FINAL DECISION AND RESPONSE TO COMMENTS ON SELECTION OF CORRECTIVE MEASURES UNDER SECTION 3008 (h) OF THE RESOURCE CONSERVATION RECOVERY ACT

AMETEK U.S. GAUGE DIVISION – PLANT #2
SELLERSVILLE, PENNSYLVANIA

I. INTRODUCTION

This is the United States Environmental Protection Agency's (EPA) Final Decision and Response to Comments (FDRTC) for a plan to remediate groundwater contamination at the Ametek U.S Gauge Division - Plant #2 (Ametek Plant #2) facility in Sellersville, Pennsylvania (hereafter referred to as "Site" or "Plant #2"). On August 23, 2011, EPA issued a Statement of Basis (SB) describing the Agency's proposed remedy and requesting comments on the proposal. After careful review of all comments, EPA has concluded that no modification of the proposed remedy is necessary. The remedy proposed in the SB is now final and is called the selected remedy.

The SB is incorporated herein as Attachment 2 of this FDRTC. Please refer to the SB for a detailed description of the site history as well as the remedial plan.

As is described in more detail in Attachment 1, Response to Comments, EPA is hereby revising and/or updating some of the information that was provided in the SB, as follows:

- The introduction to the SB, at Section I, states that the term "Site" refers to all property under the ownership and control of Ametek, including but not limited to Plant #1 and Plant #2. In fact, the term "Site" only includes Plant #2. Areas outside of Plant #2, including Plant #1, are offsite areas.
- In Section V.B. of the SB, EPA stated that well PBA-10 has been deactivated. Well PBA-10 has been activated once again, and is currently in operation.
- In Section V.B. of the SB, EPA mistakenly referred to Pennridge borough instead of Sellersville borough. The following statement should be included in this section:

  > "Based on Sellersville Borough Subdivision and Land Ordinance Section 135-36 Water Supply, if public water is accessible to a residence within Sellersville Borough, the residence is required to connect to public water. In cases where no public water supply is available to the residence, the borough may require the applicant to submit a feasibility report as to the quality and adequacy of the water supply proposed to be utilized. A plan of the water supply system shall be submitted to and approved by the Borough's Engineer and the Sellersville Department of Public Utilities."

- In Section VIII of the SB, the first bullet is revised to read as follows: "Continued use of the Site for non-residential purposes only."

- In Section VIII of the SB, the last bullet is revised to read as follows: "Requirement that a risk assessment report be submitted to EPA for approval before any building is constructed on the Site property." Additionally, the last paragraph of that section is revised to clarify that, in order to mitigate any risk of vapor intrusion, EPA will require Ametek to perform and submit a risk assessment to determine whether any mitigation measures are required based on the design and intended use of the building. No building may be constructed without EPA approval of the risk assessment.

II. SELECTED REMEDY

EPA has selected the following corrective measures to control groundwater contamination at the Site. These corrective measures are derived from a combination of several alternatives presented in Ametek's January 2011 Corrective Measures Study report. EPA finds that these corrective measures will fully protect human health and the environment from contamination at the Ametek site.

A. Technical Impracticability Zone (TI Zone)

Given the nonaqueous phase liquid (NAPL) characteristics of the groundwater contamination and the hydrogeological conditions (i.e., fractures and bedding planes in the bedrock) at the Site, EPA concludes that attainment of the drinking water Maximum Contaminant Levels (MCLs) within the Ametek Plant #2 groundwater plume is technically impracticable. No technologies are proven to be economically practical and capable of removing all NAPL in groundwater where NAPL is widely distributed and where the stratigraphy is highly heterogeneous and complex. Because of this constraint, the selected remedy establishes a TI Zone.

The TI zone is defined as the Ametek Plant #2 property boundaries and the aquifers beneath the property. The TI zone delineates the area of hydraulic control that will ensure groundwater contamination stability within the Ametek Plant #2 property boundaries. Ametek will continue to clean up and control groundwater contamination migration within the TI zone as long the as the contamination levels in groundwater are above drinking water standards. Groundwater contamination outside the TI zone will be cleaned up to MCLs.

B. Groundwater Pump and Treat

The selected remedy requires that Ametek continue to operate the existing groundwater pump and treat system as long as the contamination levels in groundwater are above drinking water standards. The system has been in operation since 1993 and has been effective in containing and remediating groundwater contamination. The system pumps groundwater from three wells located at Plant #2. These wells, RW-1, MW-6S and MW-10S, pump an average of 50 gallons per minute (gpm), 9 gpm and 8 gpm, respectively. If site conditions change, Ametek may, with prior EPA approval, modify the pump and treat system operation (e.g., increase number of recovery wells, pumping rates, etc) to improve or maintain control of the groundwater contamination. If additional hydraulic control is needed, the current groundwater recovery

system could potentially be scaled up to its maximum rate and permitted capacity of 100 gpm.

C. Long-Term Groundwater Monitoring for Contaminant Stability and Hydraulic Control

The selected remedy includes long-term monitoring to be performed through sampling and gauging of the TI Zone monitoring wells and monitoring wells MW-21S, MW-21D (new) and MW-22D. These monitoring wells include wells that are both within and outside the TI Zone. Ametek will submit an annual report to the EPA summarizing groundwater elevation and concentrations of volatile organic compounds (VOCs) and 1,4-Dioxane in the TI Zone. The data will be evaluated to confirm that the contaminant plume remains contained within the TI Zone and to ensure that offsite groundwater concentrations remain below drinking water standards.

D. Institutional Controls

The selected remedy requires land use and development restrictions with regard to the Site groundwater contamination for the area within the TI Zone (i.e., Ametek Plant #2 property boundaries). The institutional controls will restrict the use of the Site to non-residential purposes and will prohibit the installation of public or domestic groundwater supply wells within the TI zone. The institutional controls may be implemented through a permit, order, or in the form of an environmental covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act (UECA – Act 68).

III. PUBLIC COMMENT PERIOD

A public notice announcing availability of the Statement of Basis and soliciting comments on EPA's tentative decision was published in the local newspaper, the Intelligencer, on August 23, 2011 and November 7, 2011. Written comments were accepted from August 23, 2011 through December 15, 2011. A public meeting, providing an opportunity for submission of additional written or oral comments, was held on December 8, 2011 at the Indian Valley Public Library in Telford, Pennsylvania.

IV. PUBLIC COMMENTS

EPA received forty-five comments from eight different commenters. EPA's response to public comments is provided as Attachment 1 of this FDRTC. Each comment is summarized and followed by EPA's response. As a result of the comments, EPA has made clarifying changes to some of the information provided in the Statement of Basis, as described in Section I herein, but the selected remedy remains as proposed in the SB.

V. DECLARATION

Based on the Administrative Record compiled for this Corrective Action, I have determined that the proposed remedy set forth in the Statement of Basis and affirmed in this Final Decision and Response to Comments is appropriate and will be protective of human health and the environment.

Abraham Ferdas, Director
EPA Region III
Land and Chemicals Division

6/8/12 Date

Attachment 1: Response to Comments
Attachment 2: Statement of Basis, August 23, 2011

ATTACHMENT 1
Response to Comments

PUBLIC COMMENTS

Comments Submitted by Mr. Gregory Bulfaro

1. Comment: The annex/addendum listing all figures as referenced within the text of the Statement of Basis report must be added to the report for public view on the EPA's website prior to the end of the comment period.

   EPA Response: Figures 1 and 2 were subsequently attached to the online Statement of Basis (SB) document and made available for public review prior to the public meeting and the end of the comment period.

2. Comment: If not already contained within the addendum/figures, the SB report should include a comprehensive map of all areas of COC, inclusive of the size and location of the VOC plume, its corresponding contaminants and their ppb levels, a map of all monitoring wells with corresponding VOC ppb levels (past and present), a map of all residential wells affected with corresponding VOC ppb levels pre-connection to public water, and the location of the former wet and dry lagoons on Ametek's property. This information is mandatory so that residents can gain a clearer understanding of the geographical components of this issue.

   EPA Response: The SB document is not intended to be a comprehensive report. The purpose of the SB document is to summarize the investigation and to present the proposed remedy based on the findings of the investigation. Detailed reports and the sources that EPA relied upon to propose the remedy in the SB are available in the Administrative Record (AR). The 2008 Final Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report, which contains Figures and Tables of the requested technical information, is included in the AR. Personal information such as names and addresses are considered private and are not available in the AR because this information is exempt from release to the public pursuant to the Freedom of Information Act, 5 U.S.C. §552. The AR is available at the EPA Region III Office in Philadelphia. Starting October 17, 2011 the AR was made available for public review at the Indian Valley Public Library in Telford, PA until the end of the public comment period, which was December 15, 2011.

3. Comment: Clarification is needed as to why the COMPLETE Administrative Record was not provided for public view. What was provided for review at the Indian Valley Library had been cherry-picked by the EPA and carefully selected for public review. This selection was by no means representative of the complete Administrative Record.

   EPA Response: The Administrative Record documents at the Library include the documents that EPA relied upon to choose a remedy for the Site. It does not represent the complete Site file that includes vast amounts of information and reports that are not directly related to the proposed remedy. The complete file for Ametek is public information and can be viewed at the EPA Region III Office in Philadelphia, PA upon request.

4. Comment: Clarification is needed on the definition of "Site." "Site" is defined on page 1 of the Statement of Basis as "All property under the ownership and control of Ametek including but not limited to Plant #1 and Plant #2…"; What other area(s) does the EPA claim to exist under the "not limited to" category?

   EPA Response: EPA has revised the language in the Final Decision to define the term "Site" as the Ametek U.S. Gauge Division Plant #2 (Plant #2), which is consistent with the definition of "Site" in the EPA Final Administrative Order on Consent issued to Ametek. Areas outside Plant #2, including Plant #1, are offsite areas.

5. Comment: Clarification is needed as pertaining to why the Statement of Basis (SB) was not retained in the Intelligencer's August 23, 2011 online public notice section for more than 2 days, when most are retained for 2 weeks.

   EPA Response: The referenced public notice and not the SB document itself was published in the Intelligencer newspaper and on their website on August 23, 2011. The public notice cited the EPA website www.epa.gov/reg3wcmd/public_notices.htm where the SB document and additional information on the proposed remedy can be downloaded for review. The duration in which the public notice was posted on the Intelligencer website was determined by the newspaper company and not EPA. Even though the Intelligencer chose not to retain the online public notice for more than two days EPA continued to post the public notice and the SB document on the EPA website until the end of the comment period.

6. Comment: Correction is needed on page 6 of the SB document: Replace "Pennridge" with "Sellersville." Pennridge is not a borough. Perkasie and Sellersville are the areas affected by the WHPA. Clarification is needed as to why "Pennridge" replaced "Sellersville" when designating the boroughs that touch the "Site," and why the paragraph regarding Alan Frick's commentary was left out of the Statement of Basis.

   EPA Response: It was an editorial error that "Pennridge" was printed and not "Sellersville" in the Statement of Basis (SB) regarding the wellhead protection area. EPA has made the correction in the Final Decision.

   The reference to Mr. Alan Frick's comment pertains to the 2011 Final Corrective Measures Study (CMS) Report in which Mr. Frick stated in October 2010 that Sellersville Borough does not have an ordinance or regulation in place that requires borough residents to connect to the public water supply. Connection to the borough's public water supply generally occurs whenever new development of property within the borough occurs. However, Sellersville Borough does have the Subdivision and Land Ordinance Section 135-36 Water Supply, which requires connection to public water where the service is available. Where no public water supply is available, the applicant may be required to submit a feasibility report as to the quality and adequacy of the water supply proposed to be utilized. The reference to Sellersville Borough's Ordinance has been added to the Final Decision.

7. Comment: Clarification is needed as pertaining to why vinyl chloride is not addressed within the Statement of Basis (SB), and why TCA had not been listed on any previous EI Report.

EPA Response: EPA disagrees with the commenter's first point and notes that vinyl chloride and all other organic constituents of concern as volatile organic compounds (VOCs) are in fact addressed in the SB. Vinyl chloride and all relevant VOCs in groundwater will continue to be monitored and remediated under the final remedy. The purpose of the Environmental Indicator (EI) Determinations is to evaluate the status of current human exposures to contamination and the migration of contaminated groundwater from the Site. The EI Determination documents are not intended to be a comprehensive report that lists all constituents of concern, but a summary of pertinent data that are used to make these determinations. Although TCA was not specifically listed as one of the constituents of concern in the EI Determination document, it does not change the final determinations that currently human exposures to contamination, and migration of contaminated groundwater from the Site, are both under control. The EI Determination documents reference reports that were reviewed as part of the final determinations. These reports list the constituents of concern that include TCA and relevant contamination.

8. Comment: Clarification is needed regarding exactly what specific area is covered within the "TI" boundary.

EPA Response: The designated TI boundary is the Ametek Plant #2 property boundary, which is shown graphically in Figure 1 of the Statement of Basis.

9. Comment: Clarification is needed as to why the other contaminates [sic] for which Ametek is responsible in the ground at the U.S. Gauge facility (PLEASE COMMENT ON EACH: arsenic, lead, radium, beryllium, 1,4-Dioxane, etc.) are not mentioned in the Statement of Basis (SB), and how those contaminants affect the TI area and related residential dwellings.

EPA Response: From 1990 to 2008, Ametek conducted a comprehensive environmental investigation to determine the potential impact of Ametek's operations to the environment. The investigation evaluated a wide spectrum of constituents that consisted of organics (volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs)) and heavy metals. The investigation concluded that volatile organic compounds and 1,4-Dioxane in groundwater are the primary environmental constituents of concern. There were no significant impacts or human health risk exposures to soil, sediment, surface water, and air.

The SB summarizes the findings of the investigation that require remediation, which are VOCs and 1,4-Dioxane in groundwater. The other constituents cited by the commenter that did not pose an exposure risk and did not adversely impact the environment were not specified in the SB. These constituents do not affect the designated TI boundary and do not impact the surrounding community. Details of the investigation that include the

constituents that were evaluated are presented in the February 1997 Draft RCRA Facility Investigation (RFI) Report and the 2008 Final RCRA Facility Investigation (RFI) Report.

10. Comment: Clarification is needed regarding which specific contaminants are being deemed "impractical" and which are going to be corrected, or if all contaminants are being deemed "impractical" for achieving restoration.

EPA Response: The designation of the Technical Impracticability (TI) boundary does not differentiate the cleanup of specific contaminants. More accurately, the TI boundary defines the area (i.e., boundary limits) in which EPA determines that due to physical and engineering limitations, cleanup to drinking water standards within the TI boundary is "technically impracticable".

EPA determined that because of challenging hydrogeological conditions (e.g., inconsistent bedrock fractures) it may not be possible to clean up the groundwater near the contamination source areas within the Plant #2 property boundary to drinking water standards. For this reason, EPA designates the Ametek Plant #2 property boundary as the TI boundary. The TI boundary designation does not preclude Ametek from cleaning up the groundwater contamination. Ametek will continue to operate the pump and treat system to control groundwater plume migration and to clean up the contamination as long as the contamination levels in groundwater are above drinking water standards. Although it may be technically impracticable to clean up to drinking water standards near the source areas, over time and with continuous pump and treat the size of the contaminated groundwater plume will decrease and will be found solely within the Plant #2 property boundary. It is important to emphasize that the existing groundwater plume at the Site does not adversely impact the surrounding community and does not pose a human health exposure risk.

11. Comment: Clarification is needed regarding why the EPA, in an email dated 4/11/11, denied Ametek's responsibility for contamination, but that same contamination was noted within the Statement of Basis as being directly attributed to Ametek.

EPA Response: Below is an excerpt of the 4/11/11 email and EPA's response:

Comment: Can you advise as to why subsoil contamination (found above PA DEP levels) did not appear to be referenced in the vapor testing determination? Can you confirm if subsoil testing was done at those offsite residential structures?

EPA Response: The majority of the elevated subsoil contamination were detected in the former wet and dry lagoons areas. Since these areas are open fields, there was not a need for a vapor intrusion evaluation. A correction to the Environmental Indicator report will clarify the location of the elevated subsoil contamination. The principal sources of the groundwater contamination at the facility were from the former dry and wet lagoons that released VOCs into the groundwater. The majority of the groundwater plume related to Ametek is contained within the facility's property line. There are no justifications to warrant any offsite subsoil testing at the residences.

Offsite subsoil testing at the residences was not warranted because onsite testing demonstrated that contaminated soils were contained within the Facility property and did

not migrate offsite. Ametek excavated and disposed the onsite contaminated soils to an approved offsite facility. Ametek is responsible for the contamination in groundwater. Ametek will continue to operate the pump and treat system to remediate the groundwater contamination.

12. Comment: Clarification is needed for Unit 1 depth to groundwater being confirmed throughout various AR reporting as 10 feet, which opposes previous EPA Environmental Indicator Reports that list depth to groundwater as approximately 100 feet (which was one of the reasons used for negation of residential vapor intrusion testing). Groundwater in the affected areas is not far from the surface, and this is what makes vapor/soil gas contamination even more of an issue.

EPA Response: The geological cross section at the Site is classified into five separate units. Unit 1 is defined as generally soft, reddish-brown Brunswick Formation siltstones, shales and fine grained sandstones and is the first geologic unit beneath surficial soil. The depth to groundwater in Unit 1 varies from around 14 feet to over 66 feet throughout the Site. The need for a vapor intrusion assessment is based on the presence of a groundwater plume located beneath or within 100 feet of a building. Regardless of depth to groundwater and VOC concentrations, open areas (e.g., field, forest, parking lot) where there are no buildings above or in proximity of the groundwater plume do not pose an indoor vapor intrusion exposure risk. A large segment of the groundwater plume at the Site is located beneath open areas.

The referenced Environmental Indicator Reports evaluated the potential for indoor vapor intrusion as a result of the groundwater plume located beneath or near the offsite residences. EPA determined that given the VOC levels in groundwater, depth to groundwater and the vadose zone beneath these offsite residences, the groundwater plume does not pose an adverse vapor intrusion exposure risk.

13. Comment: Clarification is needed as to why the screen interval for MW19-S [sic] draws water from the aquifer beneath Unit 1 (Unit 1 is where the most substantial contamination is located), and why this was allowed. Explanation is also needed as to why then there are no accurate (or other existing) shallow aquifer monitoring wells in the eastern portion or northeastern corner of the property or beyond, and what plans are to test the Unit 1 shallow aquifer contamination levels in these areas and corresponding affected subdivisions beyond the plant #2 property line going forward.

EPA Response: Monitoring well MW-19S is a 123 foot deep offsite monitoring well that evaluates the groundwater condition in the shallow aquifer east of the Facility relative to groundwater contamination detected onsite. This well is constructed with steel casing from surface to 19 feet below ground surface. From 19 feet to 123 feet, the well is an open rock borehole, which represents the interval where groundwater can enter the well for sampling (in a well with a screen this would be called the screened interval). This interval includes both Unit 1 and Unit 2. Well MW-19D, adjacent to MW-19S, is a deeper well, cased to 150 feet, with an open interval from 150 feet to 248 feet, which samples groundwater from Units 3 and 4. To determine the extent of the groundwater

contamination it is important that the depth of the open interval in MW-19S be located within the same depth of the groundwater flow of the onsite contamination, which for this particular case is in Unit 1. Being within the same depth and geological unit does not suggest that the onsite contamination has migrated offsite towards the MW-19S location. On the contrary, the levels detected for the constituents of concern in MW-19S have consistently been below the drinking water standards, which indicate that the onsite groundwater contamination does not impact the surrounding area.

There are 42 groundwater monitoring points throughout the Site, including several wells in the eastern and northeastern portion of the Facility. Based on over eighteen years of investigation, EPA has determined that the sampling data and hydraulic pump tests conclude that the current groundwater plume in the eastern and northeastern corner of the Facility is contained within the Plant #2 property line. The groundwater pump and treat system is effective in remediating and controlling the migration of the groundwater contamination. Ametek will continue to operate the treatment system and sample several monitoring wells annually to ensure that the proposed remedy meets the cleanup objectives and requirements.

14. Comment: Specific explanation is needed for lack of vapor intrusion testing throughout the entire RCRA corrective action timeframe for all surrounding homes, including the Wyckford Commons and The Mews at Wyckford Commons subdivisions, and what plans are going forward to do so—especially with regard to information noted in comment # 13.

EPA Response: The need for a vapor intrusion assessment is based on the presence of a groundwater plume located beneath or within 100 feet of a building. The majority of the groundwater plume is contained within the Ametek Plant #2 property boundary. A small segment of the plume extends beyond Plant #2. This portion of the plume has migrated to the vicinity of the former Ametek Plant #1 Facility, which is approximately 500 feet west of Plant #2. EPA assessed the potential for indoor air vapor intrusion for those residences that are located above or in the proximity of the offsite groundwater plume. Given the low levels of VOCs detected in the offsite monitoring wells, the depth to groundwater and the depth of the vadose zone in this area, EPA determined that the offsite groundwater plume that extends beyond Plant #2 does not pose a vapor intrusion concern or a health risk to the surrounding community. With time and continuous operation of the Ametek onsite pump and treat system, the offsite groundwater plume should be remediated to drinking water standards.

The groundwater contamination does not extend to the Wyckford Commons and the Mews at Wyckford Commons subdivisions. Groundwater VOCs data from MW-19S and 19D, which are located on the Wyckford Commons property, are below drinking water standards. These levels do not pose an indoor vapor intrusion exposure risk.

15. Comment: Clarification is needed regarding why the B-B cross-section, as referenced in various Malcom Pirnie reporting, was omitted from the Statement of Basis. This cross-section represents the COC path of the most contaminated portion of Ametek's property

from the dry lagoon area wells (w/ past TCE contamination in excess of 215,000 ppb and current TCE contamination in excess of 100,000 ppb) and its DIRECT migration under homes in the Mews at Wyckford Commons to MW19-S, directly in front of the 100 condo building.

EPA Response: The purpose of the SB document is to summarize the investigation and to present the proposed remedy. The attached A-A cross-section to the SB document presents key features that pertain to the proposed remedy such as the contamination source areas (Former Wet Lagoon and Former Dry Lagoon Areas) where the highest levels of TCE are detected and the location of active groundwater extraction and treatment system recovery wells.

The B-B cross-section presents the geological formation and characteristics of the subsurface along a set of wells near the former dry lagoons. The B-B cross-section does not suggest that the groundwater contamination detected in the former dry lagoon areas migrated offsite and impacted the Mews at Wyckford Commons. Groundwater results for the monitoring wells located at the Wyckford Commons and the Mews at Wyckford Commons subdivisions confirm that the groundwater contamination at the Ametek Site does not impact the property.

Although the SB did not include the B-B cross-section, the SB document references the Administrative Record (AR) that contains reports that included the B-B cross-section and other sources that EPA relied upon to propose the remedy for the Site.

16. Comment: Does any contamination that is above MCLs which will be considered technically impracticable to be brought down below MCLs exist within the legal property limits of the Mews at Wyckford Commons?

    EPA Response: No. The groundwater plume in the direction of the Mews at Wyckford Commons is contained within the Ametek property boundary and does not migrate offsite.

17. Comment: Will the mandates placed by the EPA regarding land use restrictions apply to the land upon which the homes in the Mews at Wyckford Commons are built?

    EPA Response: No. The proposed remedy will only apply land use and development restrictions to the Ametek Plant #2 property, which is designated as the Technical Impracticability Zone.

18. Comment: As a follow-up to EPA email responses to comments 16 and 17, there seems to be a major disconnect between what is written in the Statement of Basis and EPA's responses. Can you please comment on the following analysis, which has been affirmed by a local environmental consulting group:

    This document was written and positioned very carefully. "TI Boundary" and "TI Zone" should not be confused here; "TI Boundary" references Ametek's property line and the

contamination therein, whereas "TI Zone" references Ametek's plant #2 facility [the area within the "TI Boundary"] PLUS the area outside this boundary where contamination is present that also exceeds MCL levels and is unable to be remedied. Ametek [the "Site"], its property line [the "TI Boundary"], and the "TI Zone" are parallel in concept to a city, its city limits, and the state in which the city is located. The wells within the "TI Zone" (which include the ones on the Mews property) work to ensure that the high-level/untreatable contamination remains within/does not extend beyond this zone [i.e. underneath these homes]. This is how the EPA defines both contamination containment and related human exposure beyond the plant's "BOUNDARY" as being "under control." The only wells in Figure 1 on page 18 of the Statement of Basis that are NOT included in this zone are 21D, 21S, 22D, and 22S. All other wells noted in blue--both inside AND outside Ametek's property line--are a part of this zone, and it is within this zone that contamination levels will remain above legal and health limits. The establishment of "Technical Impracticability" for this zone means that toxic levels will stay above legal MCL limits here, but the pump-and-treat/monitoring well system will ensure that contamination does not spread BEYOND here. Deed restrictions reflecting permanent land use prohibitions for all residences located within this "TI Zone" will be implemented and will be recorded with the county accordingly, which--coupled with other health-related concerns due to mere proximity to this contamination--will have tremendous impact on property values and the homeowners' ability to resell their homes. The Statement of Basis was written very carefully. Other EPA-scripted SOB reports provide detailed, accurate, and forthright disclosure. As stated previously, contamination cannot stop at a Facility's property line/boundary, especially in the admitted direction of its groundwater flow. How far this "TI Zone" extends--and how many homes are located within it--is not being disclosed.

EPA Response: The TI Zone is the area within the TI boundary, and also includes the aquifers beneath the TI boundary. The TI boundary is very closely aligned with the Ametek Plant # 2 property boundary. The TI Zone does not extend outside of the TI boundary as stated in your comment. EPA has concluded that it is technically impracticable to clean up the groundwater plume within the TI boundary to drinking water standards. The portion of the groundwater plume that has migrated outside the TI boundary will be cleaned up to drinking water standards. This portion of the offsite plume is located in the vicinity of the former Ametek Plant #1 Facility. The monitoring wells proposed for the TI compliance monitoring include wells that are both within and outside the TI boundary. Data from these monitoring wells will be used to confirm the effectiveness of the groundwater pumping system to contain the plume within the TI boundary, and to confirm that offsite groundwater remains below drinking water standards. There are two nested wells (MW-19S and MW-19D) located on the Mews property to evaluate the shallow and deep aquifers. Historic levels in these wells have been below drinking water standards. Land use and development restrictions will only apply to the TI zone within the TI boundary, which is the Ametek Plant #2 property.

19. Comment: Clarification is needed regarding exactly why the EPA was consistently ambiguous in stating that the ground under the private residences within the previously noted subdivisions is in fact a part of the "TI Zone." The wells within the "TI Zone"

work to ensure that the high-level/untreatable contamination remains within/does not extend beyond this zone [i.e. remains underneath the homes in question]. The only wells in Figure 1 on page 18 of the Statement of Basis that are NOT included in this zone are 21D, 21S, 22D, and 22S. All other wells noted in blue--both inside AND outside Ametek's property line--are a part of this zone, and it is within this zone that contamination levels will remain above legal and health limits. Based upon Malcom Pirnie reporting, the establishment of "Technical Impracticability" for this zone means that toxic levels will stay above legal MCL limits here, but the pump-and-treat/monitoring well system will ensure that contamination does not spread BEYOND here. In light of the info relayed in comment #13, clarification is needed regarding the future deed restrictions reflecting permanent land use prohibitions for all residences located within this "TI Zone," and how they--coupled with myriad health-related concerns--will have tremendous impact on residents, property values, and the homeowners' ability to resell their homes. Those who live in the affected areas need to be advised that 1) their property is permanently impaired, 2) they have been living on top of carcinogenic toxins unknowingly for decades, and 3) their health, homes, and financial security have been/will negatively [sic] affected as a result.

EPA Response: Please see EPA response to comments #13, 16, 17 and 18. The TI Zone consists of only the Ametek Plant #2 property. No other properties are located within the TI Zone.

20. Comment: Clarification is needed regarding Ametek's responsibility for neighboring residential property value decline due to their contamination being adjacent to, or directly within, residential property boundaries, which will be amplified by a TI designation.

EPA Response: EPA's statutory authority allows the Agency to compel Ametek to investigate and mitigate environmental releases from their former operations throughout the extent of these releases. EPA has not found that releases from Ametek extend to areas "directly within [,] residential property boundaries" as the commenter suggests. The selected remedy requires that contaminated groundwater within the TI boundary, which is the Ametek Plant #2 property boundary, continue to be pumped and treated. The groundwater contamination currently outside the TI boundary will be cleaned up to MCLs.

21. Comment: Clarification is needed regarding Ametek's responsibility for any and all health related problems that surface due to resident exposure to this contamination.

EPA Response: EPA has determined that the selected remedy will be protective of human health and the environment now and for the long term. Ametek will be required to continue operation of the existing groundwater pump and treat system, and to prevent consumptive use of the Site groundwater. Failure to comply with the requirements imposed by EPA will subject Ametek to enforcement action by EPA. New information or a change in current conditions that would create human exposure will elicit an immediate response from EPA to eliminate that exposure.

Residents who suspect a possible past exposure to Ametek related contaminants are advised to consult with a medical professional. Any resident with such concerns may also provide details of the exposure to EPA for evaluation by EPA public health experts.

22. Comment: Clarification is also needed regarding the EPA's responsibility for all negative health and financial repercussions due to their failure to recognize and communicate accurate information.

EPA Response: EPA has addressed this facility in a manner consistent with relevant EPA guidance and policy. EPA is not aware of any unaddressed impacts to area residents as the Ametek investigation and remediation were underway. EPA expects that the proposed remedy, when fully implemented, will be protective of public health in the Ametek area even if the groundwater contamination remains above the drinking water standards.

23. Comment: Clarification is needed regarding why contamination/groundwater flow in the shallow aquifer has been confirmed numerous times to travel in a northeastern direction, yet somehow the EPA claims that contamination spreads offsite in a southwestern direction and ceases immediately at Ametek's property line. The southwestern offsite migration seems to resemble the tail of a groundwater plume that extends, perhaps for miles, in a northeastern direction.

EPA Response: The general regional groundwater flow direction relative to the Ametek Site is to the northwest towards the East Branch/Perkiomen Creek. However, because of inconsistent bedrock fractures along bedding planes and influences from surrounding pumping wells (e.g., municipal and private wells) the localized groundwater flow direction at the Site can vary from the regional flow direction. Prior to the operation of the onsite groundwater pump and treat system these regional hydrological variables may have caused a segment of the groundwater plume to migrate offsite in the southwestern direction.

It should be noted that groundwater contamination levels at the Site decrease with increasing distance from the source areas. The offsite contaminant levels southwest of the Facility are 1,000 to 3,000 times lower than the levels detected at the source areas. The TCE levels detected at the offsite wells are in the range of 40 to 80 micrograms per liter (ug/L) compared to levels of 80,000 to 140, 000 ug/L detected at the source areas. The groundwater plume does not extend much further than the location of the offsite monitoring wells. Ametek operates an onsite groundwater pump and treat system to mitigate plume migration and to clean up the groundwater contamination. Since the treatment system began, contaminant levels in the southwest area have steadily decreased and EPA expects that will continue.

24. Comment: Detailed explanation is also needed regarding why the EPA, in a resident-addressed letter dated 9/27/11, stated that the VOC plume has allegedly migrated in a direction opposite the groundwater flow (southwest) and is conveniently located beneath Plant #1 (as referenced above), yet no portion of this dry lagoon/shallow groundwater

plume is acknowledged in the northeastern path of the groundwater flow..in addition to the fact that there are no groundwater monitoring wells in the northeastern corner of the property or on the eastern boundary of the property to support this omission.

EPA Response: The referenced letter was issued to the appointed residents' representative of the Mews at Wyckford Commons who inquired about the Ametek Investigation on behalf of Wyckford Commons residents. EPA's letter summarized the findings of the investigation and outlined the proposed remedy for the Facility. Upon receipt of the letter, Ms. Lawson followed up with an email to EPA on 9/29/11 to confirm that the letter addressed her concerns. See EPA response to comment #23 for an explanation on the extent of the offsite groundwater plume.

There are a number of monitoring wells installed in the northeastern and eastern areas of the Facility. The groundwater data from these wells confirm that the current groundwater pump and treat system is effectively controlling the migration of the groundwater plume. The plume located in these areas is contained within the Plant #2 property boundary.

25. Comment: Clarification is needed regarding why the EPA and the PADEP did not step in when Sellersville and Perkasie Boroughs granted approval for the Selsie Village subdivision to be built (present-day Wyckford Commons and The Mews at Wyckford Commons) when all parties were fully aware of the contamination issues affecting this parcel of land at that time.

EPA Response: Based on the analytical data, EPA does not believe that contamination extended to the property of the Mews at Wyckford Commons prior to the development of the condominiums. Further, there is no evidence in EPA files to suggest that the land on which the Wyckford Commons and the Mews at Wyckford Commons is built on is contaminated land or has been impacted by the Ametek groundwater contamination.

26. Comment: Clarification is needed regarding 1) why affected residents living on top of this contamination were never once informed about it, 2) why the EPA performed extensive vapor intrusion testing and disclosure for TCE-contaminated sites in Perkasie in the early 2000s (for non-DoD contracted companies w/ TCE contamination levels over 200,000 ppb less than Ametek's) and did NOTHING for those residents affected by Ametek's contamination, and 3) why the EPA and the PA DEP did not step in when Sellersville and Perkasie Boroughs granted approval for the Selsie Village subdivision to be built (present-day Wyckford Commons and The Mews at Wyckford Commons) when all parties were fully aware of the contamination issues affecting the land surrounding plant #2 that time.

EPA Response to comment 26.1: As part of the initial investigation in 1990, Ametek conducted a regional well survey to determine the extent of the groundwater contamination beyond the Facility property boundary. Property owners whose wells were impacted by the groundwater contamination were notified by Ametek. Ametek provided each of the impacted residences the choice of either connecting to public water or installing a carbon filter system in the home to treat the groundwater and to eliminate

direct exposures to the groundwater contamination.

EPA Response to comment 26.2: EPA assessed the potential for indoor air vapor intrusion for residences that are located above or in the proximity of the Ametek offsite groundwater plume. Given the low levels of VOCs detected in the offsite monitoring wells, the depth to groundwater and the depth of the vadose zone in this area, EPA determined that the groundwater plume that extends beyond the Ametek Plant #2 property boundary does not pose a vapor intrusion concern or a health risk to the surrounding community.

EPA Response to comment 26.3: See EPA response to comment #25.

27. Comment: Clarification is needed as to why the Statement of Basis claims that in-ground disposal of TCE ceased in the early 1980's, yet TRI reporting states that it was still being disposed of in the ground in the early 1990's...before, during, and after the construction of the Wyckford Commons and The Mews at Wyckford Commons subdivisions.

EPA Response: The Statement of Basis does not state that Ametek disposed TCE in-ground at the Facility. Until 1979, wastes from Ametek's manufacturing processes, which comprised of heavy metals and volatile organic compounds (VOCs) that included trichloroethylene (TCE), were managed in the former wet lagoons and dry lagoons prior to offsite disposal of the wastes at an approved facility. In 1982, Ametek closed out the former lagoons under the Pennsylvania Department of Environmental Protection's (PADEP) oversight.

The Toxics Release Inventory (TRI) is a public database that compiles annual chemical reports which include on and off site releases and waste management data for each chemical that the facility manufactured and/or used. The data reported are the total quantity of the specific chemicals that were released and/or managed for the reporting calendar year. The TRI tracks the use and management of TCE from 1987 to 1998 at the Ametek Facility. The TRI states that there were no reportable quantities of TCE that were injected underground for any of the reported years. The TRI reported only the quantity of TCE releases in the form of air emissions from the Facility and the quantity of TCE wastes that were transferred to an approved offsite facility for disposal.

28. Comment: Clarification is needed as to why EPA lists "no data" in all TRI Form R reporting for Trichloroethylene for Ametek U.S. Gauge. This is the numerical value listing the amount of TCE released into the ground at the Ametek Facility, and it is this reporting that sites such as Homefacts.com and Scorecard.com use to advise prospective homebuyers of companies in specific zip codes that are responsible for contamination. A "no data" designation has omitted Ametek from these websites and has prevented homebuyers from making informed and accurate decisions regarding their health, homes, and financial well-being.

EPA Response: The reporting of "no data" in the TRI Form R indicates that Ametek never disposed or released TCE in the ground at the Facility during the TRI reported

years from 1987 to 1998. This information is accurately reflected in the Homefacts.com and Scorecard.goodguide.com websites.

29. Comment: Clarification is needed as to why Sellersville Borough Water Works was allowed by the EPA to withhold proper public disclosure for municipal water contamination caused by Ametek's illegal use of land at 12th and Main Streets for the entire duration of the Consumer Confidence Rule (CCR) disclosure--and why they were allowed to continue to operate as a public supplier with the amount of various unremediated contamination and compliance violations (arsenic, TCE, microbiological contamination) that they incurred (200+, which is the highest in the nation).

EPA Response: This comment is not related to the Ametek Facility located at 900 East Clymer Ave. and the proposed remedy. The comment was forwarded to the EPA Region 3, Water Protection Division who will respond to the comment. Inquiries can be directed to Karen Johnson at (215) 814-5445.

30. Comment: Clarification is needed as to why the EPA stated during the 12/8/11 public hearing that Perkasie Borough Authority (PBA) Well #10 (Spring Lane, Perkasie) is going to be re-activated after having been deactivated in 2007 "indefinitely" (per numerous Malcom Pirnie reports) due to TCE/COC contamination, especially taking into consideration the fact that the pumping activity from this well will keep the groundwater contamination flowing in a northeastern direction--directly under the Mews at Wyckford Commons and Wyckford Commons subdivisions. It appears that this is being used to legitimize the contamination that will be found when the appropriate aquifer is tested in these areas--as if this re-activation will be the reason for this contamination being present--when in reality it has been there all along.

EPA Response: Perkasie Borough Authority deactivated Well #10 from March 2007 to November 2011 because of the high cost of treating naturally occurring arsenic (As) in groundwater to the new EPA standard of 10 ug/L. Since the shutdown, improved treatment technology has brought down those costs. The Borough determined that it was viable to treat arsenic in groundwater and reactivated Well #10.

The reactivation of Well #10 should not impact the onsite groundwater pump and treat system or the groundwater plume. The segment of the groundwater plume that is located in the eastern portion of the Facility and in the direction of Well #10 is currently contained within the Ametek Plant #2 property boundary. As part of the final remedy, Ametek will continue to sample several onsite and offsite monitoring wells in this area to ensure that the groundwater remediation system is effective in cleaning up and containing the groundwater plume within the Ametek property boundary. If the data from the monitoring wells indicate offsite plume migration as a result of the reactivation of PBA Well #10, Ametek will immediately implement active measures (e.g., increase pumping rate, install addition recovery wells) to prevent offsite groundwater plume migration.

31. Comment: As stated in various prior email communications to the EPA, I continue to formally oppose the TI designation and reject all information disclosed by the U.S. EPA,

Ametek U.S. Gauge, Ametek, Malcom Pirnie, and all other parties related to this initiative. All aforementioned points and related agencies MUST BE investigated and tested accordingly by parties unaffiliated with any of those already involved. Additionally, all residents in the affected areas (and in close proximity to such areas) must be notified IMMEDIATELY by U.S. Mail of all current issues, both confirmed and unconfirmed, that have/could have ANY affect on their health, property, or financial well being.

EPA Response: EPA acknowledges that the commenter is opposed to the designation of the TI zone in the Ametek remedy. EPA's designation of the TI Zone is consistent with EPA guidance, and proper quality assurance and quality control procedures were followed and documented. Moreover in the context of the subsurface regime beneath the Ametek Site, the data do support this TI designation.

EPA does not believe that there are unaddressed issues at the Ametek Site, nor does EPA know of "confirmed or unconfirmed" current impacts to nearby residents' health, property, or financial well-being as a consequence of the final remedy.

The final remedy is protective of human health and the environment. Ametek will continue to operate the existing groundwater pump and treat system to remediate and prevent the migration of the groundwater plume. Over time, the operation of the Ametek onsite pump and treat system will remediate the offsite groundwater plume to drinking water standards. The current groundwater plume will continue to contract to within the Ametek Plant #2 property boundary, which is designated as the TI boundary. Land use and development restrictions will only apply to Ametek Plant #2 property.

Upon discovery of the plume by PADEP in 1987, residents that were impacted by the Ametek groundwater contamination were notified by Ametek and were either connected to public water or provided with a carbon filter system to eliminate drinking water exposure.

The results of the investigation and the Administrative Record that supports the final remedy are available to the public. EPA has informed the community about the investigation and the proposed remedy. EPA has posted several public notices in the local newspaper and on the EPA website to solicit comments from the public. A public meeting was held on December 8, 2011 at the Indian Valley Public Library located in Telford, PA to present the proposed remedy and to solicit any comments that the public may have. EPA's actions in conducting the investigation and selecting the remedy are consistent with RCRA and RCRA policy.

Comment Submitted by Sellersville Borough

1. Comment: Given the significant history of Ametek's industrial operations within the Borough, as well as the unique attributes of the Site itself, the Borough does have an interest in how this Site may be used in the future either by Ametek or any other

subsequent owner. The Site is rich in natural resources and while there are many viable potential uses for this property in the future, use of the Site as park land, open space, or a recreational area is certainly one attractive potential use. While the Borough certainly believes and agrees that commercial or industrial use of the property in the future is a safe and viable potential use, the Borough does not believe that use of the property as a recreational area should be prohibited. The Borough is requesting that the scope of EPA's proposed future use restrictions for the Site be narrowed so as not to preclude the Site from being used for recreational purposes, open space, or park land in the future. The Borough respectfully respects that the verbiage to be used in the Act 68 covenant be drafted so as not to preclude future use of the Site for purposes of park land, open space, or recreational use.

EPA Response: EPA does not object to the potential use of the Site for recreational, open space, or park land. Additional sampling and remediation of the Site may be necessary if the Site were to be converted for recreational use. EPA will discuss this proposal with Ametek. Since Ametek is the current owner of the property, Ametek will make the final decision to include recreational use as a potential use of the Site in the Pennsylvania Uniform Environmental Covenants Act (Act 68). EPA will discuss this possibility with Ametek.

Comments Submitted by Meta Michener

1. Comment: How many gallons of groundwater per day is Ametek treating with the pump and treat system?

   EPA Response: The pump and treat system is currently operating at a pumping rate of 69 gallons per minute, which equates to 99,360 gallons of groundwater treated per day.

2. Comment: What is the pumping rate of the Perkasie Borough Authority (PBA) Well #10 that recently restarted in November 2011?

   EPA Response: PBA Well #10 is currently pumping at rate of 220 gallons per minute.

3. Comment: Did the Perkasie Borough Authority sample the raw groundwater in PBA Well #10 before they reactivated it?

   EPA Response: Perkasie Borough Authority sampled the groundwater several times for volatile organic compounds (VOCs) prior to the reactivation of Well #10. Only trichloroethylene (TCE) was detected above the drinking water standards of 5 ug/L. The TCE levels detected in the well range from 8 ug/L to 26 ug/L. PBA Well #10 has an onsite treatment system to remediate the TCE levels in groundwater to drinking water standards prior to public distribution.

Comments Submitted by Bob Rudick

1. Comment: It seems that during the deactivation period of PBA #10, the offsite contamination levels steadily decreases because of the Ametek onsite pump and treat system. Now that PBA #10 is back online, will the reactivation of PBA #10 negatively impact the effectiveness of onsite pump and treat system that can potentially result in offsite groundwater plume migration?

   EPA Response: The reactivation of Well#10 should not impact the onsite groundwater pump and treat system or the groundwater plume. As part of the final remedy Ametek will continue to sample several onsite and offsite monitoring wells to ensure that the groundwater remediation system is effective in cleaning up and containing the groundwater plume within the property boundary. If the data from the monitoring wells indicate a trend of increasing levels that can potentially lead to offsite plume migration as a result of the reactivation of PBA Well #10, Ametek will immediately implement active measures (e.g., increase pumping rate, install additional recovery wells) to prevent offsite groundwater plume migration.

Comments Submitted by John Larsen

1. Comment: Is the onsite groundwater pump and treat system currently pumping at the maximum rate?

   EPA Response: No. The treatment system is currently pumping at 69 gallons per minute which can be increased to the maximum permitted rate of 100 gallons per minute.

2. Comment: The shallow and deep aquifers are not that far apart. What are the connections between the two aquifers?

   EPA Response: Because of the orientation of the geologic units (i.e., the bedding planes of the sedimentary rocks dip to the north), the connection between the shallow and deep aquifers varies at the Site. In the southern area of the Site the shallow and deep aquifers are separated by Unit 2, which acts as a confining unit so that connection between the two aquifers is very limited. Conversely, in the northern section of the Site the shallow and deep aquifers are both in Unit 1 and are connected through bedrock factures.

Comments Submitted by Tom Hufnagel

1. Comment: With the amount of rain that we've been getting, will rain infiltration cause the TCE contamination in the shallow aquifer to migrate further down and impact the deep aquifer. Can it be controlled?

   EPA Response: There is some limited connection between the shallow and deep aquifers

in the northern area of the Site and rain infiltration may cause some TCE contamination to migrate between the aquifers. However, the onsite groundwater pump and treat system that captures the TCE contamination in both the shallow and deep aquifers is capable of remediating any potential TCE contamination migration between the two aquifers. EPA would like to emphasize that the TCE contamination in soil, which was the initial source of the groundwater contamination, was excavated and disposed offsite as part of closures of the former lagoons. There is no longer a continual source of TCE contamination that is impacting the groundwater.

2. Comment: Was mercury detected in groundwater?

   EPA Response: No, the investigation did not detect mercury in groundwater.

Comments Submitted by Marie Runkle

1. Comment: Aside from monitoring wells (MWs) 21S and 21D that were installed at the former Ametek Plant #1 Facility there was no other environmental investigation conducted at this site. Were there any environmental releases or any unknown contamination source at the former Plant #1 as a result of past operations?

   EPA Response: There is no information or data to indicate that the operations at the former Plant #1 had any significant releases to the environment. The former Plant #1 was a much smaller operation and did not have the same capacity or waste management units as Plant #2. If there were any unknown contamination source(s) at the former Plant #1, contamination levels in MWs 21S and 21D would have detected higher levels with a constant or increasing trend in concentrations that would indicate the presence of a contamination source. Instead the levels in MWs 21S and 21D have decreased over the years as a result of the continued use of the pump and treat system.

Comments Submitted by Ametek

1. Comment: The document should be titled "AMETEK U.S. Gauge Division - Plant #2, Sellersville, PA". The Consent Order defines the 'Site" as "U.S. Gauge Division Plant #2 (being the Facility located on the East Side of Diamond Street) with a mailing address of 900 Clymer Avenue, Sellersville, Pennsylvania."

   The previous investigations and remedial measures are focused on Plant #2 consistent with the Consent Order. Any broadening the definition of the Site in the Statement of Basis beyond Plant #2 is incorrect and not consistent with all of the work done under the Consent Order.

   EPA Response: EPA's Final Decision explains that the investigation and final remedy apply to the Plant #2 Facility.

2. Comment: Page 1, Section I "Introduction", Paragraph 1 - similar to the comments above this paragraph should be modified to make the definition of the "Site" consistent with the Consent Order and the work performed.

EPA Response: EPA's Final Decision revises the language in the SB document to define the term "Site" as the Ametek U.S. Gauge Division Plant #2 (Plant #2), which is consistent with the definition of "Site" in the EPA Final Administrative Order on Consent issued to Ametek. Areas outside Plant #2, including Plant #1, are offsite areas.

3. Comment: Page 10, Section VIII "Institutional Controls and Oversight", Paragraph 2 First bullet. - The proposed land use restriction should be for "non-residential purposes only" rather than restricted to industrial purposes. There are many acceptable commercial uses of the property other than industrial.

EPA Response: EPA will replace "industrial purposes" to "non-residential purposes only".

4. Comment: Page 11, Section VIII "Institutional Controls and Oversight", Paragraph 1 First bullet and Paragraph 2 - Prohibiting construction of buildings on the property without prior written EPA approval is too restrictive. AMETEK agrees that any new buildings should consider potential risks related to vapor intrusion and perform a risk assessment as necessary to determine whether any mitigation measures are required based on the design of the building.

EPA Response: The selected remedy provides that groundwater contamination above MCLs may remain on the Site property. As a result, there is a risk of vapor intrusion to any buildings constructed on the property, and EPA must ascertain that human health and the environment are properly protected on the property. Prohibiting construction of buildings on the property without prior written EPA approval is therefore not too restrictive. Nevertheless, EPA's Final Decision revises the language in the Statement of Basis document to clarify that Ametek will perform a risk assessment to determine whether any mitigation measures are required based on the design and intended use of the building. Ametek will submit the risk assessment report to EPA for approval prior to construction of the building.

ATTACHMENT 2
Statement of Basis
August 23, 2011

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

REGION III

STATEMENT OF BASIS

AMETEK U.S. GAUGE DIVISION

SELLERSVILLE, PENNSYLVANIA

PAD 002 342 236

STATEMENT OF BASIS

AMETEK U.S. Gauge Division
Sellersville, Pennsylvania
EPA ID #: PAD 002342236

I. INTRODUCTION

This Statement of Basis (SB) explains the remedy proposed by the United States Environmental Protection Agency (EPA) to address the contamination found at the AMETEK U.S. Gauge Division Plant #2 in Sellersville, Pennsylvania (hereafter referred to as "Plant #2"), which is owned and operated by Ametek, Inc. (hereafter "AMETEK"). All property under the ownership and control of AMETEK including but not limited to Plant #1 and Plant #2 shall be referred to hereafter as "Site."

EPA is issuing this SB consistent with public participation provisions of the Resource Conservation Recovery Act (RCRA). The public is encouraged to review and comment on the proposed remedy. If the comments are such that significant changes are made to the remedy, EPA will seek additional public comments on the revised proposed remedy. If there are no comments that result in a change to the proposed remedy, the remedy will become final.

A detailed description of the environmental activities at the Site is included in the following sections and in the Administrative Record. Key information used in generating the proposed remedy is from reports and sources contained in the Administrative Record. The Administrative Record is available for review at the following locations:

United States Environmental Protection Agency, Region III
1650 Arch Street
Mail Code: 3LC30
Philadelphia, PA 19103-2029
Contact: Khai M. Dao
Voice 215-814-5467
Fax: 215-814-3113
Email: dao.khai@epa.gov
Hours: Monday-Friday: 8:30 am – 5:00 pm

and

Pennsylvania Department of Environmental Protection (PADEP)
2 East Main Street
Norristown, PA 19401
Contact: Ms. Jennifer Wilson
Voice: 484-250-5744
Hours: 8:00 am – 4:00 pm
Note: Appointment is needed to review the Administrative Record

II. SUMMARY OF PROPOSED REMEDY

Based on a review of past and present Site environmental practices, soil and groundwater sampling activities, historical investigations and ongoing remedial activities at the Site (i.e., operation of a groundwater pump and treat system), groundwater is the medium of concern for continued environmental activities at the Site, and the focal point for the proposed remedy. Moreover, long term goals for groundwater, discussed in greater detail in subsequent sections, are 1) The eventual attainment of EPA Maximum Contaminant Levels (MCLs), codified at 40 C.F.R. Part 141, and promulgated pursuant to the Safe Drinking Water Act, of the chlorinated volatile organic compound (VOC) Constituents of Concern (COCs) in groundwater beyond the Plant #2 property, and 2) The continued monitoring of 1,4-Dioxane in groundwater with respect to EPA's Tapwater Risk Based Screening Concentration of 6.1 µg/l during remediation to attain the aforementioned VOC MCLs.

The proposed remedy consists of the following:

- Establishment of a Technical Impracticability (TI) Boundary for groundwater. The TI Boundary conforms to the Site's conceptual hydrogeological model, and incorporates elements of EPA's *Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration* (EPA/540-R-93-080). The TI Boundary is the Plant #2 property boundary and is shown on Figure 1;
- Continued operation and maintenance of the Site's groundwater pump and treat system;
- Long-term groundwater COC stability monitoring and reporting; and
- Institutional controls to address long term Site development restrictions, and groundwater-related use restrictions at the Site which may be implemented through an environmental covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act (Act 68). This covenant, if executed, would be signed by AMETEK and EPA and will be enforceable by EPA.

A detailed description of the proposed remedy is provided in the remaining sections of this SB.

III. BACKGROUND

Plant #2 is located at 900 Clymer Avenue in Sellersville, Bucks County, Pennsylvania and was the location of a pressure and vacuum gauge manufacturing business from 1957 to 2008 (i.e., manufacturing operations ceased in 2008). Currently, Plant #2 is used only for administrative and engineering offices and as a warehouse for the storage, shipping and receiving of various metal components.

Machining of metal components, solvent degreasing and metal electroplating operations were associated with the manufacturing processes at Plant #2. Past operational practices related to the use of solvent degreasers, including trichloroethene (TCE) and 1,1,1-trichloroethane (TCA), have resulted in the degradation of the groundwater at the Site.

Groundwater beneath the Site occurs in bedrock. The bedrock is composed of a variety

of inter-bedded sedimentary rocks that slope gently to the northwest. As shown on the geologic cross section A to A' in Figure 2, the rock units beneath the Site have been designated as follows; Unit 1 (generally soft, reddish-brown siltstones, shales and fine-grained sandstones), Unit 2 (generally grayish shale and hard gray to black argillite), Unit 3 (reddish sedimentary rocks similar to Unit 1), Unit 4 (gray to black rocks similar to Unit 2), and Unit 5 (rocks similar to Units 1 and 3). Site bedrock is typically covered by a thin veneer of soil that is generally less than 10 feet thick.

Groundwater occurs in fractures and bedding planes in bedrock; these openings are known as zones of secondary porosity. Under non-pumping conditions, groundwater beneath the Site, specifically in Unit 1, can be expected to flow in a northerly direction; a direction roughly commensurate with the direction of the slope of the bedrock (known as the bedrock dip direction), and the slope of the landscape toward the East Branch of the Perkiomen Creek. However, the investigative work completed to date indicates that groundwater flow, and hence Site COC distribution, has also followed an easterly course over time (i.e., a direction along the length of the local bedrock units known as the bedrock strike). This distribution is believed to be a manifestation of the historic pumping activities within bedrock Unit 1 that occurred in areas located to the east and northeast of the Site.

Based on the results of the investigative work conducted to date, groundwater COC within bedrock Unit 1 and within the Plant #2 TI Boundary must be controlled and reduced via the extraction and treatment of Site groundwater. The basis for this is the potential for groundwater withdrawal/usage from bedrock Unit 1 from areas around the Site and outside of the TI Boundary. The following corrective measure objectives have been identified for the COCs and 1,4-Dioxane in Site groundwater:

1. Reduction of chlorinated VOC concentrations in groundwater to MCLs beyond the Plant #2 TI Boundary;

2. Hydraulic control and groundwater contamination stability and reduction within the Plant #2 TI Boundary; and

3. Ongoing monitoring to demonstrate the reduction of reported 1,4-Dioxane concentrations with respect to the EPA's Tapwater Risk Based Screening Concentration for 1,4-Dioxane of 6.1 µg/l.

EPA has determined that these objectives are protective of human health and the environment.

IV. REGULATORY HISTORY

A. PADEP Order

A PADEP Order was issued to AMETEK in September 1988 to conduct a hydrogeological investigation at Plant #2. The results of the 1988-1989 investigation confirmed the presence of VOCs in groundwater. In February 1990, EPA informed AMETEK that the

primary regulatory responsibility for further investigation and remedial efforts was being assumed by EPA at the request of PADEP.

B. EPA Administrative Order on Consent (Consent Order)

A Consent Order was issued to AMETEK on June 29, 1990 by the EPA under Section 3008(h) of RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Section 6928(h), for Plant #2 located in Sellersville, Pennsylvania. The Consent Order was signed by AMETEK on June 11, 1990.

In December 1991, AMETEK completed a Phase II Hydrogeological Investigation (HI) of the Site under the terms of the Consent Order and submitted a Draft HI Report to EPA. The Draft HI Report indicated that offsite migration of dissolved phase Site-related VOCs may be occurring. In 1992, AMETEK received EPA's written comments on the Draft HI Report. EPA concluded that the HI did not fulfill the requirements of a RCRA Facility Investigation (RFI), and identified issues that would need to be addressed. AMETEK addressed EPA's comments during the performance of the RFI.

C. Interim Measures

Interim Measures (IMs) were implemented by AMETEK pursuant to the Consent Order to control and stabilize potential impacts to the nearby offsite private wells. The IMs included the design, installation, and operation of an IM groundwater pump and treat system (i.e., the existing groundwater treatment system), and a residential water supply survey. The existing groundwater pump and treat system has been in operation since July 1993.

The original residential water supply survey conducted by AMETEK in the winter and spring of 1993, described in *Interim Measures for Nearby Private Wells Report*, Groundwater Technology, Inc., April 26, 1993, revealed 34 residences with domestic supply wells within a one mile radius of the Site. Most residents granted access for routine sampling for chlorinated VOCs as part of the EPA approved IM drinking water sampling program. Between 1993 and 2004, the number of residences included in the sampling program decreased to nine as residents accepted AMETEK's offer to connect to the local public drinking water supply. Groundwater sampling results from the nine residences included in the final IM sampling events, conducted from April 2007 to March 2008, showed no detectable COCs.

The final sampling event of the residential IM groundwater sampling program was conducted on March 5, 2008. As approved by the EPA in January 2007, three sampling events were conducted in 2007, and one event, the March 5, 2008 event, was conducted in 2008. These events, conducted 30 days, 90 days, six months and one year after the deactivation of local public supply well Perkasie Borough Authority (PBA) number 10 (PBA-10) on March 23, 2007, revealed no reported detections of COCs. AMETEK's final offer to provide a connection to the public water supply was repeated following each of the last four sampling events. The residents who accepted AMETEK's final offer were connected to the public water supply in September 2010.

V. SUMMARY OF INVESTIGATION

A. Draft RCRA Facility Investigation (RFI) Report (1997)

The results of the RFI completed by AMETEK pursuant to the Consent Order were presented to the EPA in the Draft RCRA Facility Investigation Report, Groundwater Technology, Inc., dated February 24, 1997 (Draft RFI Report). The scope of the RFI activities included the characterization of Site groundwater, soil, surface water, and sediment, a soil gas survey, continuous hydrogeologic groundwater level monitoring survey (i.e., various aquifer testing activities), and a Baseline Risk Assessment (BRA). The Draft RFI Report provided details on the following potential Plant #2 COC source areas;

- Northern Areas – Former Wet Lagoon Area, Paint Storage Shed, Chip Shed and the Former Process Waste Transport Line.
- Southern Area – Former Dry Lagoon Area.

The history of remedial actions (e.g. sludge and soil removal) conducted in the Former Wet Lagoon Area and the Former Dry Lagoon Area in 1983, as well as investigation work conducted in these areas and the other areas listed above, are discussed extensively in the Draft RFI report.

Based on the characterization data collected and the results of the BRA, the primary potential exposure pathway was concluded to be the migration of VOCs from groundwater into downgradient offsite residential wells. EPA provided comments on the Draft RFI Report in a letter dated September 11, 1997, and in response, AMETEK prepared a report titled RCRA Facility Investigation Response Letter Report to EPA Comments dated December 19, 1997. This report set the stage for the additional groundwater-related Site characterization activities conducted by AMETEK from 1999 to 2008.

As established during the RFI, the VOCs of concern in groundwater are the chlorinated VOCs cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE), tetrachloroethene (PCE), toluene, 1,1,1,-trichloroethane (1,1,1-TCA), and trichloroethylene (TCE). Based on the findings presented in the Draft RFI report and EPA comments, additional characterization activities were conducted from 1999 through 2008 as described below.

B. Additional Groundwater Investigation (1999 – 2008)

Various additional environmental investigation activities have been conducted at the AMETEK Site since the submittal of the Draft RFI report. Based on the results of the 1997 RFI, Site investigation activities were focused on the primary medium of concern, groundwater.

As described in the Third Quarterly Letter Report on Additional Environmental Investigation Activities, dated December 2003, EPA was concerned that 1,4-Dioxane may be

present in groundwater. 1,4-Dioxane was historically used as a primary stabilizer for 1,1,1-TCA. Given the elevated levels of 1,1,1,-TCA detected in some of the monitoring wells, 1,4-Dioxane was added to the list of constituents sampled during the semi-annual groundwater sampling events in August 2003.

Based on the results of the groundwater investigation, EPA has made the following conclusions:

- Hydraulic control of the impacted groundwater at the Site is maintained via the Site's existing IM groundwater pump and treat system;
- Site groundwater with COC levels (e.g., chlorinated VOCs) above EPA MCLs, is attributed to past operations at Plant #2;
- Site groundwater with 1,4-Dioxane levels above EPA's Tapwater Risk Based Screening Concentration of 6.1 µg/l is attributed to past operations at Plant #2;
- Remaining local residences served by domestic water supply wells have been shown to be free of impacts by Site COCs during 12 sampling events conducted from 2003 to 2008;
- The closest known public water supply well, PBA-10, located approximately three quarters of a mile northeast of the Site, has been deactivated by the PBA. While in operation, water provided by PBA-10 was treated with an air stripper to remove VOCs prior to distribution;
- A preliminary wellhead protection area (WHPA) has been established for the boroughs of Perkasie and Pennridge. Only the WHPA for well PBA-10 contacts the Plant #2 boundaries, and as described above, well PBA-10 has been deactivated;
- Based on Perkasie Borough Ordinance 186-14, if public water is accessible to a residence within Perkasie Borough, the PBA will not issue a permit for a private well. Presently, public water is available to all residents in Perkasie Borough; therefore, no new private wells may be drilled; and
- Indoor vapor intrusion as a result of the Site groundwater plume is negligible and does not pose a human health risk.

C. RFI Approval (1997 – 2009)

In a letter dated May 14, 2009, the EPA issued a final approval of the AMETEK RFI. Based on the data collected as part of the RFI, EPA has concluded that Site groundwater is the medium of concern. Long term goals for Site groundwater are 1) the eventual attainment of the MCLs beyond the TI boundary of the chlorinated VOC COCs, and 2) the continued monitoring

of 1,4-Dioxane levels in groundwater with respect to EPA's Screening Concentration for 1,4-Dioxane of 6.1 µg/l (Screening Concentration) during remediation to attain the aforementioned MCLs.

VI. PROPOSED REMEDY AND RATIONALE

Given the elevated levels and the nonaqueous phase liquid (NAPLs) characteristics of the VOC contamination and the constraints of the hydrogeological conditions (i.e., fractures and bedding planes in the bedrock) at the Site, EPA has concluded that it is technically impracticable to attain EPA Groundwater Protection Standards (namely MCLs) throughout the groundwater plume within the Plant #2 property boundary. It is often necessary to remove virtually all NAPL before concentration levels in groundwater near the source of the contamination can approach concentration levels commensurate with the MCLs. Presently, there are no technologies which have been proven to be economical and capable of removing all NAPL in groundwater from large sites where NAPL is widely distributed laterally and vertically, and where the stratigraphy is highly heterogeneous and complex as presented at the Site. EPA evaluated over twenty years of Site groundwater data and regional hydrogeology investigation to conclude that total removal of VOC contamination in bedrock fractures is effectively impossible and that attainment of MCLs within the current Plant #2 property boundaries is technically impracticable. Additional details of the Site analyses and evaluation of the VOC groundwater data in heterogeneous bedrock fractures are presented in the Final RFI Report.

Because of the constraints of VOC contamination in groundwater and the hydrogeological conditions at the Site that prevent MCL attainment throughout the groundwater plume, EPA is proposing that continued operation of the existing groundwater pump and treat system and monitoring, along with the establishment of a Technical Impracticability Zone (TI zone) will be the most practical and economical remedy that will continue to be protective of human health and the environment. The groundwater pump and treat system will achieve drinking water standards at the monitoring locations beyond the TI zone. The TI zone will define the area of hydraulic control that will ensure groundwater contamination stability within the Plant #2 property. Long-term monitoring is proposed through performance sampling and gauging of the proposed TI Boundary monitoring well network, and monitoring wells MW-21S, MW-21D (new) and MW-22D.

A. Technical Impracticability Zone

The proposed remedy for the Site assumes the development and management of a TI Zone within which the hydraulic stability of the groundwater COCs will be maintained via continued groundwater recovery and treatment.

The Site's TI Zone is a three dimensional framework that includes the TI Boundary (i.e., the Plant #2 property boundary), and a defined portion of the bedrock aquifer beneath Plant #2. Within the TI Zone the following will occur:

1. Hydraulic control will be maintained through operation of the existing groundwater

pump and treat system;

2. Hydraulic control will be monitored through gauging of the TI Boundary monitoring wells; and
3. Groundwater COC stability will be monitored with respect to MCLs for VOCs, and concentrations of 1,4-Dioxane will be recorded and evaluated with respect to EPA's Tapwater Risk Based Screening Concentration of 6.1 µg/l.

Figure 1 shows the monitoring wells that comprise the TI monitoring well network at the Site. The TI Boundary monitoring well network will be re-evaluated over time, and recommendations on refining the network will be made based on an annual evaluation of future monitoring results. The basis for inclusion of each of the TI Boundary monitoring wells is explained in detail in the January 2011 Corrective Measures Study (CMS) Report. Site area and subsurface geology details are shown in Figure 1 and Figure 2, respectively.

Monitoring wells MW-21S and MW-21D (new) are outside of the Plant #2 TI Boundary/TI Zone, and are not part of the TI monitoring well network. The goal of the long-term remedy for the COCs in MW-21S and MW-21D (new) groundwater is to reduce concentrations to respective MCLs through groundwater pump and treat system. Monitoring wells MW-21S and MW-21D (new) will be gauged and sampled during future TI Boundary monitoring well gauging and sampling events.

If increasing COC concentration trends are observed in MW-21S and MW-21D (new), further evaluation may be needed for localized groundwater remediation for specific COCs.

Monitoring well MW-22D is also outside the Plant #2 TI Boundary/TI Zone, and is not part of the TI monitoring well network. The 1,4-Dioxane levels in MW-22D have been above the EPA's 1,4-Dioxane Screening Concentration of 6.1 µg/l for some time. As such, MW-22D will be sampled for 1,4-Dioxane during future TI Boundary monitoring well gauging and sampling events, and will be evaluated against the Screening Concentration. Decisions on changes to groundwater monitoring procedures and/or Site groundwater recovery and treatment operations will be based on this evaluation.

B. Existing Groundwater Treatment System

The existing (i.e., IM) groundwater pump and treat system has been in operation since 1993 and withdraws groundwater from three pumping wells located at Plant #2. These wells, RW-1, MW-6S and MW-10S, pump on average 50 gallons per minute (gpm), 9 gpm and 8 gpm, respectively. Under the proposed remedy, the existing groundwater pump and treat system would remain in operation. If Site conditions change, AMETEK may re-evaluate the conditions and propose to modify the groundwater pump and treat system (e.g., number of recovery wells, adjust pumping rates, etc), with the approval of the EPA, to improve or maintain the efficacy of the groundwater remediation strategy for the Site.

The main components of the treatment system include an air stripper, two vapor-phase

granular activated carbon (GAC) units (for the capture of VOCs/control of vapor emissions from the systems' air stripper), and various ancillary equipment (e.g., two centrifugal blowers, air stripper sump pump, control panels, etc.). Groundwater is pumped from the three recovery wells, through a particulate filter (for removal of suspended solids), and then to the top of the air stripper. The VOC removal efficiency from the extracted groundwater is approximately 99%. Counter-current air flow through the air stripper transfers the dissolved organics to the vapor phase. The airstream is routed through the vapor-phase GAC units to remove vapor-phase organics. Treated groundwater is discharged to the unnamed tributary behind the treatment building in accordance with Ametek's National Pollutant Discharge Elimination System (NPDES) Permit No. PA0056014 ("NPDES Permit") issued by PADEP. The current NPDES Permit became effective on April 1, 2009 and will expire on March 31, 2014.

Influent and effluent water samples are collected once per month, as required by the aforementioned NPDES permit, and analyzed for five VOCs: 1,1- DCE, PCE, 1,1,1- TCA, TCE and cis-1,2- DCE. At the request of the EPA, AMETEK expanded the required third and fourth quarter discharge monitoring report (DMR) groundwater sampling events for calendar year (CY) 2003 to include the collection of groundwater samples for analysis for 1,4-Dioxane via EPA Method 1624m. As a result of this change in the groundwater sampling program, all DMR monitoring and sampling events since September 2003 were expanded to include the collection of samples for 1,4 Dioxane.

In accordance with the RCRA process, AMETEK will be required to submit an annual report to the EPA summarizing monthly groundwater pump and treat system performance and groundwater influent/effluent data. In the event additional hydraulic control is needed, the groundwater recovery system could potentially be scaled up to its maximum rated and permitted capacity of 100 gpm (i.e., the maximum flow rate permitted for the system's existing air stripping components).

C. Long-Term COC Stability and Groundwater Level Monitoring

The proposed remedy includes long-term monitoring, which would be performed through sampling and gauging of the proposed TI Boundary monitoring well network and monitoring wells MW-21S, MW-21D (new) and MW-22D (for 1,4-Dioxane as previously described). To obtain representative Site groundwater elevations, the entire Site monitoring well network will be included in a comprehensive groundwater level measurement event to be conducted at the beginning of the sampling event. AMETEK will submit an annual report to the EPA summarizing the groundwater elevation and groundwater quality data for VOCs and 1,4-Dioxane obtained from the TI Boundary monitoring well network sampling event. This report will be submitted to the EPA approximately two months after the annual groundwater monitoring event.

If the water elevation in any TI Boundary monitoring well exceeds the maximum historical water elevation reported for a given monitoring well, an investigation will be performed to determine whether hydraulic control has been maintained.

In the event that future data indicate that additional Site groundwater recovery is needed

to meet the Site's aforementioned groundwater cleanup objectives, the groundwater pump and treat system could potentially be scaled up to its maximum rated and permitted capacity of 100 gpm to maintain hydraulic control and groundwater contamination stability within the Plant #2 property (i.e., the maximum flow rate permitted for the system's existing air stripping components).

VII. MEDIA CLEANUP STANDARDS AND POINTS OF COMPLIANCE

The media cleanup standards for groundwater are the Maximum Contaminant Levels (MCLs) for cis-1,2-DCE, 1,1-DCE, PCE, toluene, 1,1,1-TCA, and TCE, 40 C.F.R. §141. In addition, Site groundwater will be monitored with respect to the current screening value of 6.1 µg/l for 1,4-Dioxane. However, the referenced concentration may change if and when an MCL is established for 1,4-Dioxane. The point of compliance is the TI Boundary as shown in Figure 1. With the exception of monitoring wells MW-21S, MW-21D (new) and MW-22D, the Site groundwater has achieved site specific media cleanup objectives beyond the Plant #2 Boundary/TI Zone. Under the TI concept, hydraulic control of the groundwater plume within the TI zone with COC levels that exceed stated cleanup standards for the Site (namely, MCLs for VOCs) will be maintained through the continued operation of the existing groundwater pump and treat system. Therefore, corrective action at Plant #2 will consist of the continued operation of the existing groundwater pump and treat system, and related periodic TI Boundary monitoring well gauging and sampling to evaluate groundwater recovery system performance (i.e., for maintenance of hydraulic control/groundwater stability within the TI Zone, and long-term COC level reduction (toward MCLs) within the TI Zone). The TI Boundary network of wells will be reevaluated at least once a year and recommendations on refining the network of wells will be made based on future monitoring sample results and the changes to Site conditions.

VIII. INSTITUTIONAL CONTROLS AND OVERSIGHT

The area of the Site within the TI Boundary/TI Zone, and its supporting network of monitoring wells, will be subject to land use and development restrictions with regard to Site groundwater constituents. These restrictions will be in place during the time needed to reduce groundwater COCs to MCLs, and monitor 1,4-Dioxane levels against the Screening Concentrations, via the continued operation of the existing groundwater pump and treat system. As potential risks related to other Site media were found to be negligible, Site land use/development restrictions will be primarily related to Site groundwater.

Proposed land use restrictions and engineering controls are as follows:

- Continued use of the Site for industrial purposes only;
- Prohibition of the installation of public or domestic groundwater supply wells within the TI Boundary and on the Site;
- Continued operation and monitoring of the existing groundwater pump and treat

system for removal of Site groundwater COCs at groundwater extraction rates necessary to maintain hydraulic control. Modifications will be made to the TI Boundary monitoring well network and extraction rates as necessary based on future monitoring results; and

- Prohibition of construction of buildings on the Site property without prior written EPA approval.

The institutional controls may be in the form of an environmental covenant pursuant to the Pennsylvania Uniform Environmental Covenants Act (UECA – Act 68). The purpose of the environmental covenant will be to memorialize the future use of the property with regard to the groundwater TI-related institutional controls described herein. There is a potential risk of vapor intrusion into future buildings that may be constructed at the Site. To mitigate that risk EPA will use an institutional control to prohibit construction of any building onsite without prior written approval from EPA. As part of its review process, EPA will verify that appropriate vapor intrusion mitigation (such as a sub-slab vapor recovery/venting system) is included in the building design.

IX. EVALUATION OF PROPOSED REMEDY

This section provides a description of the criteria EPA considers in a remedy and are set forth in EPA's *Advance Notice of Proposed Rulemaking*, 61 Federal Register, no. 85:19451-52 (1996). There are three performance standards and seven balancing/evaluation criteria that determine the overall effectiveness of the selected remedy. The performance standards and balancing/evaluation criteria are summarized below with the rationale for selecting the proposed cleanup.

The following five remedial alternatives were evaluated by EPA for the cleanup of the groundwater contamination:

- In Situ Chemical Oxidation (ISCO)
- Electrical Resistance Heating (ERH)
- Enhanced Bioremediation
- Groundwater Recovery and Reinjection
- Continued operation of the existing groundwater pump and treat system and long-term groundwater stability monitoring

The alternatives were evaluated based on implementability, short-term and long-term effectiveness, reduction in toxicity/mobility, State acceptance, and cost. Although the five corrective measures alternatives can be technically and administratively implemented, the challenging hydrogeological conditions at the Site (e.g., bedrock fractures and bedding planes) and the NAPL characteristics of the elevated VOC concentrations will prohibit any chosen remedy from successfully cleaning up the site-wide groundwater to the Groundwater Protection Standards of the MCLs. Given the limitations of any viable alternatives to achieve the MCLs throughout the groundwater plume, the proposed remedial approach is to continue with the

existing groundwater pump and treat system for hydraulic control and long-term groundwater monitoring to evaluate the effectiveness of the system in attaining stability of the groundwater contamination. The pump and treat system will achieve MCLs beyond Plant #2. However, given the highly elevated VOC concentrations within the property boundaries and the challenging hydrogeological conditions that will prohibit MCLs attainment, the establishment of the Technical Impracticability Zone (TI zone) will define the area of hydraulic control that will ensure groundwater contamination stability within the Plant #2 property. The proposed remedy of the groundwater pump and treat system, long-term monitoring and institutional controls, along with the establishment of the TI zone, will be protective of human health and the environment. Additional details explaining the evaluation of the five remedial alternatives are presented in the January 2011 Final Corrective Measures Study Report. The performance standards and balancing/evaluation criteria are summarized below with the rationale for selecting the proposed remedy.

A. Performance Standards

1. Protect Human Health and the Environment

Overall Protection of Human Health and the Environment addresses whether a remedy provides adequate protection and describes how risks are eliminated, reduced, or controlled.

EPA has determined that operation of the existing groundwater pump and treat system and long-term COC stability and groundwater level monitoring will be protective of human health and the environment. There are no human health threats associated with the contaminated groundwater originating from Plant #2 because with the previously reported deactivation of local municipal supply well PBA-10, and completion of the residential supply well IM program, no known groundwater receptors are present within the vicinity of the Site. In addition, the East Branch of the Perkiomen Creek (closest potential surface water receptor) was shown to be a losing stream (i.e., does not receive groundwater recharge in the area adjacent to the Site).

Presently there are no current consumptive uses of Site-contaminated groundwater. To ensure that groundwater will not be used for potable purposes, EPA is proposing to require institutional controls, as necessary, to prevent consumptive use of the groundwater, as described in Section VIII.

2. Attainment of Media Cleanup Standards

Attainment of Cleanup Standards addresses whether a remedy will meet the appropriate Federal and State cleanup standards.

With the exception of monitoring wells MW-21S, MW-21D (new) and MW-22D, Site-specific media cleanup objectives have been met beyond the Plant #2 Boundary/TI zone. As a result of the continued operation of the existing groundwater pump and treat system, contaminant levels at MW-21S, MW-21D (new) and MW-22D are declining and will be monitored until they meet media cleanup standards. Under the TI concept, control of the groundwater within the TI zone with COC levels that exceed stated cleanup standards for the Site (namely, MCLs for

VOCs) will be maintained through the continued operation of the existing groundwater pump and treat system.

3. Control Source of Releases

Controlling the Sources of Contamination relates to the ability of the proposed remedy to reduce or eliminate, to the maximum extent practicable, further releases.

Manufacturing operations ceased in 2008, and currently, Plant #2 is used only for administrative and engineering offices and as a warehouse for the storage, shipping and receiving of various metal components. The operation of the existing groundwater pump and treat system as the Proposed Remedy addresses the remediation of the remaining contaminants already in Site groundwater, as well as those that may be contributing to Site groundwater contamination via transport from residual Site source areas.

B. Balancing/Evaluation Criteria

1. Long-Term Reliability and Effectiveness

The long-term reliability and effectiveness standard is intended to address protection of human health and the environment over the long term. The existing groundwater pump and treat system is effective in maintaining hydraulic control and stabilizing and reducing COC concentrations in groundwater. The proposed remedy will maintain protection of human health and the environment over time by controlling exposure to the hazardous constituents remaining in groundwater.

2. Reduction of Toxicity, Mobility or Volume of Waste

For this criterion, remedies that employ treatment and/or source removal and containment that are capable of permanently reducing the overall risk posed by the remediation wastes are preferred. Site groundwater with COC levels above MCLs is largely confined to the Plant #2 property boundaries and a related network of groundwater monitoring wells. The existing groundwater pump and treat system has been shown to maintain hydraulic control and prevent further migration of Site COCs. Additionally, reported groundwater results show that groundwater constituent concentrations have stabilized or are following decreasing concentration trends within the aforementioned Site monitoring well network. Lastly, the substantial reduction of offsite groundwater pumping influence, specifically via the elimination of local residential supply wells, and the deactivation of public supply well PBA-10, will continue to enhance the hydraulic control afforded by the Site's groundwater pump and treat system.

3. Short-Term Effectiveness

The short-term effectiveness criterion is intended to address hazards posed during the implementation of the remedy. Short-term effectiveness is designed to take into consideration

the impact on Site workers and nearby residents during construction before the final cleanup levels are achieved. The only possible exposure to groundwater at the Site is to workers taking environmental samples. AMETEK will be required to continue to adhere to existing, published Site groundwater sampling practices that provide for proper worker training, and the wearing of protective clothing if exposure to contaminated groundwater is expected.

4. Implementability

The implementability criterion addresses the regulatory constraints in employing the cleanup approach. The proposed remedy is fully implementable. All necessary components of the groundwater pump and treat system and the TI Boundary monitoring well network are in place and are currently operational; therefore, no new regulatory constraints are anticipated.

5. Cost

The EPA's overriding mandate under RCRA is protection of human health and the environment. However, relative cost is a relevant and appropriate consideration that EPA is permitted to weigh when selecting among alternatives that achieve the cleanup requirements. The necessary components of the groundwater pump and treat system and monitoring network at the Site are in place and are currently operational. The only recurring costs are operations and maintenance, monitoring, and reporting costs. Therefore, continued operation of the existing groundwater pump and treat system and long-term COC stability monitoring is a cost effective remedy for the Site.

6. Financial Assurance

AMETEK will demonstrate and maintain financial assurance for the performance of the proposed remedy.

7. Community Acceptance

There have been no known conflicts with regards to the remediation efforts and community acceptance. The community acceptance of EPA's selected remedy will be evaluated based on comments received during the public comment period.

8. State Acceptance

This criterion addresses technical and administrative preferences and issues that the PADEP may have regarding the proposed remedy. Operation of the existing groundwater extraction and treatment system, and the corresponding groundwater monitoring and sampling methodologies established through the Site investigations conducted from 1999 to 2008 have been proven to be acceptable to the PADEP.

X. COMMUNITY INVOLVEMENT/PUBLIC PARTICIPATION

EPA is requesting comments from the public on the proposed remedy for remediation of the contamination at the Site. The public comment period will last thirty (30) calendar days after the public notice first appears on August 23, 2011 in the Intelligencer. Comments should be sent to EPA in writing at the address listed below. The EPA must receive the comments within the 30-day period ending September 22, 2011.

A public hearing will be held upon request. Requests for a public hearing should be made to Mr. Khai M. Dao of the EPA Region III Office (215-814-5467). A hearing will not be scheduled unless one is requested.

EPA may modify the proposed remedy based on new information and/or public comments. Therefore, the public is encouraged to review the Administrative Record, and to comment on the proposed remedy presented in this document.

Key information used in generating the proposed remedy is from reports and sources contained in the Administrative Record. The Administrative Record is available to the public for review and can be found at the following locations:

United States Environmental Protection Agency, Region III
1650 Arch Street
Mail Code: 3LC30
Philadelphia, PA 19103-2029
Contact: Khai M. Dao
Voice 215-814-5467
Fax: 215-814-3113
Email: dao.khai@epa.gov
Hours: Monday-Friday: 8:30 am – 5:00 pm

and

Pennsylvania Department of Environmental Protection (PADEP)
2 East Main Street
Norristown, PA 19401
Contact: Ms. Jennifer Wilson
Voice: 484-250-5744
Hours: 8:00 am – 4:00 pm
Note: Appointment is needed to review the Administrative Record

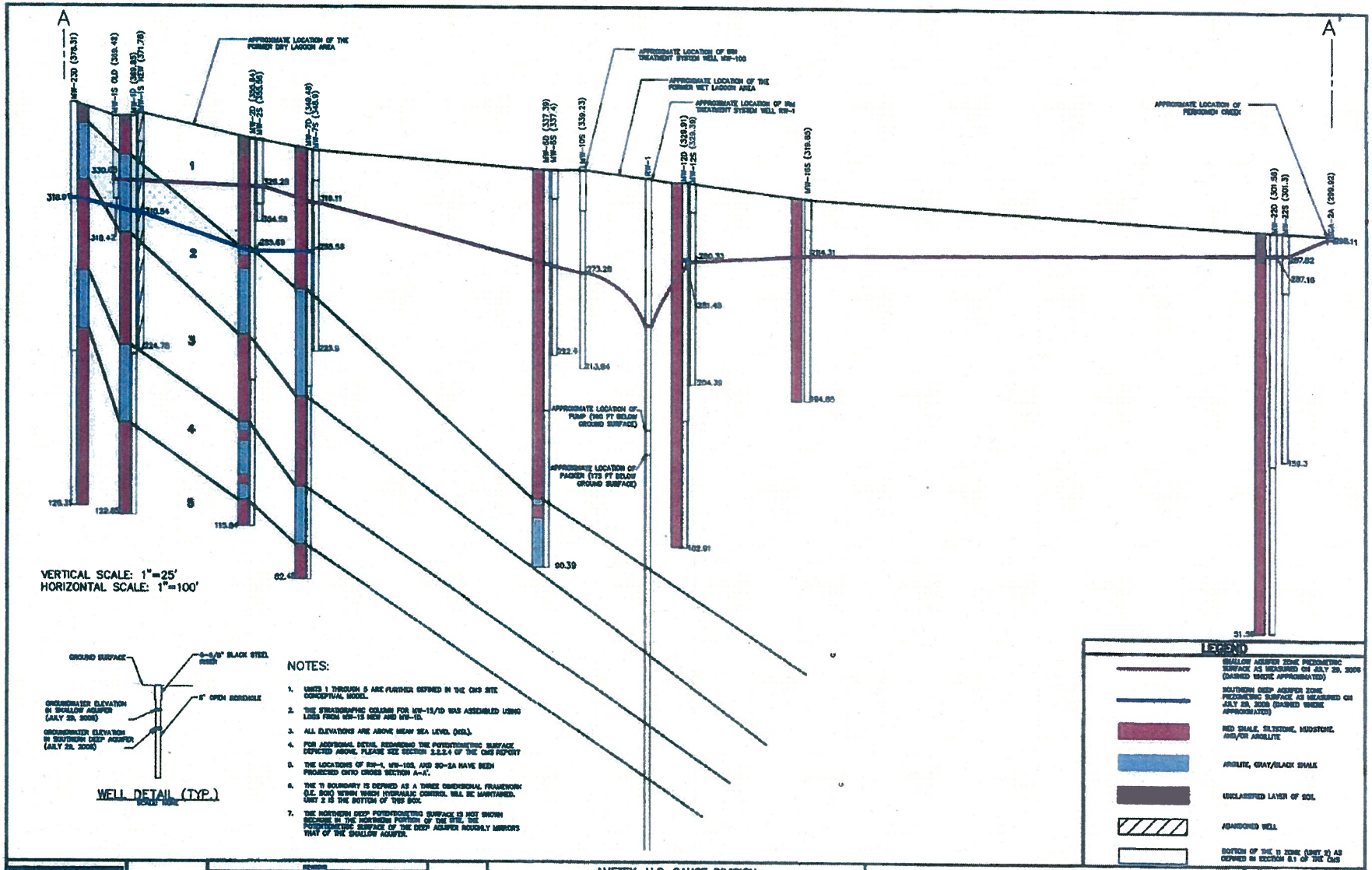
Following the thirty (30) calendar day public comment period, EPA will prepare a final decision that will address all significant comments received during the public comment period. If EPA determines that new information or public comments warrant a modification to the proposed remedy, EPA will modify the proposed remedy or select other alternatives based on such new

information and/or public comments. If there are no significant comments that will change the proposed remedy, the proposed remedy will become final. EPA will describe its final decision in a document entitled the Final Decision and Response to Comments (FDRTC). Any person who comments on the proposed remedy will receive a copy of the FDRTC. Any other person wishing to receive a copy of the FDRTC may obtain one by contacting Mr. Khai M. Dao.

8/23/11
Date

Abraham Ferdas, Director
EPA Region III
Land and Chemicals Division

Attachments:
Figure 1- TI Boundary
Figure 2- Geologic Cross Section



MALCOLM PIRNIE

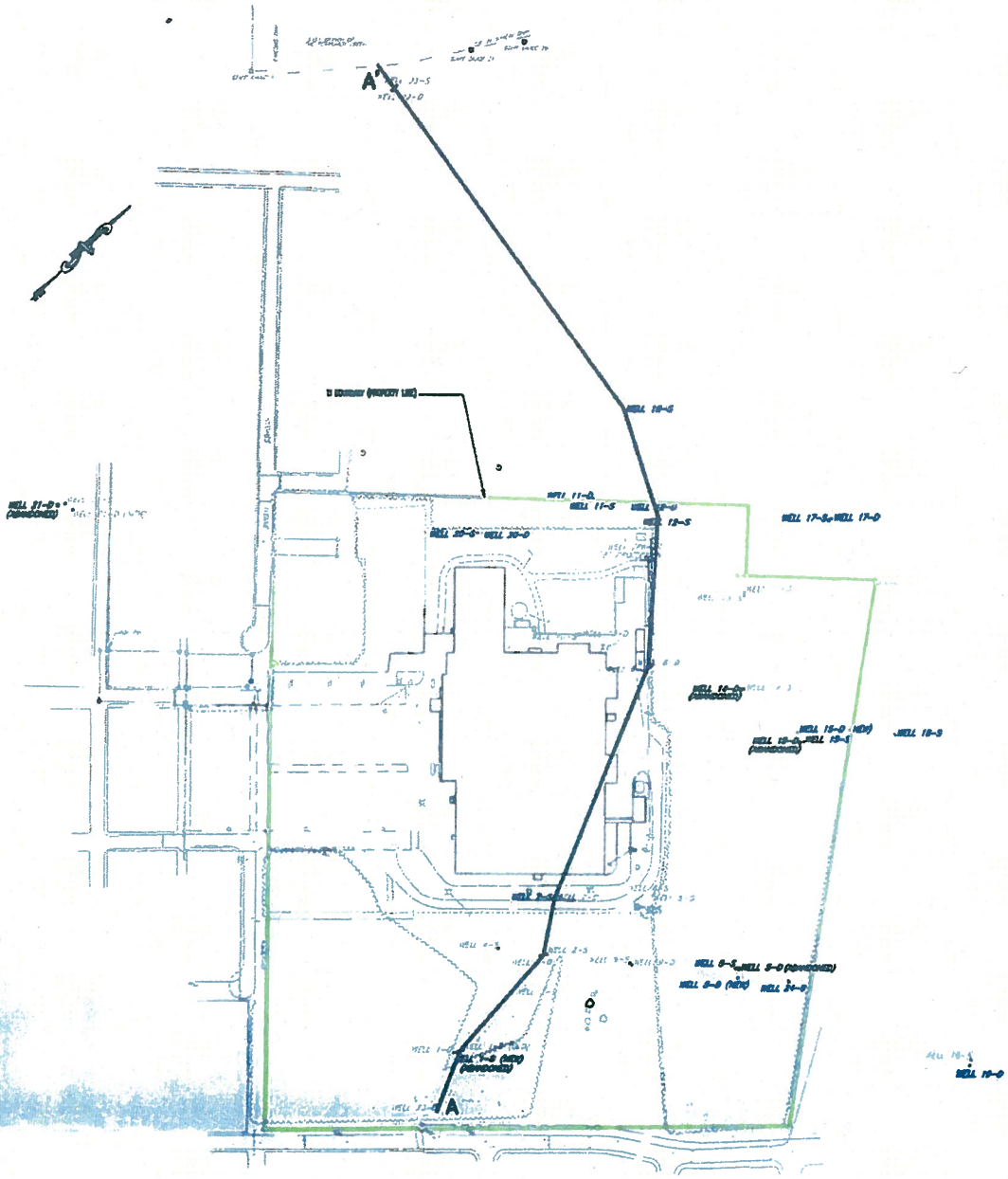
AMETEK, U.S. GAUGE DIVISION
SELLERSVILLE, PA

CROSS SECTION A–A'

SITE STRATIGRAPHY

VERTICAL SCALE: 1"=25'; HORIZONTAL SCALE: 1" = 100'

FIGURE 2



NOTES

GRAPHIC SCALE

MALCOLM PIRNIE

CROSS SECTION

AMETEK – U.S. GAUGE DIVISION

MALCOLM PIRNIE, INC.

FIGURE 1