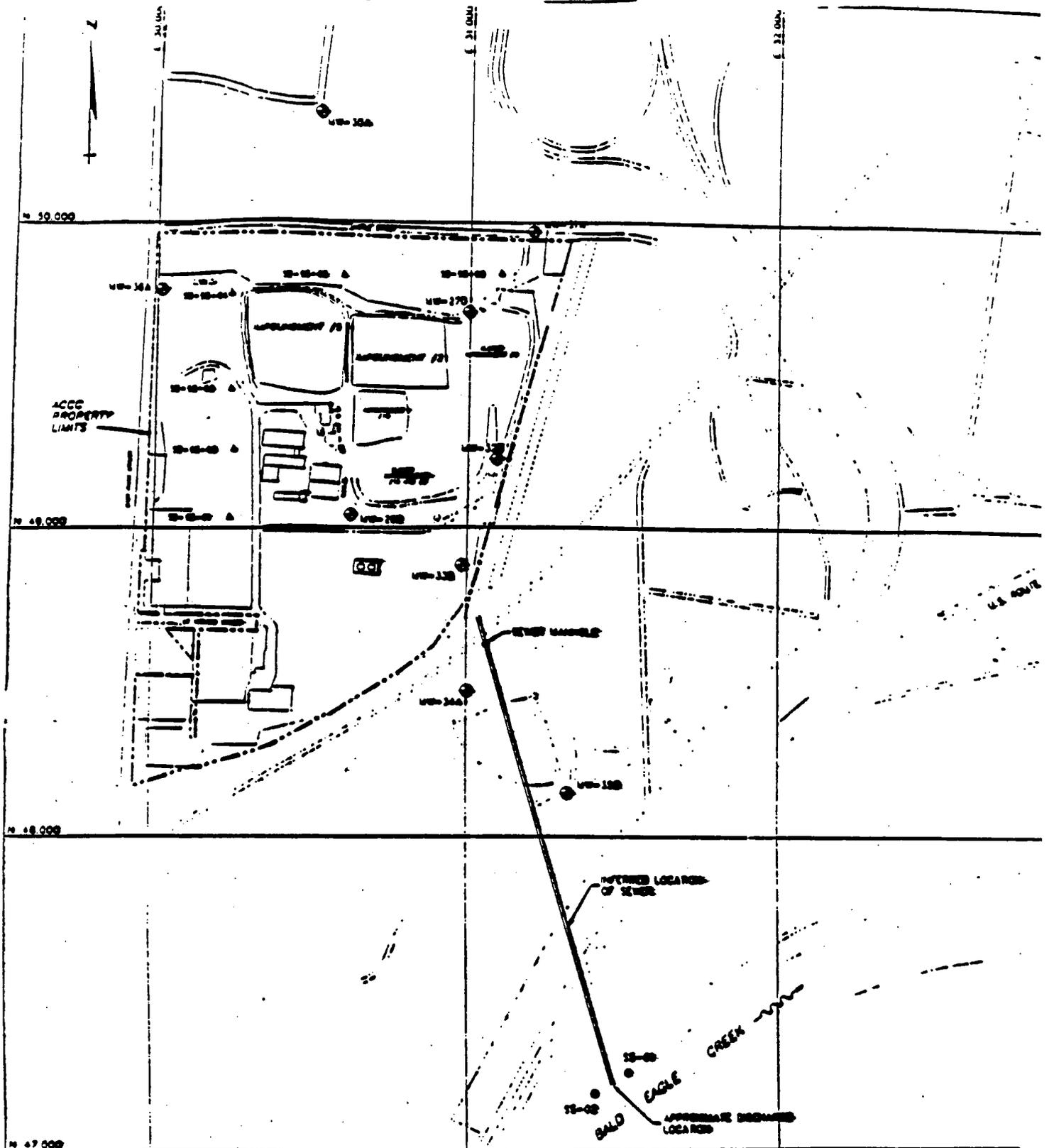
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WIRE LINE



CATION

AR410730

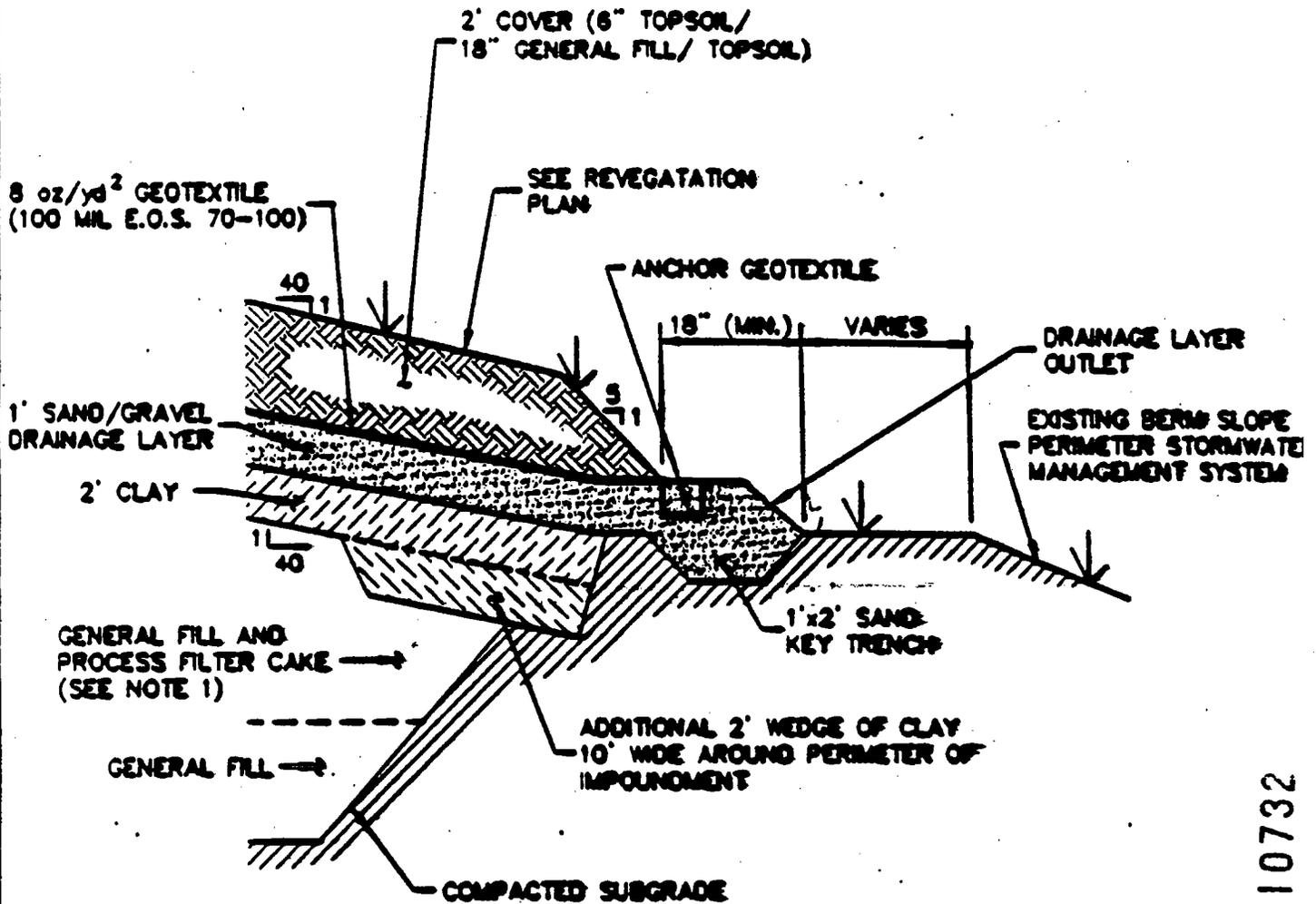


LEGEND:

- SITE BOUNDARY
- - - RAILROAD TRACKS
- FENCE LINE
- · - · - SITE ACCESS ROAD
- (with circle) SUBSURFACE SOIL SAMPLING LOCATION
- ▲ (with circle) SURFACE SOIL SAMPLING LOCATION

**STORED WATER DISCHARGE
LINE AND
SAMPLING LOCATIONS**

AR410731



NOTES:

1. GENERAL FILL MAY CONSIST OF EXCAVA EXCAVATED AND TREATED, OR IN PLACE MATERIAL FROM SIMMS 9, 12, 14, OR 15
2. FIGURE IS NOT TO SCALE

AR410732

TABLE 1

**CONTAMINANTS OF CONCERN
FOR SURFACE SOIL**

CONTAMINANT OF CONCERN	MEDIA CLEANUP STANDARD (mg/kg)
Arsenic	37
Lead	1000
Benzo (a) anthracene	3.9
Benzo (b) fluoranthene	3.9
Benzo (a) pyrene	.39

TABLE 1 (cont.)

**CONTAMINANTS OF CONCERN
IN SOIL FOR POTENTIAL
LEACHING TO GROUNDWATER**

CONTAMINANT OF CONCERN	MEDIA CLEANUP STANDARD (mg/kg)
Carbon disulfide	.53
Chlorobenzene	20.9
Methylene chloride	538
Trichloroethene	.24
1,2-Dichlorobenzene	6,500
1,3-Dichlorobenzene	6,500
1,4-Dichlorobenzene	819
2,4-Dinitrophenol	1.12
2-Nitroaniline	2,200
4-Nitroaniline	279
Nitrobenzene	618
Pentachlorophenol	400
Arsenic	1.79
Chromium	69
Copper	310
Lead	17
Mercury	1.15
Zinc	1,800
Cyanide	10.9

AR410734

TABLE 2

**CONTAMINANTS OF CONCERN
FOR GROUNDWATER**

CONTAMINANT OF CONCERN	MEDIA CLEANUP STANDARD (ug/L)
Benzene	5
Chlorobenzene	39
Methylene Chloride	4.1
Toluene	1,000
Trichloroethane	5
Bis(2-ethoxyethyl)phthalate	6
4-Chloroaniline	150
1,2-Dichlorobenzene	600
1,4-Dichlorobenzene	75
4-Methylphenol	180
2-Nitroaniline	2.2
4-Nitroaniline	110
Nitrobenzene	3.4
Pentachlorophenol	1
Phenol	12,000
Aluminum	37,000
Arsenic	50
Chromium	100
Copper	1,400
Lead	15
Mercury	2

AR410735

TABLE 3

CURRENT INDUSTRIAL USE RISK ASSESSMENT ESTIMATES

Exposure Route	Location	Cancer Risk	Hazard Index	Significant Contaminants
Soil ingestion	SWMU Areas	3e-5	2.2	2-Nitroaniline, Nitrobenzene, Arsenic, PAHs
	non-SWMU Areas	3e-7	0.018	none
Dermal contact	SWMU Areas	2e-5	6.1	2-Nitroaniline, Nitrobenzene, Arsenic, PAHs
	non-SWMU Areas	9e-7	0.051	none
Particulate inhalation	SWMU Areas	8e-10	0.0000090	none
	non-SWMU Areas	1e-12	0.000000079	none
Vapor inhalation	SWMU Areas	2e-10	0.02	none
	non-SWMU Areas	NA	0.00003	none

AR41072c

TABLE 4

FUTURE HYPOTHETICAL RESIDENTIAL USE RISK ESTIMATES

Exposure Route	Receptor	Cancer Risk	Hazard Index	Significant Contaminants
Soil ingestion	Child	NA ¹	0.57	none
	Adult	2e-4	0.061	Arsenic, PAHs
Dermal contact	Child	NA ¹	0.057	none
	Adult	2e-4	0.031	Arsenic, PAHs
Particulate inhalation	Child	NA ¹	0.0000022	none
	Adult	5e-9	0.00000039	none
Vapor inhalation	Child	NA ¹	0.000000034	none
	Adult	1e-10	7.2e-9	none
Groundwater	Child	NA ¹	720	Aluminum, Arsenic, Chromium, Copper, Manganese, Mercury, Nickel, Phenol
	Adult	1e-2	77	Arsenic, Copper

¹ Cancer risks are lifetime calculations which include both childhood and adult exposure.

ATTACHEMENT 2

AR410720



Mount Vernon St.
P.O. Box 88
Lock Haven, PA 17745
Telephone 717-748-6747
FAX 717-748-3974

October 30, 1995

Mr. Kevin S. Boyd
Project Manager
U.S. Environmental Protection Agency Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

**SUBJECT: COMMENTS ON STATEMENT OF BASIS
AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA**

Dear Mr. Boyd:

Please find attached four copies of the American Color & Chemical Corporation (ACCC) comments to the U.S. Environmental Protection Agency (U.S. EPA) Region III Statement of Basis (SB), dated September 29, 1995. Please contact me if you wish to discuss these comments.

Best Regards,

Richard J. Omlor
Project Manager

hbt

Enclosures

cc: John Hamilton (PADER)

Filename: c:\acce:95-049\let-03.njm

AR410739

**COMMENTS ON THE STATEMENT OF BASIS
AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA**

Prepared For:

**AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA**

Prepared By:

**KEY ENVIRONMENTAL, INC.
CARNEGIE, PENNSYLVANIA**

October 30, 1995

AR410740

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FIGURE B	SAND AND GRAVEL GROUNDWATER SAMPLING RESULTS FOR PHENOL AND NITROBENZENE
FIGURE C	SAND AND GRAVEL GROUNDWATER SAMPLING RESULTS FOR FENAC AND 1,2-DCA
FIGURE D	SEDIMENT SAMPLE LOCATIONS AND ARSENIC RESULTS

LIST OF ATTACHMENTS

ATTACHMENT NO.	DESCRIPTION
ATTACHMENT 1	ADMINISTRATIVE RECORD - AMERICAN COLOR & CHEMICAL CORPORATION - LOCK HAVEN, PENNSYLVANIA
ATTACHMENT 2	SEDIMENT SAMPLING LABORATORY ANALYTICAL RESULTS
ATTACHMENT 3	STATISTICAL EVALUATION OF SEDIMENT DATA

LIST OF ABBREVIATIONS

ACCC	American Color & Chemical Corporation
ACLs	Alternate Concentration Levels
ANPRM	Advanced Notice of Proposed Rule Making
AOC	Administrative Order on Consent
Beazer	Beazer East, Inc.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Registry
COCs	Constituents of Concern
CMS	Corrective Measures Study
DOJ	Department of Justice
Fenac	2,3,6-trichlorophenylacetic acid
KEY	Key Environmental, Inc.
MCLs	Maximum Contaminant Levels
mg/Kg	Milligrams per kilogram
NPDES	National Pollution Discharge Elimination System
OSWER	Office of Solid Waste and Emergency Response
PAHs	Polynuclear Aromatic Hydrocarbons
POC	Point of Compliance
PRGs	Preliminary Remediation Goals
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RME	Reasonable Maximum Exposure
SB	Statement of Basis
SWMU	Solid Waste Management Unit
U.S. EPA	United States Environmental Protection Agency
1,2-DCA	1,2-dichloroethane

1.0 INTRODUCTION

American Color & Chemical Corporation (ACCC) has reviewed the U.S. Environmental Protection Agency (U.S. EPA) Statement of Basis (SB)¹ for the ACCC Lock Haven, Pennsylvania Facility (Facility), dated September 29, 1995. Public comments to the SB are due November 1, 1995. This letter presents ACCC's comments on the SB, based on our review of contents, and our detailed knowledge of Facility conditions.

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uant to the Administrative Order on Consent (AOC)² entered into between ACCC and U.S. on September 12, 1991, ACCC has completed a Resource Conservation and Recovery Act (RA) Facility Investigation (RFI)³ and a Corrective Measures Study (CMS)⁴ for this Facility. RFI was submitted to U.S. EPA in May 1994, and subsequently approved in August 1994. CMS was submitted to U.S. EPA in April 1995, and subsequently approved in May 1995. In addition, over the last several years, ACCC has performed several soil and groundwater monitoring activities at the Facility. As a result of these activities, many documents (a chronological list of which is attached as Attachment 1) were generated, all of which were used to develop a detailed understanding of Facility conditions. ACCC hereby incorporates each of those documents herein by reference thereto, as if set forth in full, and makes them a specific part of this document presented herein, as they provide the requisite background necessary for an understanding of each comment.

ACCC's comments to the SB are presented within the following five sections. Section 2.0 presents comments related to the designation of the point of compliance (POC), media cleanup standards, and the potential effects of the Drake Site soil remediation program on the ACCC groundwater remediation program. Section 3.0 presents specific disagreements that ACCC has with U.S. EPA's interpretation and/or presentation of the Facility hydrogeology, the depiction of the respective ACCC and Drake site plumes, the

¹ U.S. EPA Region III, September 29, 1995, Statement of Basis, American Color & Chemical Corporation, Lock Haven, Pennsylvania.

² U.S. EPA Region III, September 12, 1991, Final Administrative Order on Consent, U.S. EPA Docket No: RCRA-III-040-CA.

³ McLaren/Hart, May 20, 1994, Final Report - RCRA Facility Investigation, prepared for ACCC and submitted to U.S. EPA.

⁴ McLaren/Hart, April 19, 1995, Final Report - Corrective Measures Study, prepared for ACCC and submitted to U.S. EPA.

2.0 GENERAL COMMENTS

For the most part, the SB reflects ACCC's understanding of Facility conditions, and presents conclusions that are generally consistent with previous ACCC submittals (see Attachment 1), including several that were approved by U.S. EPA. ACCC appreciates the conceptual agreement U.S. EPA has with the nature of remedial actions proposed by ACCC. These actions are a very logical outgrowth of ACCC's closure plan implementation, which was initiated in 1990. However, there remain several practical and scientific disagreements ACCC has with U.S. EPA regarding remediation goals and the locations where these goals should apply. On the practical side, the law and U.S. EPA program developments call for the development of Facility-specific remediation goals in accordance with the analysis presented in the U.S. EPA-approved CMS. Facility-specific remediation goals have a dramatic impact on the attainability and cost of proposed remediation. Scientifically, Facility-specific remediation goals are protective of health and the environment, based on current and reasonably expected future exposure scenarios. The U.S. EPA's proposed media cleanup standards contained in the SB are based on conservatively applied and standardized or "generic" exposure factors that are not ACCC Facility-specific, and are therefore, not appropriate for the ACCC Facility. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment.

The following sections discuss two major issues that U.S. EPA has not sufficiently addressed in the SB. The first issue relates to the regulatory framework for the establishment of the POC and the development of media cleanup standards, *i.e.*, PRGs. The second issue relates to the impact that Drake Site soil remedial activities (*i.e.*, the installation of the sheet pile wall around Drake Site Zone 1), which are being completed under the U.S. EPA Region III Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority, would have on the sand and gravel aquifer groundwater hydraulics at the ACCC Facility.

2.1 CORRECTIVE ACTION PROCESS FRAMEWORK FOR THE DEVELOPMENT OF THE POC AND MEDIA CLEANUP STANDARDS

The SB defines the ACCC Facility groundwater POC as "throughout the groundwater plume." This definition of the POC is not appropriate for the ACCC Facility, taking into account the current and proposed regulations, and the current and reasonably expected future use of the Facility. ACCC maintains that the POC should be located at the downgradient property boundary as specified in the U.S. EPA-approved CMS and in accordance with the existing RCRA regulations. The following items present a detailed discussion on the development of the POC and media cleanup standards, under the existing and proposed RCRA corrective action process.

1. Pursuant to the RCRA corrective action process being implemented at the Lock Haven Facility, ACCC entered into a 3008(h) order with U.S. EPA, pursuant to which ACCC has completed a RFI and CMS, which were subsequently approved by U.S. EPA. The issue of the POC was raised in the RFI/CMS by ACCC, and was designated as the ACCC Facility downgradient property boundary. The RFI/CMS presented the POC and media cleanup standards that were developed in such a manner so as to be protective of human health and the environment. The corrective action regulations presently governing releases from regulated RCRA units are enforced under 40 Code of Federal Register (CFR) 264.100. Under the corrective action program, and pursuant to the 40 CFR 264.95, a POC is defined as a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer. If the Facility contains more than one regulated RCRA unit, the waste management area is described by an imaginary line circumscribing the regulated units. The Draft Advanced Notice of Proposed Rule Making (ANPRM) for the Corrective Action Rule (October 1995 version, Pages 78 and 79) also supports the application of Facility-specific circumstances to set standards and the POC, as ACCC has done within the U.S. EPA-approved CMS.

The U.S. EPA's determination of the POC in the SB is contrary to existing and proposed RCRA corrective action regulations. U.S. EPA does not provide the regulatory basis for its determination of the POC as "throughout the groundwater plume." Pursuant to the RCRA corrective action program, the POC should be located downgradient of the regulated units, which is almost coincidental with the ACCC Facility boundary. This location of the POC was presented and discussed by ACCC in the U.S. EPA-approved CMS. In addition, U.S. EPA's depiction of the groundwater plume allegedly emanating from the ACCC Facility is grossly inaccurate and misleading. This issue is discussed in greater detail in Section 3.2. U.S. EPA should withdraw the POC as defined in the SB, and, pending completion of the evaluation of the effect of the sheet pile wall at the adjacent Drake Site, define the POC as the then current downgradient Facility boundary in accordance with the existing and proposed RCRA regulations.

2. U.S. EPA's proposed POC in the SB as "being throughout the groundwater plume" is only one of the four alternatives available for consideration, pursuant to the 40 CFR Part 264 Proposed Corrective Action Rule. Following this proposed regulation, because groundwater within the plume is not and will not likely ever be used as a drinking water source, and considering that public supply drinking water is available at the Facility, this option for a POC is not applicable or appropriate at the ACCC Facility.

Under the proposed Subpart S Corrective Action Rule 40 CFR 264.525(e)(1)(i), the POC would be defined as being throughout the area of any contaminated groundwater that would be required to be remediated to drinking water standards (e.g., Maximum Contaminant Levels [MCLs]), but only if the groundwater is a drinking water source. The proposed Subpart S Corrective Action Rule also provides for the consideration of current and reasonably expected future uses in the determination of the POC and the development of Facility-specific remediation goals. The ACCC Facility is located in an area that is zoned as industrial and will likely continue to be zoned as such. Drinking water from the public supply is available at the Facility and will likely always be available. Pursuant to the impoundment closure process, deed restrictions will likely be placed on the Facility to maintain future property use for industrial purposes. Based on these facts, it is not reasonable to expect that groundwater from beneath the Facility would ever be used for drinking water purposes. Therefore, the use of MCLs as groundwater PRGs at the ACCC Facility is inappropriate. ACCC maintains that Facility-specific PRGs should be developed for Facility groundwater, as is proposed in the U.S. EPA-approved CMS.

The current ACCC surface impoundment closure process under RCRA involves closure in place. The POC for the regulated units would be as in a RCRA Permit. Pursuant to Proposed Rule 264.525(e)(1)(i), a point of compliance for groundwater may be established at or near the downgradient property boundary. Solely following these guidelines, it is most appropriate to set a POC at the downgradient edge of the Facility, as recommended in the U.S. EPA-approved CMS. As stipulated in the Proposed Corrective Action Rule, when there are multiple Solid Waste Management Units (SWMU)s, which in this case would include the regulated RCRA impoundments, the POC should be established by circumscribing a line around the downgradient perimeter of the SWMUs, which would place the POC at the downgradient Facility boundary.

The incorporation of future land use conditions is also required under current U.S. EPA policy. These policies may be found in the Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-04 (May 25, 1995) at Page 2, and in the ANPRM (October version) at ages 29 and 30.

U.S. EPA should recognize the current industrial zoning and industrial use of the ACCC Facility, the availability of piped public drinking water at the Facility, and the strong likelihood of deed restrictions being placed on the future use of the Facility, which would specifically prohibit future residential use. The SB should be amended to acknowledge the current and reasonably expected future use of the ACCC Facility as industrial. In addition, pending completion of the evaluation of the effect of the sheet

pile wall at the adjacent Drake Site, the POC should be corrected in the SB to be the downgradient Facility boundary, in accordance with the existing and proposed corrective action requirements, and consistent with the U.S. EPA-approved CMS.

3. The media cleanup standards or PRGs for groundwater proposed in Table 2 of the SB are not appropriate for the ACCC Facility, taking into account the Facility's current and reasonably expected future property use. As stated above, the current and reasonably expected future use (based on current zoning, ready availability of public water supply, and anticipated deed restrictions) is solely industrial, and no residential use of the Facility can be reasonably anticipated. The media cleanup standards proposed by U.S. EPA totally ignore this Facility-specific information and apply generic assumptions for their development. Alternate Concentrations Limits (ACLs) are appropriately used in situations such as this where Facility-specific information is readily available. Pursuant to 40 CFR 264.94, ACLs may be developed and established for the Facility groundwater if there is no substantial present or potential hazard to human health or the environment at concentrations below these levels. ACLs can be calculated using a methodology similar to the one used in the U.S. EPA-approved CMS for the development of PRGs.

In the recent October 1995 Superfund Administrative reforms, U.S. EPA declared its policy to be that realistic assumptions about Facility conditions should always be used for development of Facility-specific PRGs and the determination of where these should be applied (*i.e.*, POC) when this information is available. U.S. EPA has also indicated that RCRA and Superfund should achieve similar results. Prior divergence of results from the two programs reflected the recognition under RCRA that future land use was likely to remain industrial. Changes to Superfund policies now permit both programs to consider likely land uses in completing exposure assessments and establishing performance criteria by media (such as PRGs for groundwater), pursuant to OSWER Directive 93957-04 (May 25, 1995).

In its most recent draft ANPRM, U.S. EPA indicates that the RCRA program should be flexible in developing action levels for nonresidential use, as indicated in the Draft ANPRM (the October 1995 version), Page 72 and 73. The Draft ANPRM also supports the application of Facility-specific circumstances to set PRGs and the POC, as ACCC has done within the RFI and CMS. Pages 60, 66, and 67 of the ANPRM state that groundwater restoration should be geared to future use specifications.

Based on these facts, and pursuant to 40 CFR 264.94, U.S. EPA's OSWER directive on land use, the proposed Subpart S Corrective Action Rule 40 CFR 264.525(d), and the October ANPRM, U.S. EPA should a) develop Facility-specific ACLs as media cleanup

standards that take into account the Facility-specific conditions, and/or b) use Facility-specific information to develop media cleanup levels for the reasonably expected future industrial use of the Facility. These two methodologies take into account both the protection of human health and the environment, as well as the current and reasonably expected future industrial use of the Facility. Application of the media cleanup standards developed by the U.S. EPA, which are based on unrealistic future residential use of the Facility is inappropriate for the ACCC Facility in consideration of current and reasonably expected future industrial use for the property. The SB should acknowledge the above regulations and Facility-specific industrial land use information, and allow for the development of alternate media clean up standards in accordance with the current and proposed regulations.

4. The POC for attaining performance standards (i.e., PRGs) is also an issue where U.S. EPA policy has evolved significantly. The use of the Facility boundary as an appropriate POC is supported by the land use policy, by the Facility-specific risk assessment, as presented in ACCC's reports, and by the Facility-specific conditions of in-place closure and reasonably anticipated future industrial land use.

In its recent draft ANPRM for Corrective Action (October 1995 Draft, Pages 78 and 79), U.S. EPA indicates that the preference for attaining groundwater performance standards (or PRGs) throughout the groundwater plume is a point of departure, which is adjusted for Facility-specific circumstances. U.S. EPA has not made the adjustments called for by Facility-specific circumstances presented in ACCC's reports and by the record.

ACCC believes that the recently evolving U.S. EPA policy recognizing future land use considerations and Facility-specific conditions in the development of the POC and PRGs, should be incorporated into the SB. Specifically, the current and reasonably anticipated future industrial land use of the Facility, Facility-specific conditions such as existing industrial zoning, the availability of drinking water from the public supply, and likely future deed restrictions on the Facility, should be considered in the development of the POC and PRGs, as was completed within the U.S. EPA-approved CMS. Pending completion of the evaluation of the effect of the sheet pile wall at the adjacent Drake Site, U.S. EPA should correct the SB to reflect the POC as the downgradient Facility boundary and alternative methods for the development of PRGs should be acknowledged.

2.2 DRAKE SITE SOIL REMEDIAL PROGRAM EFFECTS ON THE POC AND MEDIA CLEANUP STANDARDS

U.S. EPA has not considered the potential effects of the ongoing soil remediation program at the adjacent Drake Chemical Site in the timing of the development of the POC and PRGs. The installation of the sheet pile wall at the Drake Site, which penetrates the sand and gravel aquifer to depths of approximately 30 feet below ground surface, is currently underway and nearly complete. ACCC anticipates the sheet pile wall to have some effect on the hydraulics of the sand and gravel aquifer beneath the ACCC Facility. It is possible that groundwater flow characteristics of the Drake Site may change, correspondingly affecting the sand and gravel aquifer underlying the ACCC Facility. This issue is also discussed in significant detail within Section 4.0:

ACCC recommends that the effects of the sheet pile wall on the sand and gravel aquifer be evaluated prior to the development or establishment of the POC and the PRGs for the ACCC Facility. Any changes in the sand and gravel aquifer hydraulics that would potentially occur should be evaluated and incorporated into the final groundwater remedy at the ACCC Facility. For these reasons, ACCC suggests, that the above issues regarding the development of the POC and PRGs be deferred, pending further evaluation of the effects of the sheet pile on sand and gravel aquifer hydraulics.

3.0 DISAGREEMENTS WITH THE SB

This section presents those items where ACCC disagrees with U.S. EPA's interpretation or presentation within the SB. These items of dispute are related to the interpretation of the Facility geology/hydrogeology, the depiction of the groundwater plume, the methodology for the establishment of PRGs for Facility groundwater, and the selection of the COCs.

3.1 FACILITY SUBSURFACE GEOLOGY/HYDROGEOLOGY

Section V.B. of the SB inaccurately summarizes the subsurface geological and hydrogeological conditions. Section 3.0 of the U.S. EPA-approved RFI presents a detailed discussion on Facility groundwater conditions. At a minimum, three groundwater zones or aquifers are present at the Facility, and their occurrence is controlled by Facility-specific geologic conditions. Figure A attached to these comments presents a conceptual depiction of the different geologic zones and the corresponding groundwater zones. The upper groundwater zone is primarily limited to the portions of the Facility that are underlain by fill materials, and where the thickness of the fill is sufficient to permit the collection of infiltration. This unit is underlain by a clay/silt geologic unit that acts as a leaky zone to the underlying sand and gravel aquifer, which comprises the uppermost laterally continuous aquifer. Underlying the sand and gravel unit, is a highly fractured bedrock unit that demonstrates a high degree of interconnection with the sand and gravel unit. The bedrock unit forms a third aquifer underlying the Facility. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment.

In summary, based on the different geologic units, and the groundwater potentiometric surfaces therein, there are three primary groundwater aquifers: 1) The Fill Aquifer, 2) The Sand and Gravel Aquifer, and 3) The Bedrock Aquifer.

Over the past three years, ACCC has spent a great deal of time and money responding to U.S. EPA comments on geologic/hydrogeologic interpretations of Facility conditions and associated modifications to the RFI Report. Notwithstanding the above dispute with U.S. EPA on the number of groundwater aquifers at the Facility, ACCC agrees that most of the constituents occur in the sand and gravel unit, and that groundwater flow within this aquifer is primarily to the northeast, before changing direction to the southeast.

U.S. EPA should correct the SB to accurately reflect ACCC Facility geologic and hydrogeologic conditions as presented in Section 3.0 of the U.S. EPA-approved RFI.

3.2 DIFFERENTIATION BETWEEN ACCC FACILITY GROUNDWATER PLUME AND DRAKE SITE GROUNDWATER PLUME

ACCC disputes Figure 3 of the SB, which appears to be a rough, hand-drawn depiction of a plume that appears to be a composite of the ACCC plume and the plume from the adjacent Drake Site. This plume (Figure 3) is terribly misleading and inaccurately depicted. The U.S. EPA-approved RFI supports a differentiation of two plumes; one plume present almost entirely under the ACCC Facility and the second plume that is originating beneath and migrates from the Drake Site towards Bald Eagle Creek. Groundwater analytical data have also indicated that groundwater impacted by the Drake Site has migrated from the Drake Site to the northeast portion of the ACCC Facility. Figure B attached to these comments presents a depiction of the nitrobenzene and phenol plume underlying the ACCC Facility. Figure C attached to these comments presents a depiction of the Drake Site plume containing Fenac and 1,2-dichloroethane (1,2-DCA). Fenac and 1,2-DCA are constituents which were used or produced at the Drake Site and have no history of use or production at the ACCC Facility. These interpretations and depictions were presented in the RFI Report, which was prepared pursuant to the 1991 AOC - between U.S. EPA and ACCC, and which was subsequently approved by U.S. EPA and is now part of the administrative record for the ACCC Facility. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment.

In the development of the SB, U.S. EPA did not recognize its previously approved differentiation of ACCC Facility and Drake Site plumes, and erroneously depicted one plume, as in Figure 3 of the SB, without any scientific, regulatory, or other basis to do so. It is clear from the RFI as a whole, that the data U.S. EPA used to draw its plume include data on constituents solely originating at the Drake Site, as well as constituents used on both sites. This presentation is terribly misleading. Evaluating data on constituents used primarily by ACCC, it is clear that the ACCC Facility groundwater plume is of limited extent and moves very little on the ACCC Facility, as is depicted in Figure B.

As U.S. EPA is aware, and as is discussed in Section 4.3 of these comments, a groundwater extraction and treatment system is planned for the Drake Site groundwater. This system will be designed to treat constituents present in Drake Site groundwater that are not present in the ACCC Facility groundwater, while attempting to capture the benefit of economies of scale, and avoid duplicative or inconsistent application and/or operation with the groundwater extraction and treatment system to be used for the ACCC Facility groundwater. U.S. EPA is in the process of obtaining required approvals beyond U.S. EPA Region III for entering into a Consent Decree with ACCC and Beazer East, Inc. (Beazer) for the remediation of groundwater at the Drake Site. Once lodged, this Consent Decree will address the cleanup of the Drake Site plume in

conjunction with the remediation of the separate plume underlying the ACCC Facility in, to the greatest degree possible, a parallel, non-duplicative and consistent manner.

ACCC rejects any responsibility for remediation of groundwater from beneath the Drake Site as well as the Drake Site groundwater plume, including that portion that has migrated onto ACCC property, pursuant to the RCRA corrective action program in effect at this Facility. If necessary, the CERCLA action should be used to remediate Drake-related groundwater and chemical constituents, which CERCLA action ACCC and Beazer may be a part of, when U.S. EPA obtains the necessary approvals, and lodges, for the negotiated Consent Decree. U.S. EPA should withdraw Figure 3 from the SB and include the attached Figure B in its place. This comment does not change or withdraw any commitments ACCC or Beazer have agreed to make with respect to the negotiated CERCLA Consent Decree.

3.3 CONSTITUENTS OF CONCERN

Based on anticipated institutional land use restrictions and the current and future availability of drinking water from the public supply, U.S. EPA should not have used a hypothetical residential use scenario to select groundwater COCs. Drinking water from the public supply is currently available at the Facility, and will likely continue to be available in the future. Existing industrial zoning and anticipated deed restriction, following impoundment closure activities, will limit the future use of the Facility to industrial use and prohibit the installation of any groundwater wells that are intended to be used for drinking water purposes. All of these factors must be taken into account in the development of COCs for groundwater. U.S. EPA should accept an industrial use scenario under its existing and emerging polices described for both soil and groundwater risk assessments, including the selection of COCs based on Facility-specific information.

U.S. EPA should revise the list of groundwater COCs to be based on current and reasonably expected future industrial use scenarios.

3.4 PRELIMINARY REMEDIATION GOALS

The U.S. EPA-approved CMS presents two methodologies that were used for the development of PRGs for the Facility groundwater. One method applied U.S. EPA-developed generic standards to Facility groundwater, while the other method, used Facility-specific information to develop realistic Facility-specific media cleanup standards. U.S. EPA did not take exception to the Facility-specific approach to developing media cleanup standards presented in the CMS. However, in the SB, U.S. EPA does not reference the Facility-specific approach, but proposes the use of generic media cleanup standards for Facility groundwater. U.S. EPA does not provide any reference to any policy or rule within the SB, mandating U.S. EPA's approach in lieu of the

Facility-specific approach, nor do they present any scientific basis to support their selection of these PRGs. As discussed in Section 2.1 of these comments, the RCRA 3008(h) statute references corrective action based on the protection of human health and the environment. In addition, the proposed RCRA Subpart S Corrective Action Rule references the development of PRGs based on the current and reasonably expected future uses of the Facility.

It is ACCC's opinion that the Facility-specific approach, which uses input data specific to the Facility (such as attenuation factors and non-residential exposure factors), in lieu of default parameters utilized by U.S. EPA, is scientifically superior, is consistent with the existing RCRA statute and the proposed regulations, and is more appropriate than the generic approach used by U.S. EPA. ACCC does not understand why the generic approach based on unrealistic future residential exposure is used instead of the Facility-specific approach, which considers current and reasonably expected future industrial uses for the Facility. The residential exposure to Facility groundwater is inappropriate because of the ready availability of drinking water from the public supply at the Facility, existing industrial zoning, anticipated continued future industrial use of the Facility, and the closure plan requirement for future deed restrictions, ensuring such future industrial use.

The use of PRGs more stringent than the Facility-specific ones presented and cost-evaluated in the U.S. EPA-approved CMS could unnecessarily escalate the groundwater remediation efforts, and will result in drastic cost increases to both ACCC and U.S. EPA, which increases or escalations are not discussed or justified in the SB. Furthermore, these unnecessarily stringent cleanup standards proposed by U.S. EPA will provide no additional benefit with respect to protection of human health and the environment over the Facility-specific ones presented in the U.S. EPA-approved CMS. ACCC believes that an inappropriate goal of regional standardization must be the basis of U.S. EPA's selection of default parameters as PRGs. To impose drastic cost increases for the sake of what appears to ACCC to be nothing more than U.S. EPA regional standardization is not appropriate under the RCRA program. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment. Moreover, as noted above, U.S. EPA policy has changed in the direction of considering Facility-specific conditions to alter generic standards, as discussed in ANPRM draft (October 1995) Pages 72 and 73, and land use policy, OSWER Directive 9355.7-04 (May 25, 1995).

ACCC believes that U.S. EPA should agree to re-evaluate groundwater media cleanup goals using Facility-specific current and reasonably expected future industrial exposure assumptions, and acknowledge flexibility to adopt a Facility-specific approach to development of PRGs following the one presented in the CMS, which was previously approved by U.S. EPA. U.S. EPA ignores the fact that groundwater is not used for drinking water purposes by local residents and one can reasonably conclude that Bald Eagle Creek is the nearest potential

future exposure point and therefore, the most appropriate receptor location for cleanup standard calculation purposes. Considering the breadth of remediation efforts at the ACCC and Drake properties, future monitoring of groundwater, natural attenuation of COCs in groundwater and deed restrictions on land use at these properties, and the fact that groundwater will not be utilized for drinking water purposes, the potential for exposure to COCs in groundwater is not even a remote possibility. Based on this Facility-specific information, the selection of cleanup standards at a 10^{-4} risk level for all groundwater COCs would be consistent with available toxicological information and the proposed RCRA corrective action regulations and would be overly protective of human health and the environment. ACCC recommends that the SB be modified to include Facility-specific remediation goals for groundwater that correlate to a 10^{-4} risk level based on current and reasonably expected future use under an industrial exposure scenario and/or potential future exposure at Bald Eagle Creek. This recommendation is based on the Facility-specific conditions which include current and reasonably expected future industrial use of the property, including the current and future availability of drinking water from a public supply, and deed restrictions required for closure ensuring future industrial use of the Facility.

Based on the additional comments presented in regard to the PRGs within Section 2.2 and Section 4.2 of these comments, the establishment of media cleanup standards for ACCC Facility groundwater may best be deferred until an evaluation of the effects of the Drake Site sheet pile on the sand and gravel aquifer hydraulics is complete.

4.0 TECHNICALLY PREMATURE CONCLUSIONS

During our review of the SB, ACCC has identified several U.S. EPA conclusions as premature, based on their incomplete technical basis and schedule.

4.1 POINT OF COMPLIANCE

The U.S. EPA has ignored in their evaluation of the POC the uncertainty of the effect of the remedial action at the Drake Site on groundwater hydraulics at the ACCC Facility. As U.S. EPA is well aware, the remedy at the adjacent Drake Site includes the installation of permanent sheet pile walls around Zone 1, to approximate depths of 30 or more feet below ground surface; the sheet piling installation is currently near completion. It is ACCC's opinion that the installation of this sheet pile wall will affect the natural hydraulics of the sand and gravel aquifer beneath the ACCC Facility. As a result, we expect the aquifer hydraulics to change significantly from the current understanding. In fact, ACCC submitted a Letter Plan to U.S. EPA on October 23, 1995⁵ proposing to perform additional groundwater monitoring and modeling activities, at both the ACCC Facility and Drake Site, which, upon completion, would quantify the effect of the sheet pile wall around the Drake Site Zone 1 on the hydraulics of the sand and gravel aquifer.

Based on these above discussion items and those presented in Section 2.2, ACCC believes that U.S. EPA's determination of the POC is extremely premature. These decisions should more appropriately be made, following review of the current Facility hydraulic conditions, and in consideration of the overall corrective action program for the ACCC Facility and the adjacent Drake Chemical Site. Therefore, we recommend that U.S. EPA delete the proposed POC of "throughout the groundwater plume", and include additional language in the SB that references the proposed RCRA Corrective Action Rule in the development of the POC, the determination of which, will be made following completion of the ongoing groundwater hydraulics analysis proposed for the sand and gravel aquifer underlying the ACCC Facility and the adjacent Drake Chemical Site.

4.2 PRELIMINARY REMEDIATION GOALS

As indicated in the CMS, ACCC believes that the Facility-specific approach to developing PRGs is technically and scientifically superior to the generic approach (proposed by U.S. EPA) to

⁵ Key Environmental, Inc., October 23, 1995, Letter Plan - Evaluation of Drake Chemical Sheet Pile on Sand and Gravel Groundwater Hydraulics, presented to U.S. EPA on behalf of ACCC.

developing PRGs for Facility groundwater. This issue is discussed in detail in Section 3.4. Notwithstanding the arguments presented therein, ACCC also believes that this issue be best resolved following the additional field tasks that are proposed to evaluate the effect of the sheet pile wall (around Drake Site Zone 1) on groundwater hydraulics within the sand and gravel aquifer. From a groundwater remediation standpoint, at any Facility, the logical steps in the implementation of the remedy are as follows: 1) determination of groundwater hydraulics, 2) evaluation of distribution of constituents within the areas of interest and establishment of the POC, 3) development of media cleanup standards, *i.e.*, PRGs, and 4) design and implementation of groundwater remedy. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment.

Based on these facts presented above, ACCC believes that the development of PRGs is premature. We recommend that U.S. EPA acknowledge this fact and defer the development of PRGs to a subsequent phase, possibly following reevaluation of the hydraulics within the sand and gravel aquifer. ACCC firmly believes that the PRGs should be based upon Facility-specific exposure factors in consideration of the current and reasonably expected future industrial use of the ACCC Facility. The fact that current zoning restrictions and anticipated deed restrictions will limit the current and future uses of the ACCC property to industrial use, along with the fact that the Facility receives public water service and will continue to do so in the future, must be considered in the development of Facility-specific PRGs.

In addition to these additional discussions on the PRGs, U.S. EPA should include language that allows for the modification of the PRGs during the five-year review. Factors such as stabilized concentrations in groundwater, technical impracticability, or other updated relevant information will also be considered at the time of review.

4.3 **LODGING OF CONSENT DECREE FOR DRAKE SITE GROUNDWATER REMEDIATION.**

Within the SB, U.S. EPA has not referenced the fact that U.S. EPA has negotiated a Consent Decree with ACCC and Beazer under the U.S. EPA Region III CERCLA authority for the remediation of the Drake Site groundwater, which Consent Decree is presently being reviewed for various levels of approval within U.S. EPA and the Department of Justice (DOJ). ACCC's and Beazer's obligations under the Consent Decree do not begin to be triggered until such time as the Consent Decree is lodged with the Court. ACCC was willing to enter into the Consent Decree under the CERCLA authority for the Drake Site groundwater remediation, in part, based on the understanding that the Drake Site groundwater remediation program and the ACCC Facility groundwater remediation program would be completed parallel to, not inconsistent with, and not duplicative of, each other. This parallel, consistent, and non-duplicative approach would

provide ACCC with the economies of scale for the operation of two very similar groundwater extraction and treatment systems. Significant technical, administrative, and cost efficiencies are anticipated in the joint implementation of the respective groundwater remediation programs, which are realized only if these two systems are designed, installed, and operated on a parallel, consistent, and non-duplicative schedule.

ACCC believes that the implementation of groundwater remedial activities at the ACCC Facility is premature prior to DOJ's lodging with the Court of the negotiated Consent Decree for the Drake Site groundwater remediation. U.S. EPA should acknowledge the existence of the ongoing Consent Decree approval process, and the impact of the lodging of the Drake Site Consent Decree upon the groundwater remediation activities to be performed at the ACCC Facility. In addition, the SB should be revised to include the anticipated schedule for the lodging of the Consent Decree for the Drake Site groundwater remediation program. The SB should also acknowledge that U.S. EPA will require ACCC to complete groundwater remedial activities at the ACCC Facility in parallel, and not inconsistent with, or duplicative of, the groundwater remedial activities negotiated for the Drake Site, in order to take advantage of economies of scale, to avoid duplicative or inconsistent application, construction, and/or operation of the respective groundwater remediation programs, and to obtain consistency in the anticipated groundwater remedial technologies.

5.0 ARSENIC CONCENTRATIONS IN BALD EAGLE CREEK SEDIMENTS

ACCC is aware of U.S. EPA's concern regarding the arsenic concentration in one sample from within the Bald Eagle Creek sediments, immediately adjacent to the location of the storm sewer outfall to Bald Eagle Creek. Pursuant to the RFI Work Plan, two sediment samples, one each from upgradient and downgradient sediment sample locations, were collected in the vicinity of the outfall during the 1992 sediment sampling event. Analytical results indicated the presence of arsenic at a concentration of 420 milligrams per kilogram (mg/kg) in the downstream sample and 5 mg/kg in the upstream sample. In the RFI Report, Facility-specific background arsenic concentrations were calculated to be 37 mg/kg. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment.

A Letter Plan⁶ was submitted to U.S. EPA for the further evaluation of arsenic concentrations in the sediments adjacent to the outfall. ACCC's environmental consultant, Key Environmental, Inc. (KEY), executed the Letter Plan. Table 1 presents the results of their findings, and Figure D presents the sediment sampling locations and the observed 1992 and 1995 sediment sampling analytical results. Attachment 2 presents the raw laboratory analytical data for the respective analysis.

As a result of this additional evaluation, arsenic concentrations were observed to be between 2.48 to 9.09 mg/kg. Upstream concentrations were between 2.83 to 4.23 mg/kg and downstream concentrations ranged from 2.48 to 9.09 mg/kg. Attachment 3 presents a calculation brief with the statistical evaluations comparing the upstream and downstream arsenic concentrations, including the 1992 sediment data.

As a result of the completion of the Letter Plan, the following observations were made:

- Neither downstream or upstream arsenic concentrations (for the 1995 sediment sampling event) exceeded the Facility-specific background concentrations of 37 mg/kg or the Region III RBC for arsenic in soil of 23 mg/Kg (residential) and 610 mg/Kg (industrial);
- The statistical evaluation of the sediment data showed no statistical difference in arsenic concentrations between upstream and downstream sample locations;

⁶ Key Environmental, Inc., September 20, 1995, Letter Plan - Sediment Sampling at Bald Eagle Creek NPDES Outfall, submitted to U.S. EPA Region III on behalf of ACCC.

- Statistical tests presented in U.S. EPA⁷ guidance were used to compare the arsenic concentrations in the upstream and downstream sediments. These procedures, the Wilcoxon Rank Sum test (also called the Mann-Whitney Test) and the Quantile tests were used to detect a uniform shift in the distribution of concentrations and the presence of an increased frequency of extreme concentrations, respectively. Both these tests are nonparametric and are independent of any assumptions regarding the underlying statistical distribution of the measurements. The results of these tests indicated no significant difference between the upstream and downstream sediments in regard to arsenic concentrations. The statistical probability of measuring an outlier of 420 mg/Kg was calculated to be greater than 1 in a million. In addition, based on the arsenic data used, the statistical probability of these sediment samples demonstrating concentrations of 37 mg/Kg (Facility-specific arsenic background concentration) or greater is approximately 1 in 2,500.

Pursuant to the criteria presented within the Letter Plan, because background concentrations of arsenic were not exceeded, detailed benthic macroinvertebrate analyses of the sediment samples were not conducted. As a result of the recent arsenic analysis, ACCC believes that the elevated arsenic concentration measured in the downstream sediment sample during the 1992 sampling event is an anomaly. Several reasons could exist for this anomaly, such as laboratory error or inadvertent introduction of foreign material such as fly ash into the sediment sample during sample collection.

ACCC suggests that this new information with respect to the arsenic concentrations in Bald Eagle Creek sediments be included in the SB. Based on this new information, the SB should be modified to specify that no corrective action is required for Bald Eagle Creek Sediments.

⁷ U.S. EPA, 1992, Methods for Evaluating the Attainment of Cleanup Standards. Volume 3: Reference Based Standards for Soils and Solid Media: Washington D.C., EPA 230-R-94-004.

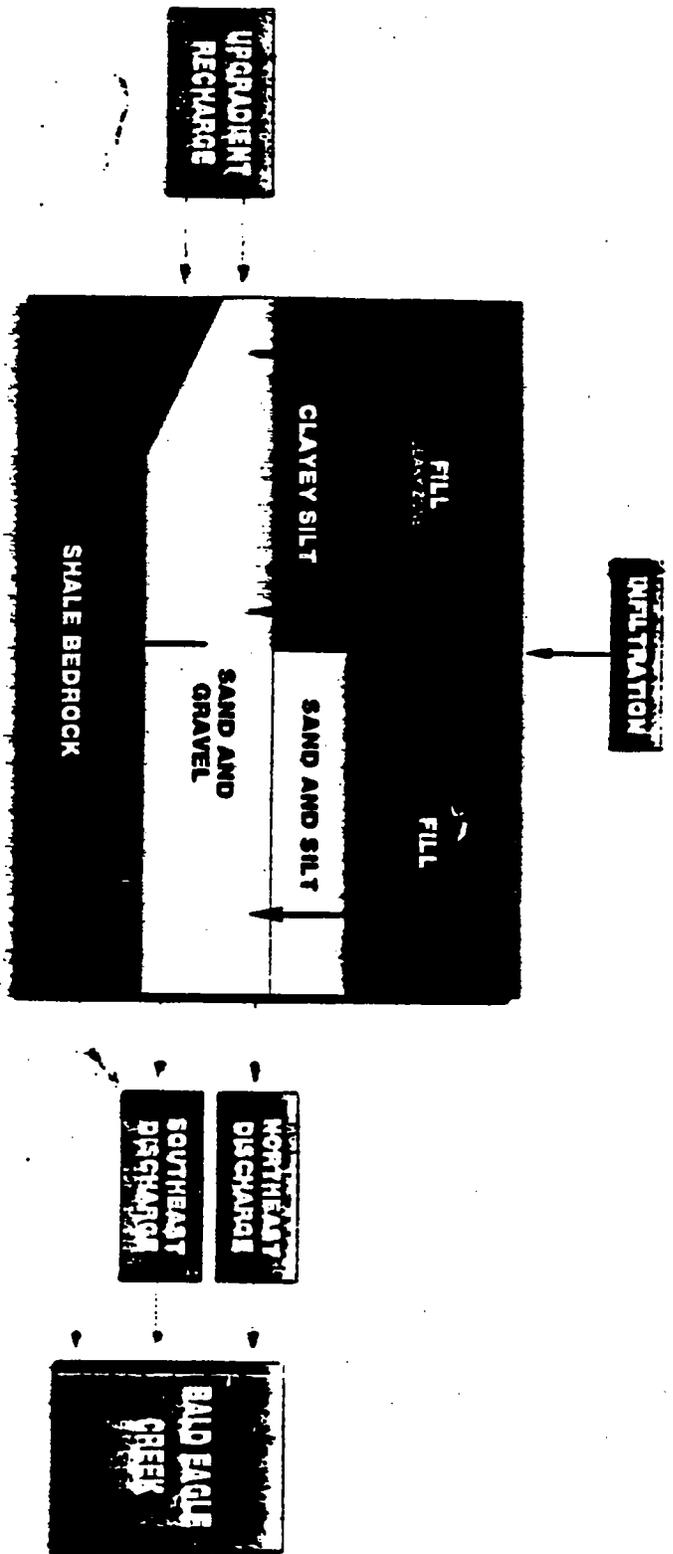
6.0 OTHER INCORRECT STATEMENTS

ACCC believes the following statements in the SB are also incorrect based on the discussion below. ACCC hereby incorporates by reference each document listed in Attachment 1 as further background for this comment.

1. Page 5, 1st Paragraph - The statement "Based on the findings of the RFI, EPA has determined that there are contaminants of concern in soil and ground water..." should be changed to read "Based on U.S. EPA interpretation of the RFI, EPA has" It is apparent throughout the SB that the U.S. EPA does not rely upon the risk assessment-based conclusions presented in the RFI. For example, the U.S. EPA identifies a number of constituents as COCs, although the risk posed by the constituents lies within the acceptable risk range of 10^{-6} to 10^{-4} .
2. Page 9, 1st Paragraph - The statement, "The Monte Carlo simulation results show that the RME risk estimates slightly exceeded the 95th percentile. This means that slightly fewer than one in 20 workers would be expected to experience the RME-level exposures, suggesting that the RME for this Facility was indeed a reasonable maximum exposure." is incorrect. According to Figure RFI-A9a, the RME cancer risks fall around the 98th percentile. This means that 1 in 50 workers, and probably less, may experience RME level exposures. It is unlikely that 50 workers will ever be simultaneously present at the ACCC Facility and, even more unlikely that any such workers will be working exclusively in the SWMU impoundments areas.
3. Page 9, 2nd Paragraph - The following statement is incorrect: "The upper bound lifetime cancer risk was $1e-2$... associated primarily with arsenic in groundwater and soil." The cancer risk of $1e-2$ is only associated with arsenic in groundwater. The cancer risk for arsenic in soil is $2e-4$. The U.S. EPA does correctly state that arsenic is the primary contribution to cancer risk in the 4th paragraph on Page 9.
4. Page 9, 3rd Paragraph - The following statement is incorrect: "Industrial and residential exposure to soils within the SWMU ... to workers and residents of $5e-5$ and $4e-4$, respectively." The correct cancer risk estimates for the worker and residents are $5e-5$ and $2e-4$, respectively.
5. Page 9, 3rd Paragraph - The following statement is incorrect: "Nearly all this risk was associated with ingestion and dermal contact with soils containing arsenic and PAHs." This is not true since nearly all the risks are posed by arsenic, not PAHs, as presented in Tables RFI 44a and RFI 64 from the RFI Report.

6. Table 4 - Future Hypothetical Residential Use Risk Estimates - The value of $2e-4$ shown for the adult cancer risk via dermal contact is incorrect. The correct value is $4e-5$. The significant contaminants listed for the adult under soil ingestion and dermal contact are incorrect. The only PAH that can be considered, benzo(a)pyrene, which had an estimated risk of $2e-6$ and $5e-6$ for soil ingestion and dermal contact, respectively. All other cancer risks for PAHs are significantly less than these values. The value of $5e-6$ is not considered significant based on the conservative RME point estimate approach and the acceptable risk range of 10^{-6} to 10^{-4} . The U.S. EPA consistently neglects to provide any rationale or Facility-specific information for selecting COCs based on risks that are less than 10^{-6} .
7. Page 20 - The net present value capital cost and operation & maintenance cost for Alternative G-3 is stated to be \$5,802,400. These costs are only accurate for the groundwater extraction scenario presented within the U.S. EPA-approved CMS. The groundwater extraction scenario assumed the POC to be the downgradient Facility boundary and used Facility-specific information for the reasonably expected future industrial use of the Facility in their evaluation, which approach is consistent with the current and proposed regulations. Use of the U.S. EPA default standards in the development of the POC and PRGs, which are based on the incorrect current and unrealistic future use of the Facility, will drive up the costs associated with Alternative G-3. Based on U.S. EPA's current statement of the POC as "throughout the groundwater plume," this cost estimate is not valid. U.S. EPA should remove this statement from the SB and defer the development of the POC to a suitable time, following the evaluation of the sand and gravel hydraulics, as discussed in Section 4.0.

ACCC requests that the SB be revised such that the above-referenced statements are corrected to accurately reflect the facts presented in the U.S. EPA-approved documents which are part of the Administrative Record for the ACCC Facility.



HYDRAULIC PROPERTY CALCULATIONS

FLOW	HYDRAULIC UNITS	Hydraulic Conductivity (K) (ft/dy)	Hydraulic Endam (1/ft)	Effective Porosity (ft³/ft³)	Seepage Velocity (ft/dy)
HORIZONTAL	Fill and Clayey Silt	0.7	0.006	0.3	1.1E-02
	Sand and Gravel - Southern	7.0	0.008	0.38	2.8E-01
	Sand and Gravel - Northern Bedrock	7.0	0.18	0.38	4.8E+00
VERTICAL	Fill and Clayey Silt to Sand and Gravel	0.02	0.4	0.3	3.4E-01
	Sand and Gravel to Bedrock	0.80	0.0005	0.25	2.8E-02

REFERENCES

1. J. WATSON ENGINEERING AND SURVEYING COMPANY, ASPEN, PENNSYLVANIA. SITE PLAN OF THE AMERICAN COLOR & CHEMICAL CO. PREPARED FOR REACTOR INC. DRAWING No. E-3323 SCALE 1"=100'. DATED 5/27/80

2. REACTOR INC. "REACTOR FACILITY INVESTIGATION TASK 1-DESCRIPTION OF CURRENT CONDITIONS" PREPARED FOR AMERICAN COLOR & CHEMICAL CORPORATION. DRAWING No. 9198-135 SCALE 1"=100'. DATED 8/8/92

WATSON/WATSON MAY 1994. FINAL REPORT - REACTOR FACILITY INVESTIGATION. SUBMITTED TO U.S. EPA ON BEHALF OF ACCU.

**AMERICAN COLOR & CHEMICAL CORP.
LOCK HAVEN, PENNSYLVANIA**

Drawn by	DATE	10/23/93
Checked	DATE	10/23/93
APPRO	DATE	
SCALE	AS SHOWN	

KVC
KINGDOM VALLEY CORPORATION

COMMENTS ON STATEMENT OF BASIS
AMERICAN COLOR & CHEMICAL CORP.
LOCK HAVEN, PENNSYLVANIA

DATE	10/23/93
BY	WATSON/WATSON
FOR	ACCU
PROJECT	REACTOR FACILITY INVESTIGATION
FIGURE	CONCEPTUAL HYDROLOGIC MODEL

FIGURE A



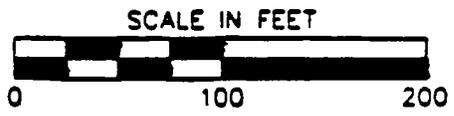
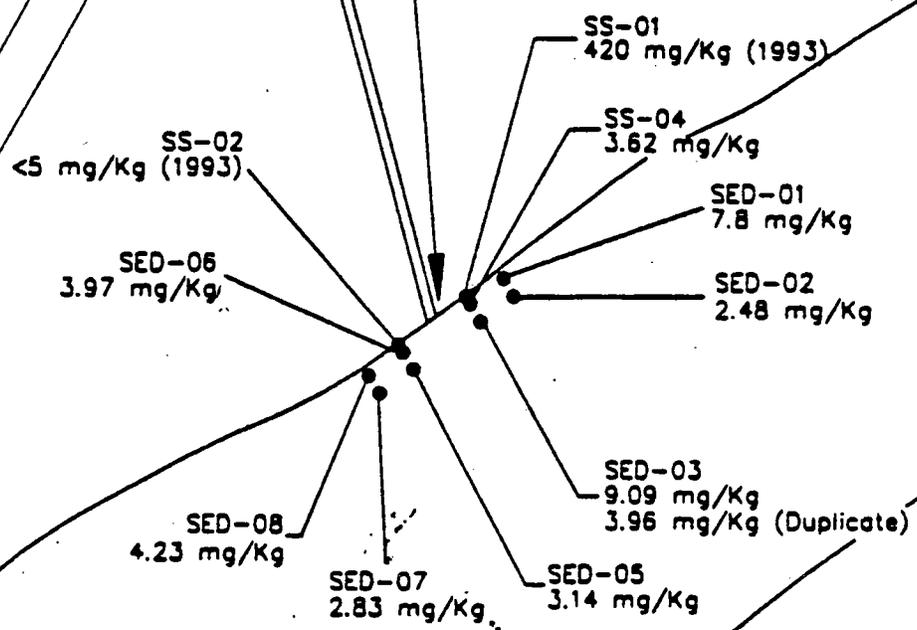
U.S. ROUTE 220

APPROXIMATE LOCATION OF SEWER LINE

APPROXIMATE DISCHARGE LOCATION

NOTES:

- 1. SS-01 AND SS-02 COLLECTED DURING 1993 RCRA FACILITY INVESTIGATION.
- 2. SED-01 THROUGH SED-08 COLLECTED DURING 1995 SEDIMENT SAMPLING.
- 3. mg/Kg INDICATES CONCENTRATION UNITS OF MILLIGRAMS PER KILOGRAMS.



BALD EAGLE CREEK

AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

DRAWN: MEL	DATE: 10/23/95
CHECK: JAB	DATE: 10/23/95
APPRO: RAN	DATE: 10/23/95
SCALE: AS SHOWN	

KEY ENVIRONMENTAL INCORPORATED

REFERENCE MILAREN/HART ENVIRONMENTAL ENGINEERING CORP. MAY 20, 1994 FINAL REPORT RCRA FACILITY INVESTIGATION. PREPARED FOR AMERICAN COLOR & CHEMICAL CORP.	KEY ENVIRONMENTAL	ISSUE DATE: 10/23/95
		8 EAST MALL PLAZA SUITE 100 CARNEGIE, PA 15108

BALD EAGLE CREEK SEDIMENT SAMPLING
AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

SEDIMENT SAMPLE LOCATIONS AND ARSENIC RESULTS	DRAWING NUMBER 88041 FIGURE D
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AR410766

Attachment 1

AR410767

ADMINISTRATIVE RECORD - LOCK HAVEN

DATE	TO	FROM	RE
4/23/90 A	Primo Marchesi, Project Manager, AC6CC	Richard Bittle, Regional Solid Waste Manager, PADER	PADER's Approval for Closure of Impoundments 1B, 2 and 5
5/8/91 B	Primo Marchesi, Project Manager, AC6CC	R. Greaves, USEPA	RCRA Section 3008(h) Corrective Action Consent Order for the AC6CC Facility (unsigned)
9/3/91 L	Primo Marchesi, Project Manager, AC6CC	John Nevius, USEPA	RCRA Corrective Action Consent Agreement Technical Discussions
9/3/91 L	M. Vickers, USEPA	Brian Clark, Morgan, Lewis & Bockius	Final RCRA Administrative Consent Order.
9/4/91 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC6CC	Analytical Results
9/4/91 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. C. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
9/5/91 L	R. Collings; B. Clark, Morgan, Lewis & Bockius	R. Greaves, USEPA	Administrative Order on Consent - RCRA Section 3008(h)
9/5/91 L	AC6CC	USEPA; Region III	Final Administrative Order on Consent, Docket No. RCRA III-040-CA
9/11/91 L	John Nevius, USEPA	Primo Marchesi, Project Manager, AC6CC	RCRA Corrective Action Consent Agreement, AC & CC Project Coordinator

9/12/91 L	Primo Marchesi, Project Manager, AC&CC	R. Maxwell, PADER	Notice of Violation, Sludge Treatment/Decontamination Facility
9/19/91 L	John Nevius, USEPA	Primo Marchesi, Project Manager, AC&CC	Transmittal, Contractor and Subcontractor Information, Administrative Order on Consent - RCRA Section 3008(h)
9/25/91 L	David Bish, Air Pollution Control Engineer, PADER	Primo Marchesi, Project Manager, AC&CC	Amend Plan Approval 18-330-001
9/25/91 L	David Bish, Air Pollution Control Engineer, PADER	Primo Marchesi, Project Manager, AC&CC	Ambient Air Monitoring During Impoundment 2 Sludge Removal Activities
10/3/91 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
10/23/91 L	Primo Marchesi, Project Manager, AC&CC	Joseph Cooper, Regional Environmental Protection Manager, PADER	Amend Condition #2 of Plan Approval #18-330-001
10/31/91 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
11/6/91 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC&CC	1991 Third Quarter Monitoring Quarterly Report
11/6/91 L	John Nevius, USEPA	Primo Marchesi, Project Manager, AC&CC	Bimonthly Progress Report No. 1, November 1991, RCRA Facility Investigation
11/26/91 A	PADER	Primo Marchesi, Project Manager, AC&CC	Hazardous Waste Inspection Report

11/27/91 A				Volume I Text and Volume II Appendices RCRA Facility Investigation Task, I, Task II and Task III
12/2/91 A	Ken Koprivnikar, City Sanitation Dept., 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny		Results of Discharge to Lock Haven Sewage Treatment Plant
12/11/91 P	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC6CC		Work Plan for Well Abandonment, Replacement and Modification
12/12/91 L	Primo Marchesi, Project Manager, AC6CC	Joseph Cooper, Regional Environmental Protection Manager, PADER		Consent Assessment of Civil Penalty
12/12/91 A	To File	Richard J. Omlor, Project Manager, AC6CC		Memo re: USEPA/AC6CC Meeting on December 12 & 13, 1991
12/16/91 A	To File	Primo Marchesi, Project Manager, AC6CC		Memo re: USEPA/AC6CC Meeting on December 12 & 13, 1991
12/16/91 A	Memo to File by Primo Marchesi re: USEPA Meeting and Site Visit of 12/12 and 12/13, 1991			Purpose of Meeting was to Review and Approve RFI Work Plan
12/31/91 L	AC6CC	E. Finkel, PADER		1989 Biennial Hazardous Waste Report, Notice of Violation
1/2/92 L	John Nevlus, USEPA	Primo Marchesi, Project Manager, AC6CC		RCRA Corrective Action Consent Agreement, AC & CC Project Coordinator Change

1/2/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
1/2/92 L	Primo Marchesi, Project Manager, AC&CC	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Proposed Well abandonment & Replacement Plan
1/2//92 L	John Nevius, USEPA	Primo Marchesi, Project Manager, AC&CC	Bimonthly Progress Report No. 2, January 1992, RCRA Facility Investigation
1/7/92 L	Primo Marchesi, Project Manager, AC&CC	John Nevius, USEPA	RCRA Corrective Action Consent Agreement, Site Visit of December 12 & 13, 1991
1/13/92 L	David Bish, Air Pollution Control Engineer, PADER	Primo Marchesi, Project Manager, AC&CC	Consent Agreement
1/13/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC&CC	1991 (Fourth Quarter and Second Semiannual) Ground Water Hazardous Waste Monitoring Reports
1/14/92 L	R. Finkel, PADER	Primo Marchesi, Project Manager, AC&CC	1989 Biennial Hazardous Waste Report
1/16/92 P	Richard Marcinkavage, City Engineer, City of Lock Haven	Primo Marchesi, Project Manager, AC&CC	Semi-Annual Reporting Forms
1/20/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC&CC	Notice of Richard Omlor as Project Manager
1/20/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC&CC	Revised Closure Schedule, Impoundments 1B, 2 and 5

1/23/92 A	File	Richard J. Omlor, Project Manager, AC&CC	Notes of Meeting January 23, 1992 with PADER
1/28/92 L	Commonwealth of Pennsylvania's Clean Air Fund	Primo Marchesi, Project Manager, AC&CC	Transmittal of Penalty Payment
1/28/92 A	AC&CC	PADER	Consent Assessment of Civil Penalty for Air Violation
1/29/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Primo Marchesi, Project Manager, AC&CC	Report 1991 Ground Water Monitoring
1/30/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
2/13/92 P	David Bish, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Continuous VOC Analyzer
2/13/92 L	John Nevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	Fire Pond Removal
2/14/92 L	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	1991 Biennial Hazardous Waste Report, 1991 Annual Hazardous Waste Report, 1991 Fourth Quarter Hazardous Waste Report
2/20/92 A	John Nevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	AC&CC's Comments to EPA's Letter of January 7, 1992 and the Results of December 12 and 13, 1991 Site Visit
2/20/92 L	John Nevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	RCRA Corrective Action Consent Agreement

2/27/92 A	Calgon Carbon Corporation, Pgh., PA	Anthony Orlando, PADER	Approval for Storage of "U" Wastes from AC&CC.
3/2/92 P	Richard J. Omlor, Project Manager, AC&CC	David Bish, Air Pollution Control Engineer, PADER	VOC Concentration Level
3/3/92 P	David Bish, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Continuous VOC Analyzer Action Levels
3/5/92 L	John Nevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 3, March 1992, RCRA Facility Investigation
3/5/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
3/12/92 A			Operating Permit No. 18-330-001 for Sludge Treatment/Decontamination Facility
3/12/92 A	Richard J. Omlor, Project Manager, AC&CC	Joseph W. Cooper, Regional Environmental Protection Manager, PADER	Enclosure of Air Quality Permit
3/24/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
3/30/92 P	John Nevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	Attachments A, B, C and D, RCRA Administrative Consent Order

AR410773

3/30/92 A				Summary of PADER Meeting Attended by John Hamilton, PADER, Ron Morosky, GMG Associates, Primo Marchesi, AC&CC and Dick Omlor, AC&CC
3/31/92 A	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC		Meeting of 3/30/92 and Enclosure of Contractors Bid Package for Impoundment No. 5
4/2/92 P	David Bish, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC		Sludge Treatment Decontamination Facility
4/13/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC		Final Report, Well Abandonment, Replacement & Notification
4/20/92 L	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC		Quarterly Hazardous Waste Report, First Quarter 1992
4/21/92 L	Brian Clark, Morgan, Lewis & Bockius	Ronald Hassinger, Waste Determination Section, PADER		Reclassification of spent carbon from closure activities
4/23/92 L	Richard J. Omlor, Project Manager, AC&CC	David Bish, Air Pollution Control Engineer, PADER		Project Manual for Removal of Sludge from Impoundment No. 5
5/1/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney		Results of Discharge to Lock Haven Sewage Treatment Plant
5/18/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC		1992 (First Quarter) Groundwater Hazardous Waste Monitoring Report

5/29/92 L	David Bish, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Impoundment No. 5 Project
6/1/92 A	Ken Koprivnikar, City Sanitation Dept., 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
6/2/92 A	Memo re: Telephone Conference between John Mevius, USEPA and Primo Marchesi, AC&CC on June 1, 1992		1) Meeting with EPA scheduled mid-July, 1992, 2) Written comments from EPA re: RFI to be forthcoming in 2-3 weeks 3) Merits of Groundwater Recovery from AC&CC Well RW #1
6/5/92 L	Richard J. Omlor, Project Manager, AC&CC	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Well Abandonment, Replacement & Modification Review
6/11/92 L	F. Teggart - City of Lock Haven	T. Voltaggio, USEPA	Remediation, Drake Chemical Site
7/1/92 L	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Quarterly Hazardous Waste Report, Second Quarter 1992
7/1/92 A	Richard Marcinkavage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Semi-Annual Report, January 1, 1992 through June 30, 1992
7/6/92 L	John Mevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Reports No. 4 and 5, May and July 1992, RCRA Facility Investigation
7/8/92 A	Ken Koprivnikar, City Sanitation Dept., 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant

7/9/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	Richard J. Omlor, Project Manager, AC&CC	Attachment 1 to Appendix C (Revised Form 18) Well Abandonment, Replacement and Modification Report
7/17/92 A	Richard J. Omlor, Project Manager, AC&CC	John Nevius, USEPA	John Nevius, USEPA	EPA's Comments to Draft RCRA RFI
7/17/92 P	Richard J. Omlor, Project Manager, AC&CC	John Nevius, USEPA	John Nevius, USEPA	RCRA Corrective Action Consent Agreement, RFI Workplan Review
7/22/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	Richard J. Omlor, Project Manager, AC&CC	1992 Groundwater Monitoring Data
8/5/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
8/17/92 A	Richard J. Omlor, Project Manager, AC&CC	Christopher Pella, Chief - PA Corrective Action RCRA Enforcement Section, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Change of EPA's Project Coordinator to be: Maureen Essenthier
8/20/92 L	John Nevius, USEPA	Richard J. Omlor, Project Manager, AC&CC	Richard J. Omlor, Project Manager, AC&CC	Transmittal, Revised Submission, RCRA Facility Investigation (RFI) Task I - Description of Current Conditions, Task III - RFI Work Plan
9/4/92 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Richard J. Omlor, Project Manager, AC&CC	Bi-monthly Progress Report No. 6, July and August 1992, RCRA Facility Investigation

9/9/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
9/21/92 A	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Drawings of Effluent Treatment System Design
9/21/92 L	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	RCRA Corrective Action Consent Agreement EPA letter dated July 17, 1992 commenting on AC6CC RFI Work Plan, Response to February 13, 1992 letter from AC6CC
9/22/92 A	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Enclosure of SHM locations
9/22/92 L	Richard J. Omlor, Project Manager, AC6CC	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Administrative Order on Consent, RCRA Facility Investigation
9/22/92 A	Richard J. Omlor, Project Manager, AC6CC	Maureen Essenthiel, Project Coordinator, USEPA, Region III	EPA's Approval of Task III, RFI Work Plan with Modification
10/4/92 P	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	RCRA Corrective Action Consent Agreement, EPA letter dated July 17, 1992 commenting on AC6CC RFI Workplan, Response to February 20, 1992 letter from AC6CC
10/5/92 A	David Bish, Air Pollution Control Engineer, FADER	Richard J. Omlor, Project Manager, AC6CC	Improvements of Operations at Sludge Treatment Facility
10/5/92 L	David Bish, Air Pollution Control Engineer, FADER	Richard J. Omlor, Project Manager, AC6CC	AC6CC letter dated April 2, 1992

10/7/92 L	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Quarterly Hazardous Waste Report, Third Quarter 1992
10/7/92 A	Ken Koprivnikar, City Sanitation Dept., 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
10/14/92 A	Ken Koprivnikar, City Sanitation Dept., 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
10/14/92 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Administrative Order on Consent, RCRA Facility Investigation
10/14/92 A	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	EPA's Conditional Approval of RFI and AC&CC's Response
10/14/92 A	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Work Plan Groundwater Recovery Treatment System, October 23, 1992
10/20/92 L	R. Schrock, USEPA Region III	Richard J. Omlor, Project Manager, AC&CC	Property Line Survey, Land Access Requirements
10/29/92 A	Richard Marcinkevage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Executed Access Agreement Between City of Lock Haven and AC&CC
10/29/92 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	McLaren/Hart Schedule for Field Activities

11/2/92 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Notification of the Selection of Subcontractor
11/3/92 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 7, September and October 1992, RCRA Facility Investigation
11/6/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
11/11/92 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Letter Work Plan, Bald Eagle Creek Sediment Sampling
11/12/92 A	Maureen Essenthier, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	RFI Methodology Clarification
11/30/92 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1992 (Third Quarter) Groundwater Hazardous Waste Monitoring Report
12/2/92 P	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	Letter Report - Decommissioning for Former Monitoring Wells MW-1 and MW-4
12/2/92 A	Maureen Essenthier, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Confirmation of Telephone Discussions re: Clarifications and/or Modifications of RFI Work Plan
12/2/92 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant

12/9/92 P	L. Richard Adams, PADER	Richard J. Omlor, Project Manager, AC&CC	NPDES PA0009083 Renewal Application
12/15/92 A	Maureen Essenthiel, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Notification of the Selection of Additional Drilling Subcontractor
12/17/92 A	Richard J. Omlor, Project Manager AC&CC	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Approval of McLaren/Hart Laboratory Quality Assurance Plan
12/23/92 A	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	Fourth Quarter and Semi Annual Groundwater Monitoring Reports
12/23/92 A	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1992 Annual Groundwater Monitoring Report
12/29/92 A	Richard J. Omlor, Project Manager, AC&CC	Richard L. Bittle, Regional Solid Waste Manager, PADER	Approval of Decommissioning of Monitoring Wells MW-1 and MW-4
12/31/92 A	Richard J. Omlor, Project Manager, AC&CC	John Seagle, Jr. PADER	On-Site Review and Approval of PPC Plan
12/31/92 A	Maureen Essenthiel, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Confirmation of Monitoring Well Installation Program Completed 12/30/92
1/5/93 A	Richard J. Omlor, Project Manager, AC&CC	Mike Glantz, City of Lock Haven	City Inspection - Sewerage Treatment Plant
1/5/93 P	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	1992 Annual Hazardous Waste Report, 1992 Fourth Quarter Hazardous Waste Report

1/6/93 A	Maureen Essenthiel, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 8, November and December 1992
1/6/93 A	Maureen Essenthiel, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Subcontractor Notification - Professional Service Industries
1/12/93 P	Maureen Essenthiel, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Off-Site Groundwater Sampling and Purge Water Management
1/13/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
1/22/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
1/29/93 A	David Bish, Air Pollution Control Engineer, PADEP	Richard J. Omlor, Project Manager, AC&CC	Preparation of Work Plan dated October 23, 1992 with Startup Scheduled for April, 1993
1/29/93 L	David Bish, Air Pollution Control Engineer, PADEP	Richard J. Omlor, Project Manager, AC&CC	Ambient Air Monitoring Program During Remediation of Pond 5
1/29/93 L	David Bish, Air Pollution Control Engineer, PADEP	Richard J. Omlor, Project Manager, AC&CC	Work Plan, Groundwater Recovery and Treatment System
2/3/93 P	Richard Marcinkavage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Semi-Annual Reporting Forms

2/12/93 A	Richard J. Omlor, Project Manager, AC&CC	Joseph Cooper, Regional Environmental Protection Manager, PADER	Renewal of Operating Permit No. 18-330-001
2/22/93 A	Richard J. Omlor, Project Manager, AC&CC	Richard L. Bittle, Regional Solid Waste Manager, PADER	Approval of Asphalt Storage Pad on Southern and Eastern Embankment of Impoundment 1B
2/22/93 B	Senator H. L. Wofford	Richard J. Omlor, Project Manager, AC&CC	EPA's effort to construct a hazardous waste incinerator at the Drake Chemical Site (also discusses the treatment used at AC&CC site)
2/22/93 B	Congressman W. F. Clinger	Richard J. Omlor, Project Manager, AC&CC	EPA's effort to construct a hazardous waste incinerator at the Drake Chemical Site (also discusses the treatment used at AC&CC site)
2/24/93 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Recommendations for Additional Field Activities, RCRA Facility Investigation
2/25/93 P	Richard J. Omlor, Project Manager, AC&CC	Christopher Pilla, Chief - PA Corrective Action RCRA Enforcement Section, USEPA Region III	Administrative Order on Consent, USEPA Docket No. RCRA-III-940-CA New Project Coordinator, Kevin Boyd
3/1/93 L	Richard J. Omlor, Project Manager, AC&CC	Maureen Essenthier, Project Coordinator, USEPA, Region III, USEPA	Administrative Order on Consent, Proposed Groundwater Stabilization Workplan
3/3/93 A	Richard J. Omlor, Project Manager, AC&CC	David Bish, Air Pollution Control Engineer, PADER	Need for Submittal of Plan Approval Application
3/4/93 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Draft Drum Sampling and Analytical Plan, RCRA Facility Investigation

3/4/93 A	T. Buntin, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Location of Replacement Monitoring Well TM-11B
3/8/93 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 9, January and February 1993, RCRA Facility Investigation
3/8/93 P	PADER	AC&CC	Air Pollution Control Act Compliance Review Form
3/10/93 A	Richard J. Omlor, Project Manager, AC&CC	Maureen Essenthier, Project Coordinator, USEPA, Region III	Approval of McLaren/Hart Proposal for Installation of Additional Monitoring Wells
3/10/93 L	Richard J. Omlor, Project Manager, AC&CC	Maureen Essenthier, Project Coordinator, USEPA, Region III	Administrative Order on Consent, RCRA Facility Investigation
3/10/93 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Summary of March 4, 1993 Telephone Meeting with AC&CC, USEPA, GMC, McLaren/Hart, PADER
3/11/93 L	Maureen Essenthier, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Response to EPA letter dated March 1, 1993 Groundwater Recovery/Treatment System Workplan
3/16/93 A	John Archambault, PADER, Operations Chief	Richard J. Omlor, Project Manager, AC&CC	Application for Renewal of Operating Permit No. 18-330-001
3/18/93 P	City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Groundwater Recovery Emissions
3/18/93 P	H. McKeague, Castanea Township, Clinton County	Richard J. Omlor, Project Manager, AC&CC	Groundwater Recovery Emissions

3/18/93 P	Clinton County Commissioner Office	Richard J. Omlor, Project Manager, AC&CC	Groundwater Recovery Emissions
3/19/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
3/23/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Notice of Force Majeure Event, Delaying Implementation of Additional Field Activities for RCRA Facility Investigation Due to Blizzard
3/23/93 A	David Bish, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Plan Approval Application for Air Permit No 18-330-001A
3/23/93 L	David Bish, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Inclusion of Groundwater Recovery Emissions into Treatment System
3/24/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Additional Field Investigation Issues, AC&CC, RCRA Facility Investigation - Replacement
3/31/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Letter Amendment, Drum Sampling and Analytical Plan, RCRA Facility Investigation
4/5/93 L	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Administrative Order on Consent, RCRA Facility Investigation
4/5/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Status of Force Majeure Event, RCRA Facility Investigation

4/5/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
4/5/93 A	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Approval of Draft Drum Sampling and Analytical Plan dated March 31, 1993 With Additional Modifications
4/6/93 P	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Hazardous Waste Report, First Quarter 1993
4/6/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	PADER Approval for Closure of Impoundments 1B, 2 and 5
4/9/93 L	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	AC&CC Stabilization Pilot Study
4/12/93 P	John Hamilton, PADER Bureau of Waste Mgmt. Williamsport, PA	Kevin Boyd, Project Coordinator, USEPA, Region III	American Color & Chemical Corporation Sludge Treatment System
4/13/93 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1993 (First Quarter) Groundwater Hazardous Waste Monitoring Report
4/14/93 L	Richard J. Omlor, Project Manager, AC&CC	Miles R. Murphy, Air Pollution Control Engineer, PADER	Technical Deficiencies, Application #18-330-001A
4/21/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Field Activities Schedule, RCRA Facility Investigation

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4/22/93 L	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Administrative Order on Consent, Docket No. RCRA III-040-CA
4/22/93 L	Richard J. Omlor, Project Manager, AC&CC	William Parsons, Assistant Regional Director, Field Operations, PADER	Acceptance Letter, Application #18-330-001A
4/22/93 A	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	AC&CC is to Analyze Each Individual Well's Composite Drum Cuttings
4/23/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Submittal of 4 Copies of Revised Text of the Drum Sampling and Analytical Plan with Revisions Stipulated in EPA's Approval Letter of April 5, 1992
4/26/93 A	Miles R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Technical Deficiencies for Air Permit Application
4/29/93 A	Richard J. Omlor, Project Manager, AC&CC	Mike Glantz, City of Lock Haven	City Inspection - Sewerage Treatment Plant
5/4/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bi-monthly Progress Report No. 10, March and April 1993, RCRA Facility Investigation
5/5/93 A	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Tests to Determine the Feasibility to Treat with AC&CC's Activated Carbon System RCRA Facility Investigation
5/11/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant

5/24/93 L	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Administrative Order on Consent, RCRA Facility Investigation
5/24/93 A	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA Finds AC&CC's Test for Removal of Fenac Acceptable
5/26/93 L	Miles R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Technical Deficiencies, Application #18-330-001A
5/27/93 L	Richard Marcinkevage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Groundwater Recovery and Treatment System
6/2/93 A	Richard J. Omlor, Project Manager, AC&CC	Miles R. Murphy, Air Pollution Control Engineer, PADER	Clarification Required re: Installation of a Groundwater Treatment Tank
6/9/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
6/9/93 L	Miles R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Plan Approval Request (18-330-001A), Installation of a Groundwater Treatment Tank
6/21/93 P	Kevin Boyd, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Mart, Principal Hydrogeologist	Updated Data Tables, RCRA Facility Investigation
6/22/93 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	Transmittal of Well Abandonment Forms for Wells MW #9, MW #14, MW #16, TW #11B and TW #14B

6/29/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
7/2/93 P	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Hazardous Waste Report, Second Quarter 1993
7/6/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 11, May and June 1993, RCRA Facility Investigation
7/7/93 L	Richard J. Omlor, Project Manager, AC&CC	Joseph Cooper, Regional Environmental Protection Manager, PADER	Plan Approval
7/8/93 P	Richard Marcinkevage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Semi-Annual Report, January 1, 1993 through June 30, 1993
7/9/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Draft RFI Report
7/9/93 P	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Plant Supply Wells, RCRA Facility Investigation Change Draft RFI Report submittal date
7/9/93 A	Richard J. Omlor, Project Manager, AC&CC	PADER Air Quality Control	Plan Approval for Air Permit No. 16-330-001A
7/13/93 L	Miles R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Plan Approval Conditions, Installation of Groundwater Treatment Tank

7/15/93 A	Richard J. Omlor, Project Manager, AC&CC	Richard L. Bittle, Regional Solid Waste Manager, PADER	Approval of Abandonment for Monitoring Wells MW #9, MW #14, MW #16, TW #11B and TW #14B
7/16/93 L	Miles R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Plan Approval Conditions, Installation of Groundwater Treatment Tank, Carbon Adsorption System Test Plan
7/19/93 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1993 Second Quarter and Semi-Annual Groundwater Hazardous Waste Monitoring Report
7/23/93 A	Richard J. Omlor, Project Manager, AC&CC	Miles R. Murphy, Air Pollution Control Engineer, PADER	MOV re: Construction of Contaminated Groundwater Treatment Tank
8/5/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
8/6/93 L	Richard J. Omlor, Project Manager, AC&CC	Andrew C. Zamba, Air Pollution Control Engineer, PADER	VOC Testing
8/9/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 1, Groundwater Recovery and Treatment System
8/13/93 L	Miles R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Test Data for Carbon Adsorption Performance Test
8/18/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Submittal of Drum Sampling and Analysis Report, MCA Facility Investigation

8/24/93 L	Richard J. Omlor, Project Manager, AC&CC	Richard Marcinkevage, City Engineer, City of Lock Haven	Groundwater Recovery
8/30/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	David Kerschner, Principal Hydrogeologist McLaren/Hart	Letter Work Plan, Abandonment of Former Plant Supply Wells, RCRA Facility Investigation
8/31/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
9/7/93 P	Kevin Boyd, Project Coordinator, USEPA, Region III	David Kerschner, McLaren/Hart, Principal Hydrogeologist	Letter Work Plan, Abandonment of Former Plant Supply Wells, RCRA, Facility Investigation
9/8/93 L	Richard Marcinkevage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Groundwater Treatment System
9/9/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 2, Groundwater Recovery and Treatment System
9/9/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 12, July and August 1993, RCRA Facility Investigation
9/13/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Drilling, Cutting and Development/Purge Water Management, RCRA Facility Investigation
9/15/93 A			Draft Report RCRA Facility Investigation Volume I and Volume II (McLaren Hart)
9/16/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 2 (Revised Table 2) Groundwater Recovery and Treatment System

9/16/93 L	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Administrative Order on Consent, Docket No. RCRA III-040-CA, RCRA Facility Investigation, (Approval-Treatment of Containerized Water)
9/16/93 L	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Administrative Order on Consent, RCRA Facility Investigation, (Approval of Work Plan) Docket No. RCRA III-040-CA
9/16/93 A	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Approval of AC6CC's Work Plan for the Abandonment of Former Plant Supply Wells NSW and SSW
10/4/93 P	T. Voltaggio, USEPA	R. Collings, Brian Clark, Morgan, Lewis & Bockius	Drake Chemical Superfund Site, Lock Haven and Castanea Township, Clinton County, Pennsylvania
10/6/93 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC6CC	1993 Third Quarter Groundwater Hazardous Waste Monitoring Report
10/7/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Progress Report No. 3, Groundwater Recovery and Treatment System
10/7/93 P	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC6CC	Hazardous Waste Report, Third Quarter 1993
10/11/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
10/14/93 M		Careghy & Miller, Inc.	Carbon Adsorption System Compliance Testing Report

10/14/93 L	Joseph Cooper, Regional Environmental Protection Manager, PADER	Richard J. Omlor, Project Manager, AC6CC	Compliance Test Report for American Color & Chemical Corporation Carbon Adsorption Unit Exhaust
10/19/93 A	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC6CC	AC6CC's Request for PADER's Concurrence to Implement Letter Work Plan for Abandonment of Former Plant Supply Wells and Disposal of Drilling Cuttings and Development/Purge Water
11/4/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
11/4/93 A	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Heale J. Maquitta, McLaren/Hart	Confirmation of Telephone Discussions re: Well Abandonment and Soils and Groundwater Handling and EPA's Approval
11/5/93 A	Richard J. Omlor, Project Manager, AC6CC	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	PADER Comments to Well Abandonment and Disposal of Drill Cuttings
11/8/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Bimonthly Progress Report No. 13, September and October 1993, RCRA Facility Investigation
11/8/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Progress Report No. 4, Groundwater Recovery and Treatment System
11/8/93	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Bimonthly Progress Report No. 13, September and October 1993, RCRA Facility Investigation
11/16/93 A	Kevin Boyd, Project Coordinator, USEPA, Region III	David Karaschner, McLaren/Hart, Principal Hydrogeologist	Subcontractor Notification Task 5

12/7/93 A	George Polansky, PADER	Richard J. Omlor, Project Manager, AC&CC	Residual waste Located on the Northern Boundary of Facility
12/9/93 L	Kevin Boyd, Project Coordinator, USFPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Draft RFI Report Addendum Submittal
12/9/93 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 5, Groundwater Recovery and Treatment System
12/12/93 A	Richard J. Omlor, Project Manager, AC&CC	Andrew C. Zamba, Air Pollution Control Engineer, PADER	Approval of Pretest Protocol for VOC Listing on Carbon Adsorption System
12/13/93 A	Richard J. Omlor, Project Manager, AC&CC	Marc B. Cooley, PADER Air Quality	Violation of 25 PA Code Section 127.11 on June 1, 1993
12/14/93 A	Richard J. Omlor, Project Manager, AC&CC	Miles R. Murphy, Air Pollution Control Engineer, PADER	Approval for Air Permit No. 18-330-001A
12/20/93 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
1/4/94 A	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Hazardous Waste Report Fourth Quarter 1993
1/6/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bi-monthly Progress Report No. 14, November and December 1993, RCRA Facility Investigation

1/6/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
1/12/94 A	Richard J. Omlor, Project Manager, AC&CC	Marc B. Cooley, PADER Air Quality	Penalty Agreement for Past Violation
1/13/94 P	Richard J. Omlor, Project Manager, AC&CC	Richard Marcinkavage, City Engineer, City of Lock Haven	Monitoring Requirements
1/13/94 A	Milee R. Murphy, Air Pollution Control Engineer, PADER	Richard J. Omlor, Project Manager, AC&CC	Application for Renewal of Operating Permit No. 18-330-001A
1/20/94 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1993 Fourth Quarter and Semi-Annual Groundwater Hazardous Waste Monitoring Report
1/20/94 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	Letter Report, Well Abandonment and Disposition of RFI Soil Cuttings/Fluids
1/21/94 P	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Disapproval of Draft Report RCRA Facility Investigation
1/21/94 A	Richard Marcinkavage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Semi-Annual Report, January 1, 1993 through June 30, 1993
1/24/94 M	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Disapproval of the Draft CMS

1/24/94 M	Richard J. Omlor, Project Manager, ACfCC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Disapproval of the Draft RPI Addendum
2/1/94 P	Richard Marcinkavage, City Engineer, City of Lock Haven	John Lovell, Pre-treatment Coordinator, USEPA, Region III	Pre-treatment Program
2/9/94 P	Richard J. Omlor, Project Manager, ACfCC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Disapproval of Draft RPI Report Addendum
2/15/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
2/16/94 A	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, ACfCC	1993 Annual Hazardous Waste Report
2/17/94 A	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, ACfCC	1993 Annual Groundwater Monitoring Report
2/24/94 A	John Lovell, Pre-treatment Coordinator, USEPA, Region III	Richard Marcinkavage, City Engineer, City of Lock Haven	Pre-treatment Compliance Inspection and ACfCC Discharges
2/25/94 A	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, ACfCC	1993 Biennial Hazardous Waste Report

2/25/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
3/1/94 P	L. Richard Adams, PADER	Richard Marcinkevage, City Engineer, City of Lock Haven	NPDES PA0025933
3/8/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Bimonthly Progress Report No. 15, January and February 1994, RCRA Facility Investigation
3/8/94 A	John Archambault, PADER, Operations Chief	Richard J. Omlor, Project Manager, AC6CC	Annual Operating Permit Administration Fee
3/9/94 A Issue Date			Air Permit No. 18-330-001A
3/11/94 P	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Draft RFI Meeting and Proposed Schedule
3/14/94 P	City of Lock Haven	L. Kyle, PADER	NPDES Permit No. PA0025933
3/16/94 A	Richard J. Omlor, Project Manager, AC6CC	Robert Mann, Air Quality Assistant, PADER	Return of Administrative Fee for Air Permit
3/17/94 P	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Approval of AC6CC Request for Submittal of a Revised RFI on May 2, 1994
3/23/94 L	Richard L. Bittle, Regional Solid Waste Manager, PADER	Richard J. Omlor, Project Manager, AC6CC	Hazardous Waste Manifest for Spent Carbon Waste and Request to Amend Part A Permit

3/25/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny	Results of Discharge to Lock Haven Sewage Treatment Plant
3/31/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Report Transmittal, Pilot-Scale GAC Adsorption Test Program, Groundwater Recovery & Treatment System
4/1/94 P	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC6CC	Hazardous Waste Report, First Quarter 1994
4/6/94 L	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Change incorrect information (Risk Assessment/Lead Cleanup Levels)
4/6/94 A	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's Approval for AC6CC to Use Monte Carlo Simulation in the Risk Assessment & USEPA Uptake/Biokinetic Model for Lead
4/7/94 A	AC6CC	Richard L. Bittle, Regional Solid Waste Manager, PADER	Hazardous Waste Part A Permit Application and Amendment of same
4/11/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Meeting Summary and Request for Extension RCRA Facility Investigation
4/12/94 A	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Approval of AC6CC's Request for Extension to May 23, 1994 for Submittal of Revised RCRA Facility Investigation (RFI)
4/19/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Proposal by AC6CC to Operate Groundwater Recovery and Treatment System First Week of May and Submit Initial Report June 10 and Bi-monthly Thereafter

4/27/94 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1994 First Quarter Groundwater Hazardous Waste Monitoring Report
4/28/94 A	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA's approval to submit Bimonthly Groundwater Recovery and Treatment System Reports
4/29/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
5/9/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 16, March and April 1994, RCRA Facility Investigation
5/20/94 M	Morgan, Lewis & Bockius	McLaren Hart	Final Report RCRA Facility Investigation Volumes I & II
5/25/94 L	PADER	Richard J. Omlor, Project Manager, AC&CC	Industrial Waste - NPDES No. PA0009083
6/8/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
6/9/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 6, Groundwater Recovery and Treatment System
6/14/94 A	Ms. Youngmoo Kim, USEPA, Region III	Kurt A. Fehling, McLaren/Hart - Chem Risk	Enclosure of Updated Tables RFI-27, RFI-28 and RFI-29
7/1/94 A	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Quarterly Hazardous Waste Report Second Quarter

7/6/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 17, May and June 1994, RCRA Facility Investigation
7/8/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
7/25/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	W. Werkheiser, U.S. Dept. of the Interior	Administrative Letter - Report of Final Report RCRA Facility Investigation (RFI) Report
7/26/94 P	Richard Marcinkavage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Semi-Annual Report
7/26/94 A	Industrial Discharges Lock Haven Sewage Treatment Plant	Richard Marcinkavage, City Engineer, City of Lock Haven	Enforcement Response Plan
7/29/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
8/8/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 7, Groundwater Recovery and Treatment System
8/10/94 L	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	Approval - Final Report RCRA Facility Investigation including U.S. Geological Survey's Comments to the Submittal and Deadline for Submitting the Draft Corrective Measures Study

8/23/94 A	PADER		Richard J. Omlor, Project Manager, AC&CC	Hazardous Waste Inspection Report
9/8/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 18, July and August 1994, RCRA Facility Investigation
9/12/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeny		Results of Discharge to Lock Haven Sewage Treatment Plant
9/29/94 A	Richard J. Omlor, Project Manager, AC&CC	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745		First Semi-Annual Inspection
10/3/94 P	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC		Quarterly Hazardous Waste Report for Quarter Ending September 30, 1994
10/3/94 L	P. Kostmayer, USEPA	H. Wofford, U.S. Senate		Drake Chemical Superfund Site
10/7/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC		Progress Report No. 8, Groundwater Recovery and Treatment System
10/8/94 A	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC		Progress Report No. 7 Groundwater Recovery and Treatment System
10/10/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC		Submittal of Draft CMS Report
10/14/94 M	Morgan, Lewis & Bockius	McLaren Hart		Draft Report Corrective Measure Study
10/15/94 L	R. Lucas, Beazer	H. Wofford, U.S. Senate		Drake Chemical Superfund Site

11/7/94 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
11/9/94 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 19, September and October 1994, RCRA Facility Investigation
11/28/94	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant
12/7/94 A	Lynn Kyle, PADER	Richard Marcinkevage, City Engineer, City of Lock Haven	Indicator Pollutants, NPDES Permit
12/7/94 A	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Progress Report No. 9 Groundwater Recovery and Treatment System
12/20/94 A	Richard J. Omlor, Project Manager, AC&CC	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Second Semi-Annual Inspection
12/30/94 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1994 Third Quarter Groundwater Hazardous Waste Monitoring Report
1/4/95 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven, PA 17745	Dr. C. D. Sweeney	Results of Discharge to Lock Haven Sewage Treatment Plant

1/6/95 A	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC&CC	Bimonthly Progress Report No. 20, November and December 1994
1/9/95 A	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	1994 Annual Hazardous Waste Report
1/9/95 A	PADER, Bureau of Waste Management	Richard J. Omlor, Project Manager, AC&CC	Quarterly Hazardous Waste Report ending December 1994
1/20/95 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1994 Fourth Quarter and Second Semi-Annual Groundwater Hazardous Waste Monitoring Report
1/24/95 L	Richard J. Omlor, Project Manager, AC&CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA Disapproves the "Draft Corrective Measures Study Report"
1/26/95 A	Richard Marcinkevage, City Engineer, City of Lock Haven	Richard J. Omlor, Project Manager, AC&CC	Semi-Annual Self Monitoring Report July 1, 1994 through December 31, 1994
1/31/95 A	City of Lock Haven	Daniel L. Alters, PADER	Severage NPDES PA 0025933 re: AC&CC Waste and Amendment
2/2/95 A	Robert Mann, Air Quality Assistant, PADER	Richard J. Omlor, Project Manager, AC&CC	Operating Permit 18-330-001A Fee
2/6/95 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC&CC	1994 Annual Groundwater Monitoring Report
2/10/95 A	City of Lock Haven	L. Richard Adams, PADER	Amendment #2 of NPDES Permit

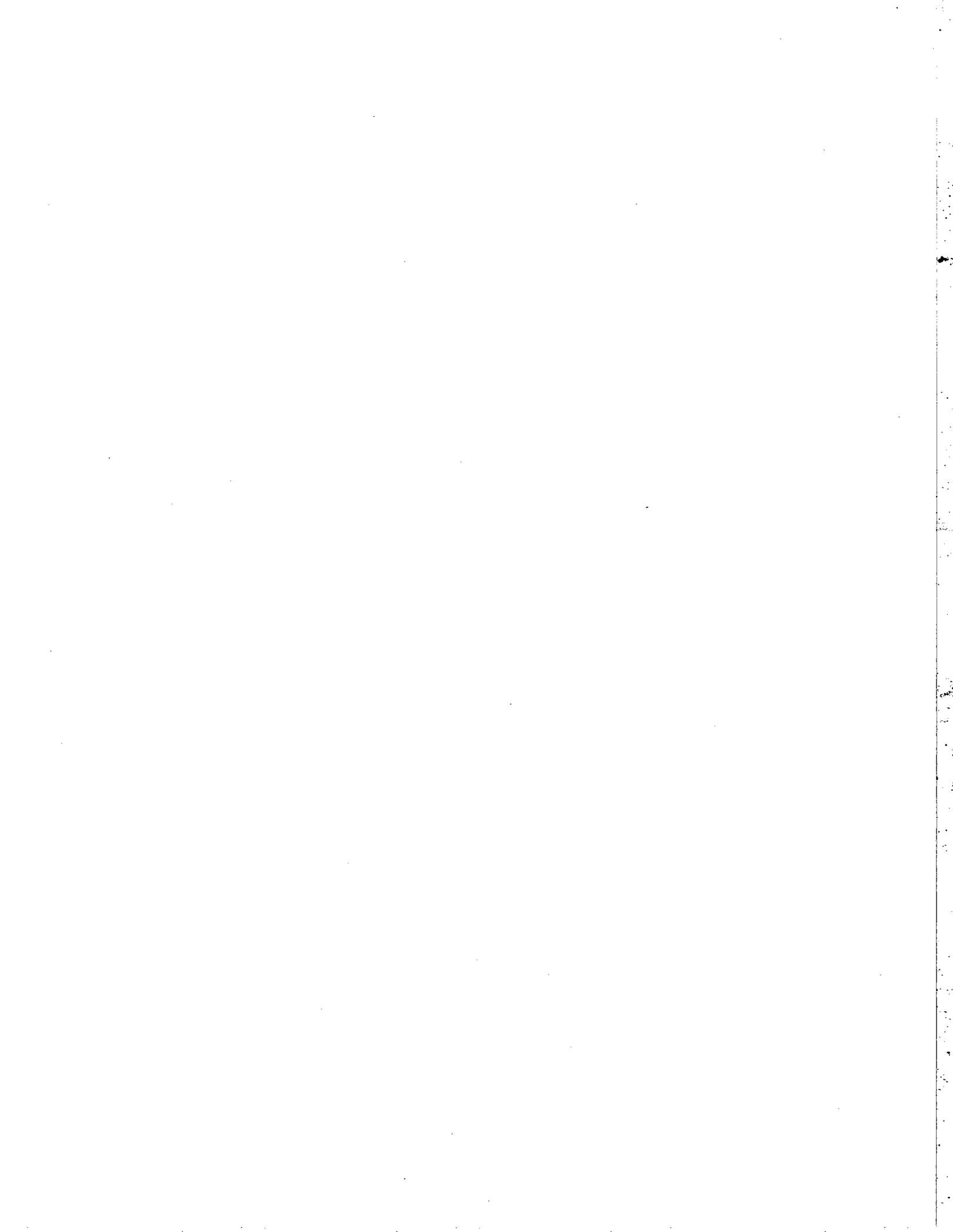
2/23/95 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Revisions to Draft CMS Report
3/2/95 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC6CC	Decommissioning of TW-11A
3/3/95 A	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Bimonthly Progress Report No. 21, January and February 1995 RFI
3/8/95 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven PA 17745	Dr. C. D. Sweeney (Hired by AC6CC)	Results of Discharge to Lock Haven Sewage Treatment Plant
3/13/95 L	Richard J. Omlor, Project Manager, AC6CC	Richard L. Bittle, Regional Solid Waste Manager, PADER	PADER's Acceptance of Decommissioning Well TW-11A
3/21/95 L	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Coordinator, USEPA, Region III	EPA approval of "Revisions to Draft CMS Report"
3/24/95 A	Ken Koprivnikar, City Sanitation Dept. 20 E. Church St., Lock Haven PA 17745	Dr. C. D. Sweeney (Hired by AC6CC)	Results of Discharge to Lock Haven Sewage Treatment Plant
3/19/95 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Submittal of Final RFI Report (CMS)
3/21/95 L	John Hamilton, PADER, Bureau of Waste Mgmt., Williamsport, PA	Richard J. Omlor, Project Manager, AC6CC	1995 First Quarter Groundwater Hazardous Waste Monitoring Reports

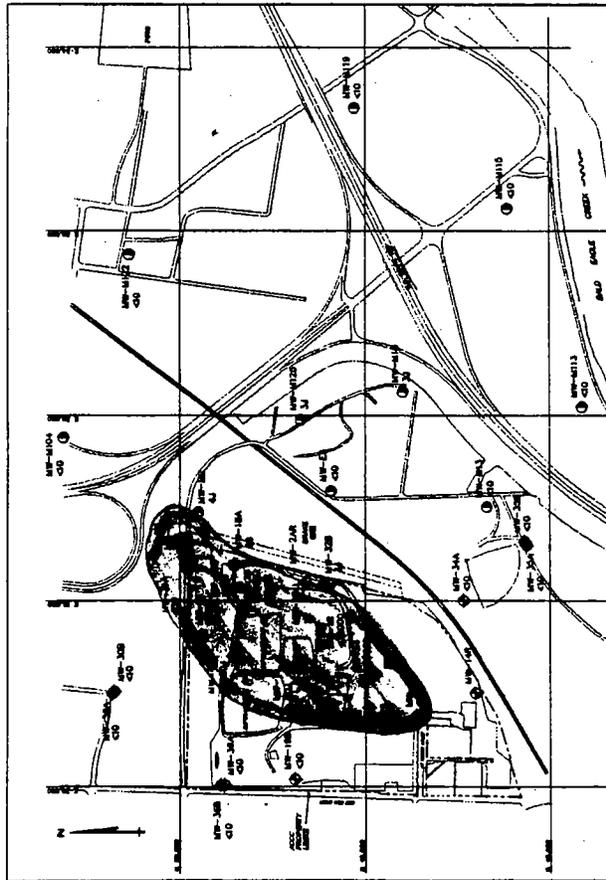
5/2/95 L	Richard Omlor, Project Manager, AC6CC	Rick Goodbrod, Clinton County Department of Emergency Services	Investigation by Agency of Odors Surrounding AC6CC and the Drake Superfund Site.
5/25/95 L	Kevin Boyd, Project Coordinator, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Corrections to Final CMS Report
5/31/95 L	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, USEPA, Region III	EPA Approves AC6CC's Final Corrective Measures Study Report dated May 25, 1995
6/6/95 L	Larry Newcomer, Project Officer, Environmental Cleanup Program North Central Regional Office	Robert E. Conrad, Chief, Mobile Analytical Services, Bureau of Laboratories	MAU Air Monitoring Report of May 15, 1995 to May 17, 1995
8/14/95 L	John Hamilton, Commonwealth of Pennsylvania, DER	Richard J. Omlor, Project Manager, AC6CC	1995 Second Quarter Groundwater and Semi-Annual Groundwater Hazardous Waste Monitoring Report
9/7/95 L	Kevin Boyd, Project Manager, PA RCRA Enforcement, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Bi-Monthly Progress Report No. 24 July and August, 1995
9/7/95 L	Kevin Boyd, Project Manager, PA RCRA Enforcement, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Progress Report No. 11 Groundwater Recovery and Treatment System
9/22/95 L	Kevin Boyd, Project Manager, PA RCRA Enforcement, USEPA, Region III	Richard J. Omlor, Project Manager, AC6CC	Submittal of Sediment Sampling Letter Plan
9/29/95 L	Richard J. Omlor, Project Manager, AC6CC	Kevin Boyd, Project Manager, PA RCRA Enforcement Section	Enclosure of Statement of Basis for AC6CC

10/23/95 L	Kevin Boyd, Project Manager, PA RCRA Enforcement Division, Region III	Richard J. Omlor, Project Manager, American Color & Chemical Corporation	Submittal of Letter Plan Evaluation of Sheet Pile Effects on Sand and Gravel Aquifer Hydraulics
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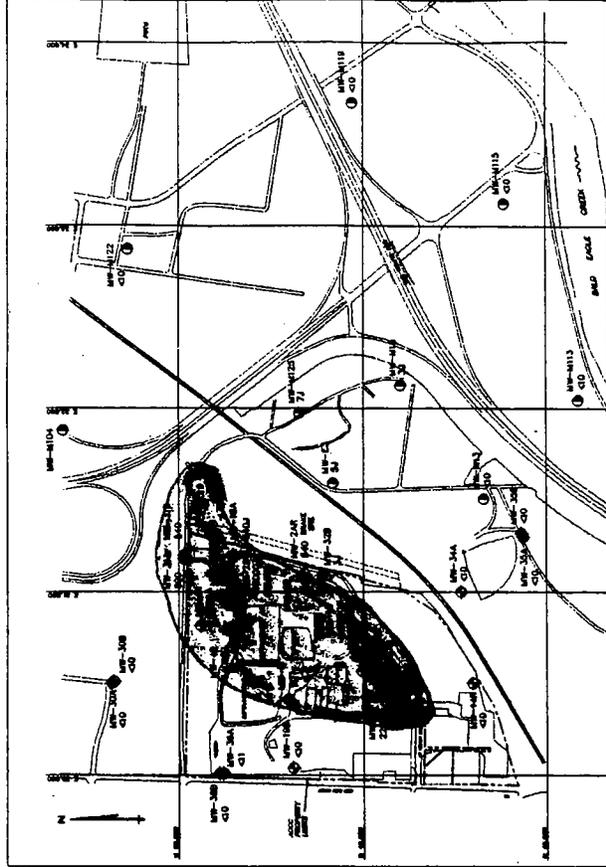
444
112

AR410805





ROUND 1 CONCENTRATIONS
(Concentrations in ug/l)



ROUND 2 CONCENTRATIONS
(Concentrations in ug/l)

- NOTES:
1. MONITORING WAS INADEQUATELY NOT SAMPLED DURING ROUND 2.
 2. MW-348 IS A REPLACEMENT WELL AND WAS NOT SAMPLED DURING ROUND 1.
 3. MONITORING DATA FOR MW-348 IS BEING OBTAINED FROM PAPER ANALYSIS.
 4. ROUND 1 SAMPLING WAS PERFORMED FROM 1/10/83 TO 1/15/83.
 5. ROUND 2 SAMPLING WAS PERFORMED FROM 2/25/83 TO 3/1/83.
 6. UNDETECTED LEVELS OF CONCENTRATION IN MONITORING WELLS.
 7. 1,2-DCE INDICATES COMPOUND IS 1,2-DICHLOROETHANE.

- LEGEND:
- PROPERTY LINE
 - RAILROAD TRACKS
 - FENCE LINE
 - SITE ACCESS ROADS
 - ALCO MONITORING WELL INDICATING ROUND 1, 1,2-DCE CONCENTRATIONS MEASURED BELOW THE ANALYTICAL METHOD DETECTION LEVEL (10 ug/l)
 - ORANGE MONITORING WELL INDICATING ROUND 1, 1,2-DCE CONCENTRATIONS MEASURED BELOW THE ANALYTICAL METHOD DETECTION LEVEL (10 ug/l)

APPROXIMATE AREA OF 1,2-DCE 2.10 ug/l



REFERENCES:

1. COLLEGE OF CHEMISTRY AND PHYSICS, UNIVERSITY OF PENNSYLVANIA, THE PLAN OF THE AMERICAN COLOR & CHEMICAL CO., PREPARED FOR BUCKINGHAM, INC. DRAWING NO. T-132, SCALE 1"=100' DATED 5/22/80.
2. MORGAN, INC., NEPA FACILITY INVESTIGATION, THE 1,2-DCE MONITORING OF CURRENT CONCENTRATIONS PREPARED FOR AMERICAN COLOR AND CHEMICAL CORPORATION, BUCKINGHAM, PENNSYLVANIA, DATED 4/15/83.

REV #	DATE	DESCRIPTION	APP'D	REV #	DATE	DESCRIPTION

MORGAN
INCORPORATED
FACILITY INVESTIGATION
CORPORATION
P.O. BOX 100
BETHLEHEM, PA. 18010

DATE: 4/15/83
DRAWN BY: J.M. [Signature]
CHECKED BY: J.M. [Signature]
SCALE: AS SHOWN

AMERICAN COLOR & CHEMICAL CORPORATION
LOCK HAVEN, PENNSYLVANIA

INDIA FACILITY INVESTIGATION REPORT
LOCK HAVEN, PENNSYLVANIA
SAND AND GRAVEL
COORDINATED SAMPLING RESULTS FOR 1,2-DCE
PROJECT NUMBER: 10-0000038
DATE: 4/15/83
RFI-024

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