RECORD OF DECISION

Curtis Specialty Papers Site
Borough of Milford and Alexandria Township, New Jersey

U.S. Environmental Protection Agency
Region 2
September 2015

372862

DECLARATION FOR THE RECORD OF DECISION

Record of Decision

FACILITY NAME AND LOCATION

Curtis Specialty Papers Site
404 Frenchtown Road
Milford, New Jersey 08848

EPA Superfund Site Identification Number NJD057143984

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) documents the U.S. Environmental Protection Agency's (EPA) selection of a remedy for the contaminated groundwater at the Curtis Specialty Papers Site (site), chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. §§ 9601-9675, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision document explains the factual and legal basis for selecting the remedy. The Administrative Record Index (see Appendix 3) identifies the items that comprise the Administrative Record upon which the selected remedy is based.

The New Jersey Department of Environmental Protection (NJDEP) was consulted on the proposed remedy in accordance with CERCLA Section 121(f), 42 U.S.C § 9621(f). NJDEP agrees that the selected remedy is appropriate for the remediation of groundwater at the site (see Appendix 4). NJDEP does not concur with the ROD, however, because the ROD does not require that a deed notice be placed on the property. The ROD does not require such a deed notice because the baseline human health risk assessment did not identify unacceptable human exposures to soils, even under a future unrestricted use scenario, and therefore a response action for soil under CERCLA is not warranted.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy in this ROD is the first and only planned remedial phase or operable unit for the site. The selected remedy addresses contaminated groundwater and includes the following components:

- Establishing and maintaining institutional controls (ICs) in the form of a Classification Exception Area/Well Restriction Area (CEA/WRA) to restrict groundwater use and prevent future use of groundwater for potable purposes until remediation goals (RGs) are attained;

- Installing additional groundwater monitoring wells to supplement the existing monitoring well network;

- Implementing an *in-situ* biological treatment (anaerobic biological oxidation) program to remediate toluene and benzene in groundwater in the Coatings Facility Area and, if needed based on groundwater monitoring data, *in-situ* biological treatment to reduce the isolated, low levels of tetrachloroethylene (PCE) in groundwater in the Main Mill Area and the Wastewater Treatment Plant Area;

- Monitoring site groundwater to assess the effectiveness of the biological treatment in reducing toluene and benzene concentrations in groundwater and to optimize its performance, and to assess whether the RGs for toluene, benzene and PCE have been attained; and

- Conducting a review of site conditions at least once every five years until the RGs are attained (policy review).

These actions are considered the final remedy for the site.

The environmental benefits of the selected remedy may be enhanced by consideration, during remedy design or implementation, of technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy.

The estimated present-worth cost of the selected remedy is $1,239,000.

DECLARATION OF STATUTORY DETERMINATIONS

The selected remedy meets the requirements for remedial actions set forth in CERCLA Section 121, 42 U.S.C. § 9621, because it: 1) is protective of human health and the environment; 2) meets a level or standard of control of the hazardous substances, pollutants and contaminants which at least attains the legally applicable or relevant and appropriate requirements under federal and state laws; 3) is cost-effective; and 4) utilizes permanent solutions and alternative treatments (or resource recovery) technologies to the maximum extent practicable. The statutory preference for treatment of principal threat waste as a principal element of the remedy has been considered. There are no principal threat wastes remaining at the site; nonetheless, treatment is a principal element of the selected remedy.

Because this remedy will not result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure, but it will take more than five years to attain the RGs, EPA will conduct a review within five years of construction

completion for the site to ensure that the remedy is, or will be, protective of human health and the environment (policy review).

ROD DATA CERTIFICATION CHECKLIST

The ROD contains the remedy selection information noted below. More details may be found in the attached Decision Summary and the Administrative Record file for this site.

- Chemicals of concern and their respective concentrations (see ROD, Appendix 2, Table 1);
- Cleanup levels established for chemicals of concern and the basis for these levels (see ROD section "Remedial Action Objectives" and embedded table of remediation goals);
- Baseline risks presented by the chemicals of concern (see ROD section "Summary of Site Risks" and Appendix 2, Tables 5 and 6);
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater considered in the baseline risk assessment and ROD (see ROD section "Current and Potential Future Land and Resource Uses");
- Estimated capital, annual operation and maintenance, and present-worth costs; discount rate; and the number of years over which the remedy cost estimates are projected (see ROD sections "Summary of Remedial Alternatives" and "Comparative Analysis of Alternatives – Cost" with embedded table of costs); and
- Key factors used in selecting the remedy, i.e., how the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision (see ROD section "Selected Remedy").

AUTHORIZING SIGNATURE

Walter E. Mugdan, Director
Emergency & Remedial Response Division

Sept. 30, 2015
Date

DECISION SUMMARY

Curtis Specialty Papers Site
Borough of Milford and Alexandria Township, New Jersey

U.S. Environmental Protection Agency
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APPENDICES

SITE NAME AND LOCATION

The Curtis Specialty Papers site, U.S. Environmental Protection Agency (EPA) Superfund Site Identification Number NJD057143984, is located along the Delaware River at 404 Frenchtown Road (County Route 619) in the Borough of Milford and Alexandria Township, Hunterdon County, New Jersey (see Appendix 1, Figure 1). EPA is the lead agency and the New Jersey Department of Environmental Protection (NJDEP) is the support agency.

SITE DESCRIPTION AND HISTORY

The site is approximately 86 acres and was developed in 1907 as a manufacturing facility for food-grade paper products. It was operated in this capacity until Curtis Papers, Inc., ceased operations in 2003. During these 96 years, four operational areas developed at the site (see Appendix 1, Figure 2):

- Main Mill Area (MMA) – approximately 28 acres in the Borough of Milford consisting of process and office facilities of the main mill, a cogeneration power plant, and loading/unloading areas;

- Coatings Facility Area (CFA) – approximately 5 acres in the Borough of Milford consisting of the Coatings Facility, solvent recovery building, and supporting outbuildings (most CFA structures were demolished in 2012);

- Wastewater Treatment Plant Area (WWTPA) – approximately 13 acres in the Borough of Milford consisting of two clarifier basins, a settling tank, and intake/outfall structures on the shoreline of the Delaware River; and

- Coal Pile and Aeration Basin Area (CPABA) – approximately 40 acres in Alexandria Township that is currently undeveloped and was the location of a former aeration basin (demolished in early 2011) and various outbuildings (demolished in 2013); historically a portion of the CPABA served as a staging area for coal that powered site operations.

Historical paper mill operations and production occurred within the MMA and CFA. The WWTPA and CPABA supported production processes. The site is currently vacant. Security personnel and chain-link fencing currently restrict access to the site.

There are three surface water features associated with the site (see Appendix 1, Figure 3). An unnamed tributary to the Delaware River bisects the site, separating the MMA, CFA and WWTPA to the north from the CPABA to the south. The Delaware River borders the WWTPA to the west. Quequacommissacong Creek (Q Creek) borders the mill to the north. North of Q Creek is approximately 20 acres of property, called the northern parcel, which was owned by each of the successive mill owners/operators but never developed or used for paper mill operations and is not part of the site.

A railroad right-of-way separates the MMA and CFA to the east from the WWTPA to the west. Railroad operations have ceased along the right-of-way and off-site sections to the south have

become part of a rails-to-trails program. According to current Borough of Milford tax records, the Belvidere & Delaware River Railway owns the section of right-of-way that bisects the site.

Residential and light commercial or industrial properties bound the site to the north. Frenchtown Road extends along the eastern property boundary of the MMA and portions of the CPABA (see Appendix 1, Figure 3). Residential properties are found west of Frenchtown Road between the CPABA and the road. Farmland and residential properties are found to the east of Frenchtown Road. A corridor of undeveloped land exists between the Delaware River and the railroad right-of-way adjacent to the CPABA and WWTPA. Farmland and the Crown Vantage Landfill (EPA Superfund Site ID number NJN000204492) border the site to the south.

The Site has been owned and operated by a number of entities including, but not limited to: Riegel Paper Corporation, Federal Paper Board Company, Inc., Riegel Products Corporation, James River Corporation, James River Paper Company, Inc., Crown Vantage, Inc., Crown Paper Company and Curtis Papers, Inc. (including their predecessors, subsidiaries, and other related ventures). International Paper Company (IP) is the corporate successor to Riegel Paper Corporation and Federal Paper Board Company, Inc., and Georgia-Pacific Consumer Products, LP (GP) is the successor to Riegel Products Corporation, Fort James Operating Company and James River Paper Company, Inc. The site is currently owned by IP and Milford Redevelopment, LLC, a sister company of GP and an indirect, wholly-owned subsidiary of Georgia-Pacific, LLC (which is also the parent of GP), as tenants in common.

Superfund History

In August 2008, EPA identified IP and GP as potentially responsible parties associated with the site. In September 2008, the site was proposed for inclusion on the National Priorities List (NPL) at the request of NJDEP. On September 23, 2009, EPA placed the site on the NPL.

In June 2009, IP and GP entered an Administrative Settlement Agreement and Order on Consent (AOC) with EPA to conduct a remedial investigation and feasibility study (RI/FS) at the site (CERCLA Docket No. 02-2009-2017). In July 2009, IP and Milford Redevelopment, LLC purchased the site. The AOC was amended in 2010 to add an early response action for pre-demolition activities.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

A Community Advisory Group has been meeting quarterly since September 2009. The local community provides input to EPA and has been kept informed of the progress on the RI/FS and other Superfund actions through community notification flyers, presentations, and updates in accordance with the 2010 *Community Involvement Plan* developed for the site.

The Proposed Plan for the site was released for public comment on May 19, 2015. The Proposed Plan and other site-related documents were made available to the public in the administrative record file maintained at the Milford Public Library in Milford, New Jersey, and at the EPA Region 2 Superfund Records Center located at 290 Broadway, New York, New York (see Appendix 3).

The notice of availability of these documents was published in the *Hunterdon County Democrat* on May 28, 2015. A public comment period was held from May 19, 2015, to June 29, 2015.

A public meeting was held on May 28, 2015, at the Milford Firehouse in Milford, New Jersey, to discuss the findings of the RI/FS and to present EPA's Proposed Plan to the community. At this meeting, EPA representatives answered questions about the RI/FS and the remedial alternatives. Comments that were received by EPA at the public meeting and in writing during the public comment period are addressed in the Responsiveness Summary (see Appendix 5).

SCOPE AND ROLE OF RESPONSE ACTION

The site is being addressed in its entirety as a single operable unit. The RI/FS was conducted for all contaminants, environmental media, and exposure pathways of concern. While the RI/FS was underway, several actions were taken to improve site safety and security and to address conditions that presented an immediate threat to human health and the environment.

PRELIMINARY INVESTIGATIONS AND EARLY RESPONSE ACTIONS

Historical Investigation Activities (pre-2007)

Prior to 2007, remedial and/or response actions were completed on site to address the results of historical investigations or to respond to incidents such as spills. Responses to some spills resulted in approval of No Further Action from NJDEP, while other spills required follow-up activities. The 2011 *Site Characterization Summary Report* (SCSR) summarizes historical investigations and releases at the site and the associated remedial/response actions (where appropriate). Information related to these activities was used in the development of the 2009 *Preliminary Conceptual Site Model* (PCSM) and scoping of the investigation activities presented in the 2010 *Remedial Investigation/Feasibility Study Work Plan* (RI/FS Work Plan).

EPA Removal Site Evaluation and Removal Action (2007 to 2008)

On February 13, 2007, EPA received a written request from NJDEP to conduct a removal site evaluation at the site under CERCLA. During May and August 2007, EPA conducted field inspection and sampling in support of the removal site evaluation and EPA's evaluation of the site for NPL listing. Nineteen surface soil samples were collected from locations where electrical transformers were either presently or historically located and from locations where oil-stained soils were visible; these samples were analyzed for polychlorinated biphenyls (PCBs). Samples of surface and subsurface soil, surface water, sediment, and soil gas were analyzed for target compound list organics (TCL), target analyte list inorganics (TAL), organics, and inorganics via the toxicity characteristic leaching procedure, polychlorinated dibenzo-*p*-dioxins (dioxins) and polychlorinated dibenzo-*p*-furans (furans). Delaware River sediment samples were collected in 2008 and analyzed for PCBs. From June 2007 and December 2008, EPA performed a removal action that involved the removal of approximately 30 pallets of containerized waste (i.e., drums, pails, small containers), vats, low-level radiation devices, and six abandoned 55-gallon galvanized steel drums that were left at the site following cessation of operations in 2003.

These activities are summarized in the 2008 *Removal Site Evaluation for the James River Paper Company Site (aka Curtis Papers Site)* and the 2011 SCSR.

Pre-RI/FS Activities and Oil-Containing Electrical Equipment Removal (2009)

Under the terms of the AOC, in 2009 IP and GP completed pre-RI/FS activities in and around the buildings at the site, such as identifying storage vessels, staging and storage areas, and discharge features including discharge pipes to Q Creek. Also in 2009, IP and GP removed oil-containing electrical equipment identified during pre-RI/FS activities, including 16 oil-blast circuit breakers, 48 capacitors, and 23 transformers.

These activities are summarized in three reports issued in 2009: the *Pre-Remedial Investigation/Feasibility Study Building Survey Report*, the *Pre-Remedial Investigation/Feasibility Study Report* and the *Early Response Action Report – Oil-Containing Electrical Equipment Removal*.

Aeration Basin Closure (2010 to 2011)

In 2010 and 2011, IP and GP demolished the aeration basin in the southeast corner of the site. The basin, constructed in the early 1990s, consisted of a cut within the existing landscape, with the excess soil used to construct a berm around the excavation. Infrastructure at the basin included a high density polyethylene liner, mechanical aerators and mixers, an electrical shed, concrete pumping pit/lift station, valve pit, piping, and a perimeter fence. The demolition project involved water and sludge/sediment characterization, dewatering, site clearing and preparation, liner removal and ancillary infrastructure demolition, sludge/sediment stabilization, off-site waste transportation and disposal, backfill and final grading, and site restoration. Solid waste, including wood chips and cleared vegetation, construction and demolition debris, liner material, and stabilized sludge/sediment were disposed of off site in accordance with federal, state, and local requirements. Water drained from the liner and sludge after cessation of dewatering treatment activities was treated and disposed of off site and scrap metal was recycled off site in accordance with applicable federal, state, and local requirements. The area was regraded and approximately six inches of topsoil and a native seed mix were placed throughout the disturbed area. The aeration basin area has been returned to an open, vegetated condition.

These activities are summarized in the 2012 *Aeration Basin Demolition Project Completion Report*.

Miscellaneous Site Maintenance Projects (2010 to 2013)

In 2010, IP and GP demolished two small garages identified as Buildings 100 and 101 in the CFA. Floor slabs were removed and the areas were regraded to match the surrounding grade, seeded, and mulched. From 2011 to 2012, IP and GP closed six production wells across the site that had provided water for site operations. The wells were decommissioned, pumps and casings were removed, boreholes were filled and sealed with grout, and NJDEP well decommissioning reports were filed for each well. In 2013, IP and GP demolished the above grade portion of four CPABA buildings to grade (Buildings 114, 115, 116, and 117). Associated structures, including

underground storage tank (UST)-37 located adjacent to Building 114, was removed and the surrounding soil excavated. All asbestos-containing material (ACM), construction and demolition debris, liquid waste, petroleum-impacted soil, concrete and masonry materials, and scrap metal were properly disposed of off site.

These activities are summarized in the 2014 *Miscellaneous Site Maintenance Project Completion Report*.

Pre-Demolition Environmental Removal Activities (2011 to 2013)

Between 2011 and 2013, IP and GP implemented an early response action to remove hazardous or regulated materials identified in site buildings. Pre-demolition environmental removal activities included equipment oil removal, aboveground storage tank residuals removal, flyash removal, lead-based paint removal, ACM abatement, galbestos removal, universal waste removal (batteries, mercury-containing devices, lamps, light ballasts, fire extinguishers, sprinkler heads, electronic waste, EXIT signs, containerized chemicals, and refrigerant-containing equipment), and process piping decommissioning. Materials removed as part of these activities were properly disposed of off site or recycled at licensed facilities.

These activities are summarized in the 2013 *Pre-Demolition Environmental Removals Project Completion Report*.

Slope Area Mitigation and Coatings Facility Area Demolition (2012 to 2013)

In late 2011, the Delaware River basin and its tributaries, including Q Creek, experienced heavy rains and flooding, leading to the failure of a dam on Q Creek upstream of the site near Bridge Street in Milford. The rains and dam failure resulted in significant erosion of the banks of Q Creek, exposing underground storage tanks (USTs) and piping and further deteriorating the structural integrity of certain buildings in the CFA. IP and GP proposed a Slope Area Mitigation project (SAM), including a drainage area velocity evaluation, to address the exposed discharge pipes and USTs and provide long-term stability for the eroded bank area of Q Creek at the site.

Planning began immediately for SAM activities, which were conducted from 2012 to 2013, including hydrologic and engineering analyses to understand erosive forces and flood stage conditions in Q Creek near the site; removal of CFA infrastructure (e.g., USTs, sumps, discharge pipes); soil excavation to establish stable slope conditions; and restoration. Some 10,679 cubic yards of soil in the CFA/Q Creek bank area were removed from the site, including soil contaminated with toluene and PCBs. Post-excavation samples were collected and excavated areas were backfilled with three feet or more of clean cover, compacted, covered with at least 12 inches of topsoil, and seeded. Eleven buildings in the CFA were demolished to improve access to the bank of Q Creek. Building floor slabs were left in place unless they needed to be removed to accomplish SAM activities. The bank of Q Creek is now stable and restored with native vegetation.

These activities are summarized in the 2013 *Slope Area Mitigation Project Completion Report* and the 2014 *Coatings Facility Area Demolition Project Completion Report*.

Eastern Loadout and Vehicle Access Setup Activities (2014)

In 2014, IP and GP implemented eastern loadout and vehicle access setup (ELVAS) activities in a former transformer area of the site at the eastern perimeter of the MMA. IP and GP dismantled infrastructure, including Building 109, removed soil with PCB concentrations greater than 1 milligram per kilogram (mg/kg), backfilled with dense-graded aggregate, and regraded the area in preparation for future vehicle access and construction use. Commingled soil and concrete were transported and properly disposed of off site at licensed facilities. Brick, concrete, and other inert materials that showed no visible staining were sized and stockpiled on site for potential future reuse. Scrap steel also remains staged on site in anticipation of potential future reuse and/or recycling.

These activities are summarized in the 2014 *Eastern Loadout and Vehicle Access Setup – Project Completion Report*.

CULTURAL RESOURCES

Activities conducted under CERCLA are required to comply with Section 106 of the National Historic Preservation Act of 1966, as amended, 54 U.S.C. § 306108, and its implementing regulations (36 CFR Part 800). IP and GP implemented cultural resources investigations in accordance with the AOC, EPA-approved work plans, and a 2012 *Memorandum of Agreement* (MOA) between EPA and the New Jersey State Historic Preservation Office (NJSHPO). The Milford Borough Historical Society and the Alexandria Township Historical Society concurred on the MOA as Section 106 consulting parties, as did IP and GP.

IP and GP conducted architectural and pre-European contact period cultural resources investigations, which are summarized in the 2010 *Phase IA Cultural Resources Investigation Report* (Phase IA Report) and four *Phase IB Cultural Resources Investigation Reports* issued in 2010 and 2011.

In 2003, NJSHPO had determined that site structures are eligible for listing on the National Register of Historic Properties and constitute the historically significant Curtis Paper Mill Historic District (Curtis Historic District). Site structures are anticipated to be altered and/or demolished, resulting in an adverse effect to the buildings comprising the Curtis Historic District. As part of the mitigation of the future adverse effect, select site buildings and the activities associated with them were recorded and presented in a 2013 *Historic Industrial and Architectural Documentation of Former Curtis Specialty Papers Site, Milford, New Jersey* (Recordation Report).

The Recordation Report, as well as information about the site's pre-European contact history included in the Phase IA Report, serves as the basis for deliverables required by the MOA. Deliverables include assistance to the Milford Borough Historical Society in creating an interpretive exhibit of the site, production of a brochure promoting the history of the site, production of a short illustrated booklet on the history of the site, and production of a teacher's guide on the history of the site. EPA has approved the brochure, booklet and teacher's guide, which have been distributed for use in accordance with the MOA.

RESULTS OF THE REMEDIAL INVESTIGATION

Site characterization activities outlined in the 2010 RI/FS Work Plan focused on three main objectives: 1) evaluating potential source materials; 2) characterizing the nature and extent of chemicals of potential concern in groundwater and soil at the four operational areas of the site (i.e., MMA, WWTPA, CPABA, and CFA), and in floodplain/bank soil, sediment, and surface water in the Delaware River, Q Creek, and the unnamed tributary; and 3) performing work to support the human health and ecological risk assessments such as characterizing habitat and wildlife receptors, delineating wetlands and flood hazard areas, and identifying potential receptors and exposure pathways. Appendix 1, Figure 4 shows the wetlands boundaries. Appendix 1, Figure 5 shows the flood way and flood hazard area boundaries. Appendix 1, Figure 6 identifies sample locations within the four operational areas and the three surface water receptor areas.

The results of the RI are summarized in the 2014 *Remedial Investigation Report*.

Geology and Hydrogeology

The site is in the Piedmont physiographic province. The regional topography consists of flat, low-lying floodplains and steep valley walls. The relatively flat topography of the site steepens at slopes along Q Creek, the Delaware River, and the unnamed tributary. The site soil is classified as the Pope series, which consists of fine, sandy loam with medium organic content. The soil is deep, well-drained, and level with moderate soil water holding capacity, moderately rapid permeability, limited runoff potential, and slight erosion potential. The bedrock underlying the site is the Jurassic- and Triassic-age (225- to 190-million year old) Passaic Formation, which consists predominantly of grayish-red to reddish-brown shale, siltstone, very fine- to coarse-grained sandstone, and a red-matrix conglomerate.

Two water-bearing units occur at the site: an overburden aquifer in the unconsolidated glacial drift and river alluvium, and the Brunswick aquifer within the Passaic Formation. The depth to groundwater is approximately 14 to 29 feet. The groundwater elevations indicate flow is predominantly to the west toward the Delaware River. The surface alluvium is permeable but the deposits are small in extent and scattered, and, therefore, the overburden aquifer is not a major source of domestic water. Groundwater from the Brunswick bedrock aquifer is a source of drinking water in the area. Residences and commercial businesses along Frenchtown Road in the vicinity of the site are connected to public water.

The Delaware River near the site is a large non-tidal river with a dynamic seasonal flow pattern during the year with high flows after rain or snow melt events. The Lower Delaware River is a federally-designated recreational river under the National Wild and Scenic Rivers Act, and the river reach adjacent to the site is designated as Special Protection Waters by the Delaware River Basin Commission. The Delaware River has a 50-foot riparian buffer zone. Most of the site is in the 100-year flood hazard area (see Appendix 1, Figure 5).

Q Creek originates upstream of the site and flows east to west at the northern boundary of the paper mill before discharging into the Delaware River. Near the site, Q Creek typically has a shallow channel (except during high flow events) and steep banks. Near the confluence of Q Creek

and the Delaware River, there is an alluvial fan of coarse sand and gravel. Q Creek is classified by NJDEP as a Trout Production (FW2-TP) – Category One waterway with a 300-foot riparian buffer zone on either side of the creek. The Borough of Milford wastewater treatment plant and its permitted outfall are on the north side of Q Creek near the confluence with the Delaware River.

The unnamed tributary separating the MMA and the CPABA operational areas is an intermittent drainage feature that originates off site and collects rainwater and stormwater from Frenchtown Road, residential properties, and farmland. It runs east to west across the site and discharges into the Delaware River. NJDEP classifies the unnamed tributary as FW2-NT, indicating that it does not support trout populations, with a 50-foot riparian buffer zone on either side. A portion of the unnamed tributary channel on site is a culvert pipe.

Site Characterization Summary and Results

The site characterization data set includes data from the 2007-2008 EPA sampling, the 2010-2014 RI sampling, and the 2009-2014 early response actions.

Background Soil

Background soil samples were collected adjacent to Building 102 in the MMA and south of the former aeration basin in the CPABA. Background is defined as naturally occurring or anthropogenic constituents or locations that are not influenced by the site. Analytical data for both inorganic and organic constituents from 11 background samples were evaluated statistically to support the human health and ecological risk assessments.

Main Mill Area

Eighty-seven surface soil samples and eight subsurface soil samples were collected in the MMA. Additional soil sampling was conducted during the ELVAS activities to characterize post-ELVAS conditions in the former transformer area of the MMA. Analytical results were generally consistent with concentrations observed sitewide and in background upland soil samples.

Wastewater Treatment Plant Area

Twenty-eight surface soil samples and one subsurface soil sample were collected in the WWTPA during 2010 RI sampling to characterize soil quality and provide spatial coverage. Samples were collected from potential source areas associated with historical operations (e.g., clarifier basins, pump houses and associated structures, and a UST without post-closure sampling results) and across the WWTPA to provide spatial coverage of the area. Samples collected from the WWTPA were generally consistent with concentrations observed throughout sitewide and background upland soil samples.

Coal Pile and Aeration Basin Area

Fifty-seven surface soil samples were collected near potential source areas and two subsurface soil samples were collected near UST-37 in the CPABA. Analytical results were generally consistent with concentrations observed sitewide and in background upland soil samples.

Coatings Facility Area and Quequacommissacong Creek

The analytical results of samples of CFA soil, Q Creek floodplain/bank soil, and discharge pipe residue identified localized PCBs (Aroclor 1260) and toluene contamination that linked the CFA as an operational area to Q Creek via discharge piping. Forty-eight upland surface soil samples and 55 upland subsurface soil samples were collected from the CFA. Thirty floodplain/bank soil samples were collected along eight transects perpendicular to the channel of Q Creek to address both target (along site) and background (upstream) locations. Floodplain/bank soil samples exhibited infrequent and/or low-level detections of organic compounds, except for Aroclor 1260, which was detected in approximately one-half of the floodplain/bank soil samples collected along the southern bank of Q Creek adjacent to the CFA. Nine discharge pipe residue samples were collected at the outfall of four discharge pipes in the CFA. Subsequent plugging of the discharge pipes in 2010 and removal of the discharge pipes during SAM activities in 2012 and 2013 permanently addressed this pathway for PCBs to reach Q Creek.

SAM activities generated pre-excavation PCB soil data, post-excavation PCB soil data, and full TCL/TAL data from fill materials. A majority of post-excavation sample results showed non-detect or low concentrations of Aroclor 1260, with the exception of two detections of note (7.03 mg/kg in upland soil and 15.5 mg/kg in floodplain/bank soil). Both of these sample locations are covered by more than six feet of clean fill material, topsoil, and native vegetation. VOC-contaminated soil associated with USTs was removed to allow for removal of USTs, associated bedding material and appurtenances, and to achieve stable subgrades for placement of backfill. Excavated areas were sampled, backfilled, compacted, covered with topsoil and seeded to achieve target final grades in preparation for replanting. Slope restoration resulted in the placement of at least three feet of clean cover (with the upper interval consisting of at least 12 inches of topsoil) over the excavated areas. The quantitative risk characterization conducted in the risk assessments utilized analytical data for post-SAM conditions in upland soil and Q Creek floodplain/bank soil.

Twenty-one co-located surface water and sediment samples were collected in Q Creek and along eight transects perpendicular to the channel adjacent to the CFA; three of the transects were located upstream of the site to evaluate background conditions. Overall, the surface water samples indicate an absence of site influences on Q Creek. The 2010 sediment samples were collected from depositional areas within the Q Creek channel (cobble and gravel substrate) along each transect at locations selected to replicate the 2007 locations where practicable. Aroclor 1260 was detected in sediment in 2007 but only in one 2010 sediment sample collected adjacent to the CFA, suggesting that PCB contamination was localized and may have been mobilized during subsequent high flow events.

Three sub-slab soil gas samples were collected from three locations in Buildings 74 and 73 in 2007. Volatile organic compounds (VOCs) were detected in sub-slab soil gas at each of the three

locations. The buildings were unoccupied during and after the RI, and Building 73 has since been demolished in support of SAM activities.

Delaware River

Seven co-located surface water and sediment samples and 10 additional sediment samples were collected in the Delaware River adjacent to the site. Additional surface water and sediment samples were collected upstream of the site. Samples were generally low or non-detect for constituents, and consistent along and upriver of the site except for PCBs, which were detected in upriver sediment samples, but not in samples adjacent to the site. This suggests that non-site related sources may influence PCB concentrations in the Delaware River in the vicinity of the site.

Unnamed Tributary

Eight floodplain/bank surface soil samples were collected adjacent to the unnamed tributary in 2007 and 30 floodplain/bank surface soil samples were collected along eight transects perpendicular to the channel of the unnamed tributary in 2010. Five of the eight transects spanned the unnamed tributary adjacent to the MMA, CPABA, and WWTPA. Three transects were located upstream of the site to evaluate background conditions. Surface water samples were collected from the unnamed tributary upstream of the site where water was flowing (reference locations). Adjacent to the MMA, CPABA, and WWTPA, the unnamed tributary was dry. Seventeen sediment samples were collected along the same transects as the floodplain/bank soil samples. Samples were collected along each transect in areas of deposition within the channel of the unnamed tributary. The results of the floodplain/bank soil and sediment samples collected from the unnamed tributary along the site were generally low and non-detect, and consistent with concentrations in the unnamed tributary upstream of the site.

Groundwater

Groundwater was sampled from 16 monitoring wells in two rounds during 2010 (see Appendix 1, Figure 7). Analytical results identified two VOCs in the CFA at levels of concern, toluene and benzene, which correlated to locations of USTs. The toluene plume is larger, encompassing all of the benzene plume. During SAM activities from 2012 to 2013, UST contents and contaminated soil were removed and three of the monitoring wells located in the CFA were abandoned. In 2013 following completion of SAM activities, three replacement wells and one new well were installed and sampled. Groundwater sampling data collected before and after the SAM activities shows a substantial decline in the concentrations of toluene and benzene near the center of the plume. Toluene was reduced from 284,000 micrograms per liter (ug/L) to 82,500 ug/L (see Appendix 1, Figure 8). The concentrations of benzene in groundwater prior to SAM activities were lower (e.g., 241 ug/L) and also showed a substantial decline. Despite the removal of the source materials, however, toluene and benzene remain elevated above their federal Safe Drinking Water Act maximum contaminant level (MCL) standards and their New Jersey MCLs and Class IIA Ground Water Quality standards.

Groundwater beneath the CFA generally flows to the southwest, with discharge primarily towards the Delaware River, and localized flow towards Q Creek near the confluence with the Delaware

River. Surface water from Q Creek recharges groundwater adjacent to Q Creek in the area of wells MW-10R and MW-11R and creates an area of relatively higher groundwater head in this area; groundwater in the localized area southwest of well MW-12R generally flows towards and recharges Q Creek. Geochemical data indicate that biological activities degrade toluene in groundwater in the vicinity of wells MW-11R and MW-12R.

In 2014, groundwater was sampled from six wells to provide additional data regarding low level detections of tetrachloroethylene (PCE) at three isolated locations in the MMA and WWTPA (see Appendix 1, Figure 9). In the MMA, PCE was detected in two wells at concentrations slightly above the federal MCL (from 6.4 ug/L to 10.6 ug/L compared to the MCL of 5 ug/L). In the WWTPA, PCE was detected in one well at a concentration of 2.8 ug/L, which is below the federal MCL of 5 mg/L and just above the New Jersey MCL and Class IIA Groundwater Quality standard of 1 ug/L.

The groundwater characterization activities and results are summarized in the 2011 SCSR, the 2013 *Supplemental Groundwater Characterization Summary Report – Pre-Design Investigation Work Plan* and the *Groundwater Pre-Design Investigation Report* (Appendix A of the 2015 *FS Report)*

CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

Land Uses

Paper mill operations ceased in 2003. The current land uses of the site and surrounding areas are shown in Appendix 1, Figure 3.

EPA requested that IP and GP perform a reuse assessment to develop an understanding of the reasonably anticipated future use of the site. The reuse assessment integrated several elements related to land use and planning, such as property ownership, physical constraints, zoning and local ordinance, regulatory constraints, and community input. The most recent flood hazard area and floodway boundaries were drawn by the Federal Emergency Management Agency (FEMA) in September 2009, and most of the site is in the 100-year flood hazard area (see Appendix 1, Figure 5).

For the portion of the site within the Borough of Milford, the current zoning is industrial. The reasonably anticipated future use is industrial (i.e., the permitted and conditional industrial uses that are specified in the Code of the Borough of Milford for its Industrial Zones) or as specified in the redevelopment overlay in the Borough of Milford 2004 Redevelopment Plan. The redevelopment overlay uses are non-residential (approximately 21 acres), residential (13 acres), public (vacant brick house), mixed professional office and residential (2.8 acres), and conservation uses (balance of the property). Future development would be subject to regulations pertaining to the flood mapping.

For the portion of the site within Alexandria Township, the reasonably anticipated future use is open space. The nearly 40 acres are within the 100-year flood hazard area. As specified in the Land Use Code of Alexandria Township, the CPABA occurs in a Floodplain District overlay, limiting

permitted uses to agriculture, recreation, accessory residential, and accessory commercial. In addition, there is no public sewerage for this portion of the site property, and the use of septic systems would be severely limited under state law as a result of the proximity of the Delaware River.

The results of the reuse assessment were released in draft for public input. The *Reuse Assessment Report w*as finalized in 2011.

Groundwater Uses

In the vicinity of the site, groundwater from the Brunswick bedrock aquifer is a source of drinking water. In addition to its currently operating public supply wells (Well 1 and Well 2), the Milford Water Department has drilled two wells (Well 3 and Well 4) that are in the NJDEP permit review process or otherwise not yet in service. Well 3 is approximately 265 feet east, 420 feet deep, and hydrogeologically upgradient of the site. Well 4 is approximately 750 feet east, 220 feet deep, and hydrogeologically upgradient of the site.

SUMMARY OF SITE RISKS

A site-specific baseline risk assessment was conducted to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land uses. The baseline risk assessment includes a baseline human health risk assessment (BHHRA) and a baseline ecological risk assessment (BERA).

The results of the BHHRA and BERA provide the basis for taking action and identify the contaminants and exposure pathways that need to be addressed by the remedial action. The BHHRA indicates unacceptable noncancer health hazards to a future resident due to exposure to benzene and toluene in groundwater and unacceptable cancer risks due to exposure to benzene and PCE in groundwater. The BERA indicates that the present site conditions pose no unacceptable risks to ecological receptors.

Human Health Risk Assessment

A four-step human health risk assessment process was used for assessing site-related cancer risks and noncancer health hazards. The four-step process is comprised of:

Hazard Identification: In this step, the chemicals of potential concern (COPCs) at the site in the various media (groundwater, soil, sediment, surface water) are identified based on factors such as toxicity, fate and transport of the contaminants in the environment, concentration of the contaminant in specific media and bioaccumulation. The contaminated media, concentrations detected and concentration used to estimate potential risks and hazards of the chemicals of concern (COCs) at the site are presented in Appendix 2, Table 1.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the COPCs in the various media identified in the previous step are identified. Examples of exposure pathways include incidental ingestion and dermal contact with contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations in specific media that people might be exposed to and the frequency and duration of the exposure. Using these factors, a reasonably maximum exposure scenario is calculated, which is an appropriate mix of values that reflect averages (for example, adult body weight) and 95^{th} percentile distributions that together portray the highest level of human exposure that could reasonably be expected to occur. The exposure pathways evaluated in the BHHRA are presented in Appendix 2, Table 2.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure (dose) and severity of adverse effects (response) are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or noncancer health hazards, such as changes in the normal function of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and noncancer health hazards. The toxicity values that were used to evaluate noncancer health hazards are presented in Appendix 2, Table 3. The toxicity values that were used to evaluate cancer risk are presented in Appendix 2, Table 4.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks for all COPCs. Exposures are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a one-in-ten-thousand excess lifetime cancer risk, or one additional cancer may be seen in population of 10,000 as a result of exposure to site contaminants under the conditions identified in the exposure assessment. Superfund regulations for exposures identify the range for determining whether remedial action is necessary as an excess lifetime cancer risk of 10^{-4} to 10^{-6}, corresponding to a one-in-ten-thousand to one-in-a-million excess cancer risk. For noncancer health effects, a hazard index (HI) is calculated. The key concept for a noncancer HI is that a threshold exists below which noncancer health hazards are not expected to occur (an HI of one or less would indicate that the threshold is not exceeded and a noncancer health hazard is not expected). These acceptable risk levels are defined in the NCP at 40 CFR 300.430(e)(2)(I)(A). Chemicals that contribute to a cancer risk that exceeds 10^{-4} or an HI to a specific target that exceed one are typically those that will require remedial action at a site.

The BHHRA was conducted to evaluate the potential human health risks associated with current exposure to offsite residents and recreators and future exposure to commercial workers, groundkeepers, construction workers and on-site residents. Exposure media are surface soil, subsurface soil, surface water, sediment, fish, air and groundwater. Groundwater was the only medium that contained COCs. The risk characterization summaries for noncancer and cancer health effects are presented in Appendix 2, Tables 5 and 6. Sources of uncertainty in the risk calculations include use of default exposure values where site-specific values were not available, which could over- or under-estimate cancer risks and noncancer health hazards, and a lack of dose-

response toxicity data for humans. However, a margin of safety is built into the toxicity values, which likely overestimates the calculated cancer risks and noncancer health hazards.

The results of the BHHRA indicate unacceptable noncancer health hazards to a future on-site resident (adult and child) due to exposure to benzene and toluene in groundwater. HIs are greatest for the kidney as a primary target organ (HI= 99 for adult, HI= 250 for child). The results of the BHHRA also indicate that benzene in groundwater contributes to the cancer risks to the future on-site resident (adult lifetime exposure as child, adolescent and adult = cancer risk of 1.3×10^{-4}). The BHHRA did not identify unacceptable human exposures to soils, even under a future unrestricted use scenario; however, the RI did sporadically detect several constituents in excess of New Jersey's unrestricted use soil standards (i.e., Residential Direct Contact Soil Remediation Standards). While these detections do not warrant a response action under CERCLA, EPA understands that NJDEP will require the property owners to place a deed notice where constituents in soil remain in excess of Residential Direct Contact Soil Remediation Standards. The current property owners have committed to NJDEP to establish and record a deed notice in the future identifying areas of the property where constituents remain above NJDEP's Residential Direct Contact Soil Remediation Standards.

Detailed information regarding the site-specific human health risk assessment can be found in the 2013 *Baseline Human Health Risk Assessment* and Appendix L of the 2014 *RI Report* (BHHRA).

Ecological Risk Assessment

In the site-specific BERA, the locations of ecologically sensitive areas, chemicals of potential ecological concern, potentially complete exposure pathways, and the results of exposure modeling conducted during the screening level risk assessment were used to evaluate four assessment endpoints (and associated measurement endpoints) that quantify the potential risk to sustainability of the following:

- mammals and birds that eat insects or worms, such as the short-tailed shrew and American robin;
- mammals and birds that eat other animals, such as the red fox and red-tailed hawk;
- mammals that eat fish, such as the mink; and
- birds that eat aquatic insects, such as the tree swallow.

In accordance with EPA guidance, ecological risk was calculated as a hazard quotient (HQ), which is the ratio of the contaminant concentration to a given toxicological benchmark. In general, an HQ above one indicates the potential for unacceptable risk.

The site-specific HQs were all one or less. The risk characterization concluded that potential ecological risk is unlikely for each receptor, chemical of potential ecological concern, and exposure area evaluated. Thus, the ecological risk assessment indicates that the present site conditions pose no unacceptable risks to ecological receptors.

Detailed information regarding the site-specific ecological risk assessment can be found in the 2012 *Screening Level Ecological Risk Assessment* and the 2013 *Baseline Ecological Risk Assessment Report*.

Basis for Action

Based on the results of the quantitative human health risk assessment and ecological risk assessment, EPA has determined that actual or threatened releases of hazardous substances from the site, if not addressed by the response action selected in this ROD, may present a current or potential threat to human health and the environment.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered guidance, and site-specific risk-based levels and background (i.e., reference area) concentrations. The following RAOs were established for the site:

- Prevent ingestion of groundwater with concentrations of toluene, benzene or PCE above their respective MCLs.

- Reduce the cancer risk and noncancer health hazards due to exposure to toluene and benzene in groundwater to within or below EPA's excess lifetime cancer risk range of 10^{-4} to 10^{-6} and an HI of one or less for noncancer.

- Restore groundwater to allow for unrestricted exposure by reducing the concentrations of toluene, benzene and PCE in groundwater.

Remediation Goals

EPA has adopted the preliminary remediation goals identified in the Proposed Plan as the final Remediation Goals (RGs) for the site. The RGs are the most stringent of the federal MCLs and the New Jersey MCLs and Class IIA Ground Water Quality standards for benzene, toluene, and PCE, as follows:

Constituent in Groundwater	Remediation Goal (µg/L)
Benzene	1
Toluene	600
PCE	1

Note:
µg/L = micrograms per liter

SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA Section 121(b)(1), 42 U.S.C. § 9621(b)(1), mandates that remedial actions be protective of human health and the environment, be cost effective, and use permanent solutions, alternative treatment technologies, and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site permanently and significantly. CERCLA Section 121(d), 42 U.S.C. § 9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified.

Remedial alternatives for the site are summarized below. Capital costs are those expenditures that are required to construct a remedial alternative. Operation and maintenance (O&M) costs are those post-construction costs necessary to ensure or verify the continued effectiveness of a remedial alternative and are estimated on an annual basis. Present worth is the amount of money which, if invested in the current year, would be sufficient to cover all the costs over time associated with a project, calculated using a discount rate of seven percent and up to a 30-year time interval. Construction time is the time required to construct and implement the alternative and does not include the time required to design the remedy, negotiate performance of the remedy with the responsible parties, or procure contracts for design and construction. Detailed information regarding the alternatives can be found in the 2015 *Feasibility Study Report* (FS Report).

Remedial Alternatives	
Alternative	**Description**
1	No Action
2	Institutional Controls
3	Physical/Chemical Treatment (Air Sparging/Soil Vapor Extraction) and Institutional Controls
4	*In-situ* Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls

Alternative 1: No Action

Capital Cost:	$0
Annual O&M Cost:	$0
Present Worth Cost:	$0
Construction Time:	0 months

The Superfund program requires that the no action alternative be considered as a baseline for comparison with the other alternatives. The no action alternative does not include any measures to prevent ingestion of contaminated groundwater, reduce cancer risks and noncancer health hazards, or restore the groundwater at the site.

Because this alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the site be reviewed at least once every five years (statutory review). If justified by the review, remedial actions may need to be implemented to remove, treat or contain the contaminated groundwater at the site.

Alternative 2: Institutional Controls

Capital Cost:	$79,000
Annual O&M Cost:	$37,000
Present Worth Cost:	$532,000
Construction Time:	1 year

In this alternative, institutional controls (ICs) would be used to control potential exposure routes to groundwater contaminated with toluene, benzene and PCE. ICs would consist of a Classification Exception Area/Well Restriction Area (CEA/WRA) to restrict groundwater use and prevent future use of site groundwater for potable purposes. The CEA/WRA would be established pursuant to the substantive requirements of New Jersey Administrative Code (N.J.A.C.) 7:26C-7.3.

Because this alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the site be reviewed at least once every five years (statutory review). If justified by the review, remedial actions may need to be implemented to remove, treat or contain the contaminated groundwater at the site.

Alternative 3: Physical/Chemical Treatment (Air Sparging/Soil Vapor Extraction) and Institutional Controls

Capital Cost:	$761,000
Annual O&M Cost:	$75,000
Present Worth Cost:	$1,442,000
Construction Time:	15 years

This alternative involves physical/chemical treatment using air sparging (AS) technology to remove toluene and benzene from groundwater in the CFA, and soil vapor extraction (SVE) technology to capture and remove vapors from the subsurface. If needed based on the results of groundwater monitoring, *in-situ* biological treatment would be implemented to reduce the isolated, low levels of PCE detected in three groundwater wells in the MMA and WWTPA. ICs in the form of a CEA/WRA would also be established, as described under Alternative 2, and would remain in effect until the RGs for toluene, benzene and PCE are attained.

The construction (cleanup) time is estimated to be 15 years for toluene and benzene in the CFA and 15 years for the low-level, isolated detections of PCE in the MMA and WWTPA.

AS technology involves the injection of air into the subsurface through a network of sparge wells or trenches. Air bubbles released from sparge points rise up through the subsurface, contacting groundwater. This action results in a transfer of VOC mass from the dissolved (aqueous) phase to the vapor phase. The SVE technology involves inducing air flow in the subsurface with an applied vacuum. This vacuum creates a capture zone for the vapor-phase constituents.

Treatment and discharge of vapors would be aboveground by physical or chemical methods (e.g., activated carbon or catalytic oxidation) and would comply with effluent emissions requirements.

During the remedial design, pilot testing would be conducted to maximize the air contact with toluene- and benzene-contaminated groundwater and identify the appropriate flow rates and the number and locations of sparge wells and vapor extraction wells, as well as the operating parameters for the aboveground vapor treatment system. For purposes of the FS Report, AS/SVE was assumed to be implemented in the area of highest concentration with eight sparge wells and four vapor extraction wells. A monitoring plan would be implemented to assess the effectiveness of the AS/SVE system in reducing toluene and benzene concentrations in groundwater and to optimize its performance, and to assess whether the RGs for toluene, benzene, and PCE have been attained.

Because this alternative will not result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure, but it will take more than five years to attain the RGs, EPA would conduct a review within five years of construction completion for the site to ensure that the remedy is, or will be, protective of human health and the environment (policy review).

Alternative 4: In-situ Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls

Capital Cost:	$444,000
Annual O&M Cost:	$87,000
Present-Worth Cost:	$1,239,000
Construction Time:	10-15 years

In this alternative, *in-situ* biological treatment (anaerobic biological oxidation, or ABOx) would be used to remove toluene and benzene from groundwater in the CFA. A network of injection wells would be installed to deliver a sulfate solution to the subsurface. Any secondary water quality issues (e.g., sulfate and total dissolved solids concentration increases) would be temporary and would not persist following remediation. If needed based on the results of groundwater monitoring, *in-situ* biological treatment would be implemented to reduce the isolated, low levels of PCE in groundwater in the MMA and WWTPA. ICs in the form of a CEA/WRA would be established, as described in Alternative 2, and would remain in effect until the RGs for toluene, benzene and PCE are attained.

The construction (cleanup) time is estimated to be 10 years for toluene and benzene in the CFA and 15 years for the low-level, isolated detections of PCE in the MMA and WWTPA.

During remedial design, pilot testing would be conducted to assess injection hydraulics, sulfate concentrations, and the number and locations of the full-scale injection wells. For purposes of the FS Report, ABOx was assumed to be implemented in the area of highest concentration with quarterly injections over five years (20 total injection events). A monitoring plan would be implemented to assess the effectiveness of the biological treatment in reducing toluene and benzene concentrations in groundwater and to optimize its performance, and to assess whether the RGs for toluene, benzene, and PCE have been attained.

Because this alternative will not result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure, but it will take more than five years to attain the RGs, EPA would conduct a review within five years of construction completion for the site to ensure that the remedy is, or will be, protective of human health and the environment (policy review).

COMPARATIVE ANALYSIS OF ALTERNATIVES

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria, which consist of two threshold criteria (overall protection of human health and the environment, compliance with ARARs), five balancing criteria (long-term effectiveness and permanence, reduction of toxicity, mobility or volume through treatment, short-term effectiveness, implementability, cost), and two modifying criteria (state acceptance and community acceptance). The evaluation criteria are described below.

- Overall protection of human health and the environment addresses whether or not an alternative provides adequate protection and describes how risk posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced or controlled through treatment, engineering controls or ICs.
- Compliance with ARARs addresses whether or not an alternative will meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and requirements or provides grounds for invoking a waiver.
- Long-term effectiveness and permanence refers to the ability of an alternative to maintain reliable protection of human health and the environment over time, once cleanup levels have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.
- Reduction of toxicity, mobility, or volume of contaminants through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, which an alternative may employ.
- Short-term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- Implementability is the technical and administrative feasibility of the alternative, including the availability of materials and services needed to implement the alternative.
- Cost includes estimated capital and O&M costs, and present worth costs.

- State acceptance indicates whether or not the state (NJDEP) concurs with the selected remedy.
- Community acceptance refers to the public's general response to the results of the RI and the alternatives described in the FS Report and the Proposed Plan.

The comparative analysis of the remedial alternatives based upon the nine evaluation criteria is summarized below.

Overall Protection of Human Health and the Environment

Alternative 1 would not provide overall protection to human health and the environment. This alternative would not achieve the RAOs. The groundwater would remain contaminated and exposure to the groundwater would continue to pose human health risks.

Alternative 2 would provide limited protection to human health and the environment. This alternative would achieve the first RAO (preventing ingestion of groundwater with concentrations greater than MCLs) and the second RAO (reducing cancer risk and noncancer health hazards) by eliminating human exposure, not by improving the groundwater quality. It would not achieve the third RAO (restoring groundwater to allow for unrestricted use).

Alternatives 3 and 4 would provide the greatest overall protection to human health and the environment through active treatment and ICs, and would achieve all three RAOs.

Compliance with Applicable or Relevant and Appropriate Requirements

Appendix 2, Table 7 includes a summary of the chemical-specific, action-specific, and location-specific ARARs for the remedial alternatives.

Alternative 1 would not comply with chemical-specific ARARs, and would not trigger any action-specific or location-specific ARARs.

Alternative 2 would not comply with chemical-specific ARARs, would comply with the action-specific ARARs for establishing the CEA/WRA, and would not trigger any location-specific ARARs.

Alternatives 3 and 4 would comply with chemical-specific, action-specific, and location-specific ARARs.

Long-Term Effectiveness and Permanence

Alternative 1 would not result in any significant change in risk associated with contaminated groundwater at the site. The RAOs would not be achieved and the RGs would not be attained, so this alternative does not offer long-term effectiveness and permanence.

Alternative 2 would result in significant, permanent reduction of risk with respect to the first RAO (preventing ingestion of contaminated groundwater) and second RAO (reducing cancer risk and

noncancer health hazards) through the use of ICs. However, the third RAO (restoring groundwater) would not be achieved and the RGs would not be attained, so overall Alternative 2 does not offer long-term effectiveness and permanence.

Alternatives 3 and 4 would provide long-term effectiveness and permanence with respect to all three RAOs and would attain the RGs. The AS/SVE and ABOx technologies offer reliable protection of human health and the environment over time once cleanup goals have been met.

Reduction in Toxicity, Mobility, or Volume of Contaminants Through Treatment

Alternatives 1 and 2 would not result in a reduction in toxicity, mobility, or volume of the contaminants in groundwater, nor do they include a treatment component.

Alternatives 3 and 4 would result in reduction of toxicity, mobility, and volume of the contaminants in groundwater, and both include a treatment component. Alternative 3 would use AS, SVE, and aboveground treatment of VOC vapors, transferring the contaminants to another medium that requires further treatment and disposal. Alternative 4 would use *in-situ* biological treatment in the subsurface. Alternative 4 is considered marginally more effective than Alternative 3 in meeting this criterion.

Short-Term Effectiveness

Alternatives 1 and 2 do not include any physical construction measures and, therefore, would not present any potential adverse impacts to on site workers or the community as a result of their implementation.

Alternatives 3 and 4 are effective in the short term. Alternatives 3 and 4 would have minimal potential risks or hazards associated with well installation activities, which would be mitigated using administrative and engineering controls, health and safety measures, and appropriate personal protective equipment. Alternative 3 would have additional potential risks or hazards associated with the installation of the aboveground collection and treatment facilities for the extracted vapors. The effectiveness monitoring associated with Alternative 4 would ensure that biological degradation does not cause transient surface water quality issues. Alternatives 3 and 4 have the same degree of short-term effectiveness with respect to attaining the RG for PCE. Alternative 4 is slightly more effective in the short term than Alternative 3, as it is estimated to take five years less than Alternative 4 (10 years compared to 15 years) to achieve the second RAO and to attain the RGs for toluene and benzene.

Implementability

Alternative 1 is considered readily implementable because no resources or effort would be required. Alternative 2 also is considered readily implementable, as it is administratively and technically feasible and requires minimal resources and limited effort to implement.

Alternatives 3 and 4 are administratively and technically feasible; however, implementation of either alternative would take a greater level of effort than Alterative 2. Alternative 4 is considered

more administratively and technically feasible to implement than Alternative 3 because it does not require the design, construction, and implementation of an aboveground treatment and discharge system.

Cost

A table of the estimated capital, annual O&M, and present worth costs for each alternative is provided below.

Alternative	Capital Costs	Annual O&M Costs	Present Worth
1	$0	$0	$0
2	$79,000	$37,000	$532,000
3	$761,000	$75,000	$1,442,000
4	$444,000	$87,000	$1,239,000

State Acceptance

NJDEP agrees that the selected remedy is appropriate for the remediation of groundwater at the site (see Appendix 4). NJDEP does not concur with the ROD, however, because the ROD does not require that a deed notice be placed on the property. The ROD does not require such a deed notice because the baseline human health risk assessment did not identify unacceptable human exposures to soils, even under a future unrestricted use scenario, and therefore a response action for soil under CERCLA is not warranted.

Community Acceptance

Comments received during the public comment period indicate that the public generally supports the selected remedy. Oral comments were recorded from attendees at the public meeting held on May 28, 2015. Written comments were received during the public comment period (May 19 to June 29, 2015) from 11 commenters. The Responsiveness Summary addresses all comments received during the public comment period (see Appendix 5).

PRINCIPAL THREAT WASTES

The NCP establishes the expectation that EPA will use treatment to address the principal threat posed by a site wherever practicable (NCP at 40 CFR 300.430(a)(1)(iii)(A)). The principal threat concept is applied to the characterization of source materials at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants and acts as a reservoir for migration of contamination to groundwater, surface water or air or acts as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile and that generally cannot be reliably contained or will present a significant risk to human health or the environment should exposure occur. Contaminated groundwater at the site is not considered to be a source material. There are no known principal threat wastes or source materials remaining at the site.

SELECTED REMEDY

Based upon consideration of the requirements of CERCLA, the results of site investigations, the detailed analysis of the alternatives and the public comments, EPA has determined that Alternative 4: *In-situ* Biological Treatment (ABOx) and ICs satisfies the requirements of CERCLA Section 121, 42 U.S.C. § 9621, and provides the best balance of tradeoffs among the remedial alternatives with respect to the NCP's nine evaluation criteria at 40 CFR §300.430(e)(9). This remedy includes the following components:

- Establishing and maintaining ICs in the form of a CEA/WRA to restrict groundwater use and prevent future use of groundwater for potable purposes until RGs are attained;

- Installing additional groundwater monitoring wells to supplement the existing monitoring well network;

- Implementing an *in-situ* biological treatment (ABOx) program to remediate toluene and benzene in groundwater in the CFA and, if needed based on groundwater monitoring data, *in-situ* biological treatment to reduce isolated low levels of PCE in groundwater in the MMA and WWTPA;

- Monitoring site groundwater to assess the effectiveness of the biological treatment in reducing toluene and benzene concentrations in groundwater and to optimize its performance, and to assess whether the RGs for toluene, benzene and PCE have been attained; and

- Conducting a review of site conditions at least once every five years until the RGs are attained (policy review).

The rationale for selecting this remedy is as follows:

The selected remedy satisfies the two threshold criteria of overall protection of human health and the environment, and compliance with ARARs. This alternative will attain the RGs for toluene and benzene in the shortest amount of time. The selected remedy achieves the best combination of the five balancing criteria of the comparative analysis. It provides *in-situ* treatment of the VOCs in groundwater that constitute potential risk and hazard drivers at the site. Effectiveness monitoring will provide data to optimize the treatment during remedy implementation and will ascertain whether the RGs have been achieved.

The environmental benefits of the selected remedy may be enhanced by consideration, during remedy design or implementation, of technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy.

STATUTORY DETERMINATIONS

Under CERCLA Section 121, 42 U.S.C. § 9621, and the NCP, the lead agency must select remedies that are protective of human health and the environment, comply with ARARs (unless a

waiver is justified), are cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1), 42 U.S.C. § 9621(b)(1), also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity or mobility of the hazardous substances, pollutants or contaminants at a site. For the reasons discussed below, EPA has determined that the selected remedy meets these statutory requirements.

Protection of Human Health and the Environment

The selected remedy is expected to be protective of human health and the environment. It will meet the RAOs through *in-situ* anaerobic biological treatment (ABOx) and ICs, which will remain in effect until the RGs have been attained.

Compliance with ARARs

The selected remedy will meet chemical-specific ARARs for toluene and benzene in the CFA in 10 years, and chemical-specific ARARs for the low-level, isolated detections of PCE in the MMA and WWTPA in 15 years. During implementation, the selected remedy will comply with the chemical-specific, location-specific and action-specific ARARs and other criteria, advisories or guidance for Alternative 4 presented in Appendix 2, Table 7.

Cost-Effectiveness

A cost-effective remedy is one whose costs are proportional to its overall effectiveness (NCP at 40 CFR 300.430(f)(1)(ii)(D)). Overall effectiveness is based on the evaluation of the following: long-term effectiveness and permanence; reduction in toxicity, mobility or volume through treatment; and short-term effectiveness. Costs for each alternative were evaluated in detail. Capital and annual O&M costs were estimated and used to develop present worth costs. In the present worth costs, annual O&M costs were calculated for the life of the alternative using a seven percent discount rate and up to a 30 year interval. Based on the comparison of overall effectiveness to cost, the selected remedy meets the statutory requirement that Superfund remedies be cost-effective. The selected remedy is the least costly alternative that will achieve the RAOs and RGs.

The estimated capital cost of the selected remedy is $444,000. The annual O&M cost is $87,000. The present worth cost is $1,239,000.

Utilization of Permanent Solutions and Alternative Treatment Technologies

The selected remedy provides the best balance of tradeoffs among the alternatives with respect to the balancing criteria set forth in the NCP at 40 CFR 300.430(f)(1)(i)(B), such that it represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the site. The selected remedy will use *in-situ* anaerobic biological oxidation (ABOx) to permanently treat the toluene and benzene in the groundwater in the CFA, and ICs in the form of a CEA/WRA will remain in effect until the RGs have been attained.

Preference for Treatment as a Principal Element

EPA's statutory preference for treatment of principal threat wastes has been considered in selecting this remedy. There are no known principal threat wastes remaining at the site. Nonetheless, treatment (*in-situ* ABOx) is a major component of the selected remedy.

Five-Year Review Requirements

Because this remedy will not result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure, but it will take more than five years to attain the RGs, EPA will conduct a review within five years of construction completion for the site to ensure that the remedy is, or will be, protective of human health and the environment (policy review).

DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan identified Alternative 4: *In-situ* Biological Treatment (ABOx) and ICs, as the preferred alternative for the site. Upon review of all comments submitted during the public comment period from May 19 to June 29, 2015, and at the public meeting on May 28, 2015, EPA has determined that no significant changes to the selected remedy, as it was presented in the Proposed Plan, are warranted.

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 1

FIGURES

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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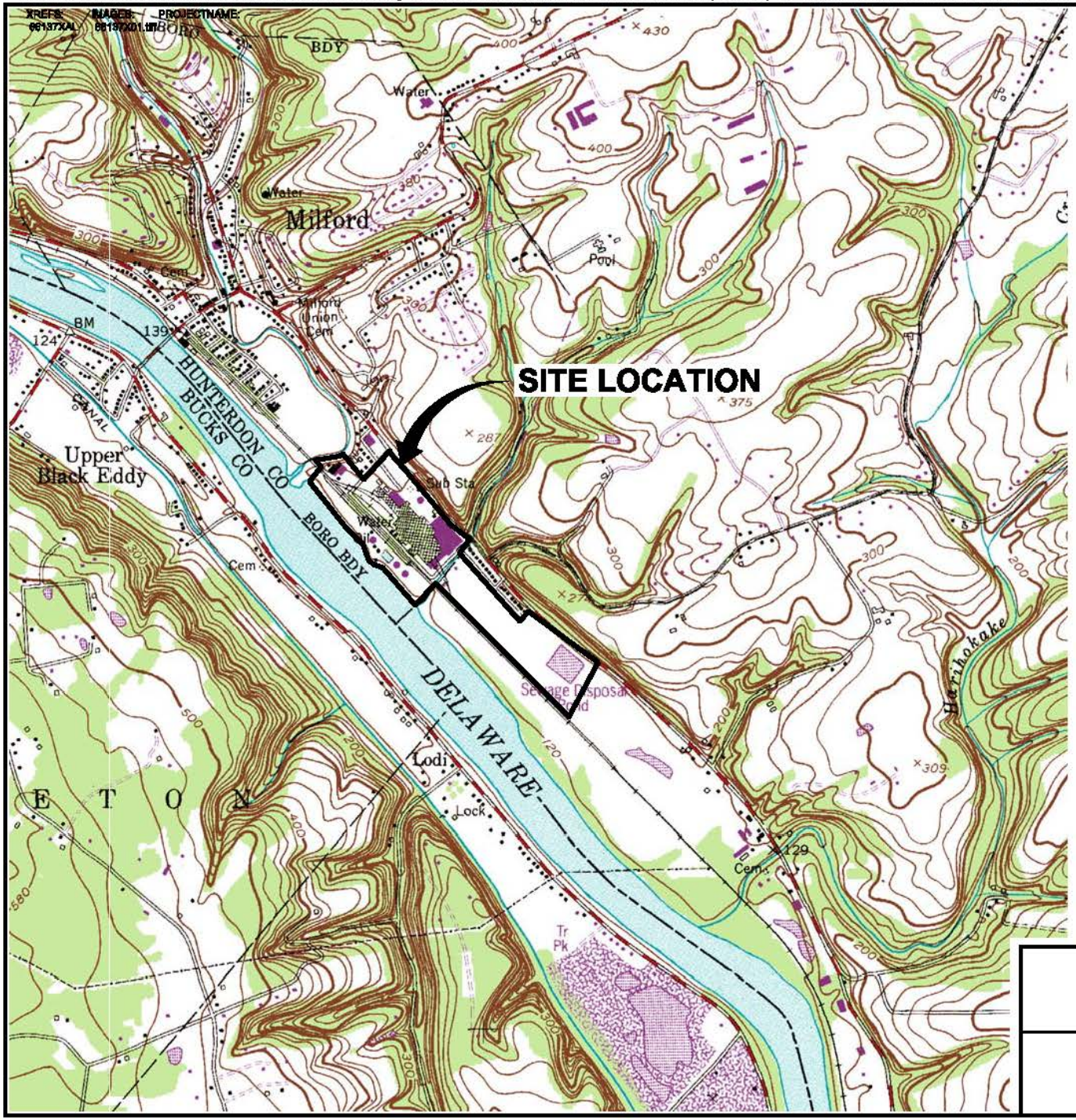

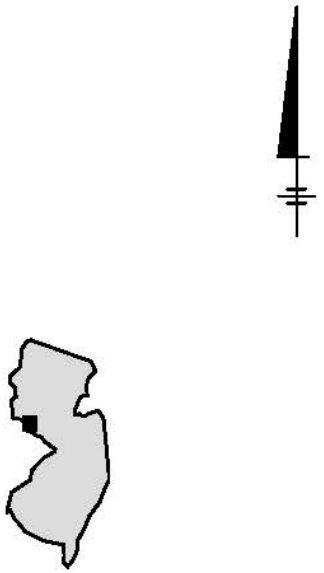

SOURCE:
USGS QUADRANGLE MAP
FRENCHTOWN, NJ
7.5 MINUTE SERIES, REVISED 1995
CONTOUR INTERVAL 20 FEET

0 2000' 4000'
GRAPHIC SCALE

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

USGS SITE LOCATION

FIGURE
1

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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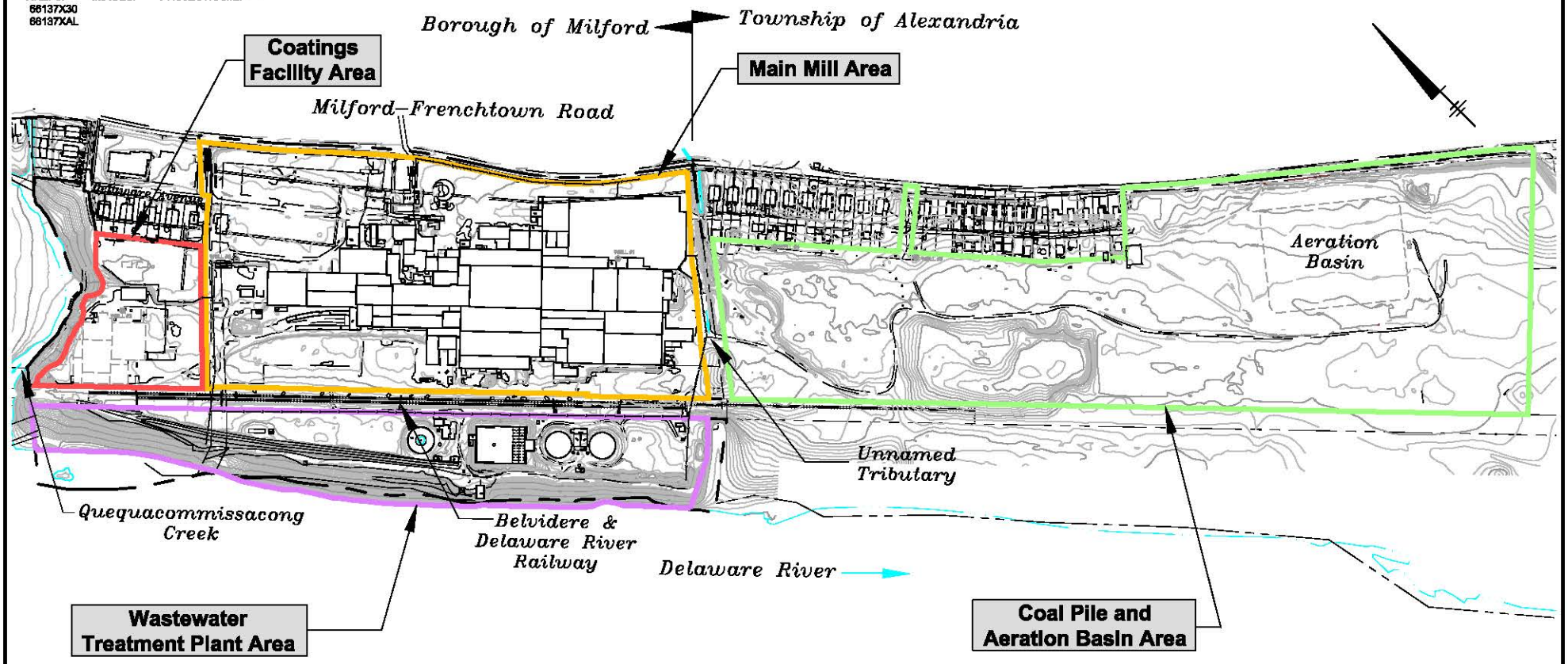

LEGEND

- SITE BOUNDARY
- LOT LINES
- APPROXIMATE EDGE OF WATER
- FENCE
- RAILROAD
- COAL PILE AND AERATION BASIN AREA
- COATINGS FACILITY AREA
- MAIN MILL AREA
- WASTEWATER TREATMENT PLANT AREA
- SURFACE WATER FLOW DIRECTION
- BUILDING OUTLINE
- BUILDING OUTLINE (DEMOLISHED)

0 500' 1000'

GRAPHIC SCALE

SOURCE:

BASEMAP FROM ELECTRONIC FILE PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. FILE NAME: 090609_BOUNDARY_2009-10-20SEND.DWG, DATED 10-13-09.
MODIFIED PER DEMOLITION ACTIVITIES.

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

SITE PLAN

FIGURE **2**

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: jrapp
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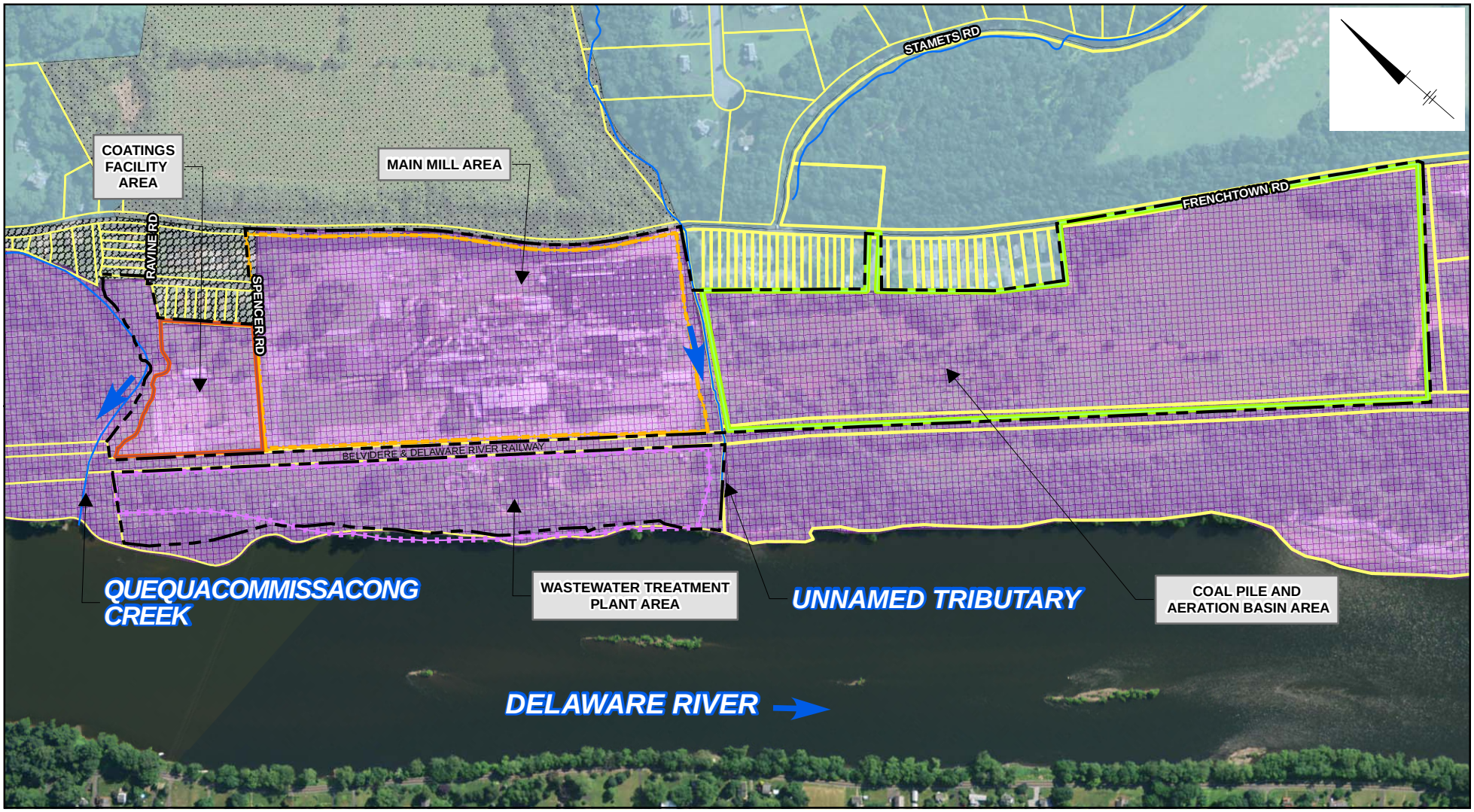

LEGEND:

- COAL PILE AND AERATION BASIN AREA
- COATINGS FACILITY AREA
- MAIN MILL AREA
- WASTEWATER TREATMENT PLANT AREA
- RIVER
- SITE BOUNDARY
- PARCEL BOUNDARY

ZONING TYPE:

- COMMERCIAL/OFFICE/INDUSTRIAL
- INSTITUTION
- MIXED USE
- RESIDENTIAL

0 500 1,000 Feet

GRAPHIC SCALE

NOTES:

1. 2013 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. PARCEL AND ZONING DATA OBTAINED FROM THE HUNTERDON COUNTY DIVISION OF GIS AT: http://gis.co.hunterdon.nj.us/
3. THIS MAP WAS PREPARED USING HUNTERDON COUNTY, NEW JERSEY GIS DIGITAL DATA, BUT THIS SECONDARY PRODUCT HAS NOT BEEN VERIFIED BY HUNTERDON COUNTY AND IS NOT COUNTY AUTHORIZED.

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

CURRENT LAND USE AND ZONING

FIGURE 3

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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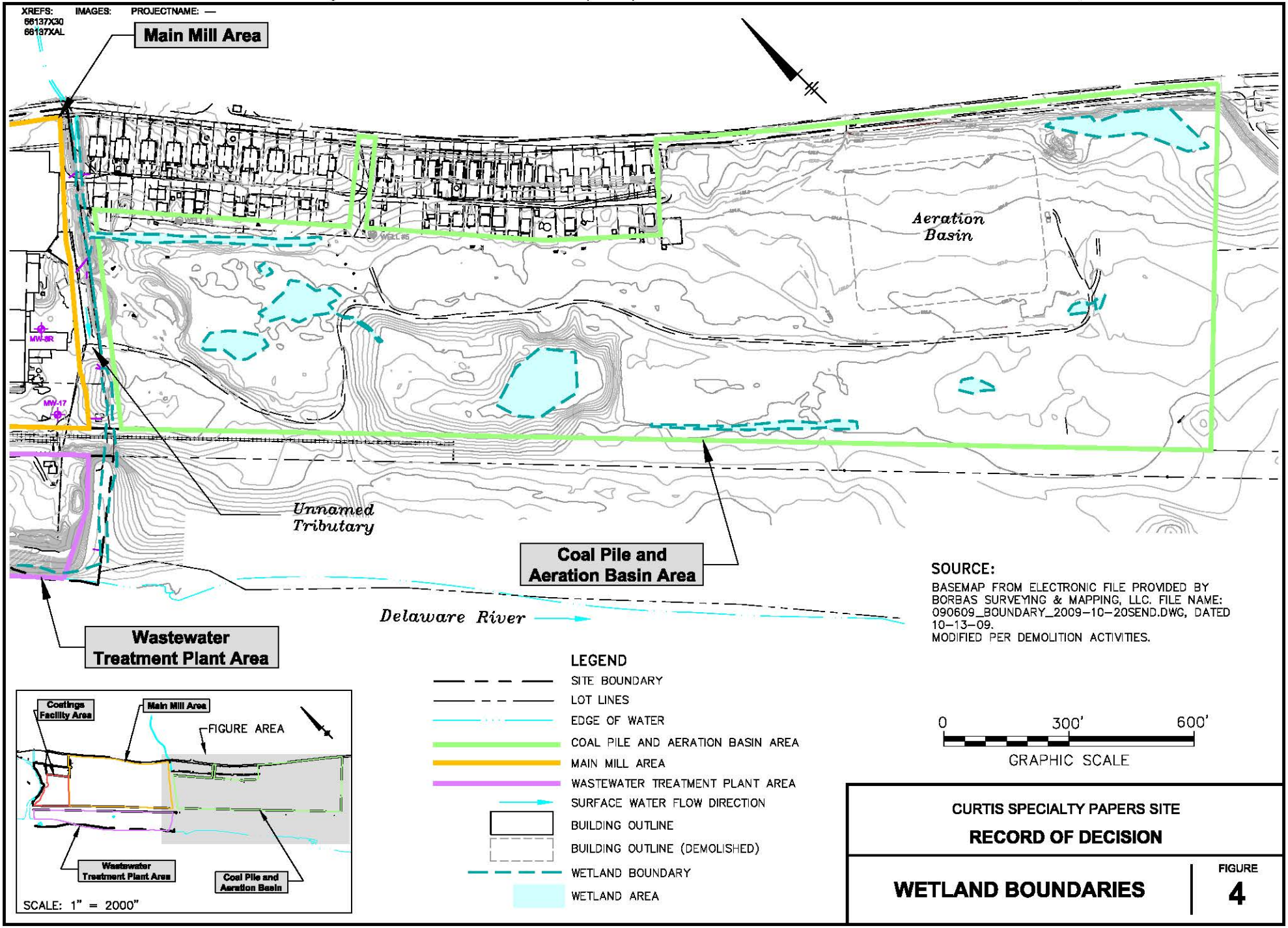

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

WETLAND BOUNDARIES

FIGURE **4**

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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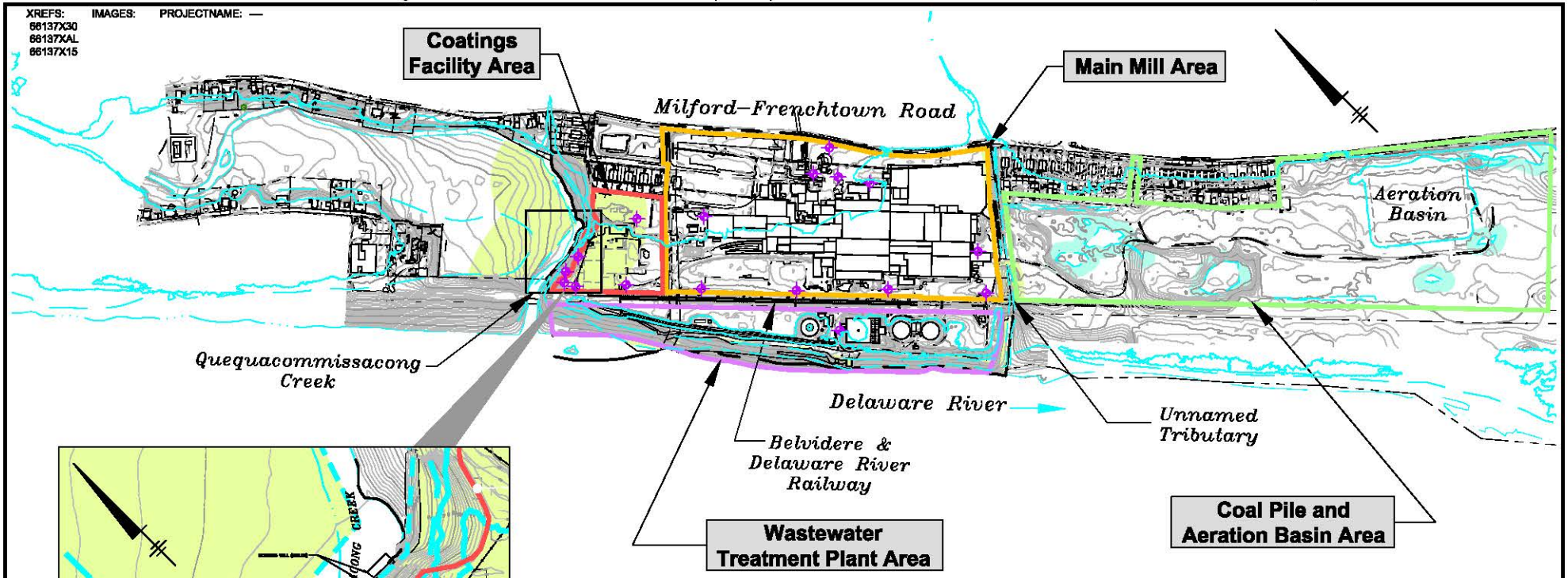

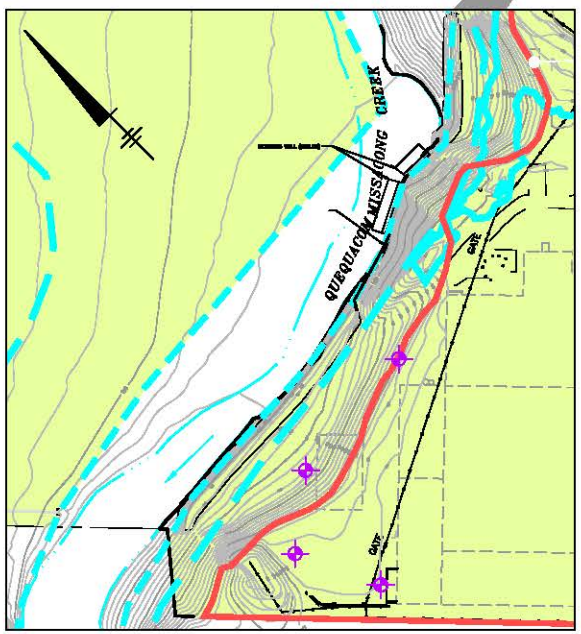

SCALE: 1" = 125'

LEGEND

- SITE BOUNDARY
- LOT LINES
- APPROXIMATE EDGE OF WATER
- FENCE
- RAILROAD
- COAL PILE AND AERATION BASIN AREA
- COATINGS FACILITY AREA
- MAIN MILL AREA
- WASTEWATER TREATMENT PLANT AREA
- SURFACE WATER FLOW DIRECTION
- BUILDING OUTLINE
- BUILDING OUTLINE (DEMOLISHED)
- MONITORING WELL LOCATION
- FLOOD HAZARD AREA RIPARIAN ZONE
- INTERMEDIATE RESOURCE VALUE FRESHWATER WETLAND TRANSITION AREA
- WETLAND LINE
- FLOOD HAZARD AREA BOUNDARY
- FLOODWAY

0 750' 500'

GRAPHIC SCALE

SOURCE:

BASEMAP FROM ELECTRONIC FILE PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. FILE NAME: 090609_BOUNDARY_2009-10-20SEND.DWG, DATED 10-13-09. MODIFIED PER DEMOLITION ACTIVITIES.

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

FLOOD WAY AND FLOOD HAZARD AREA BOUNDARIES

FIGURE 5

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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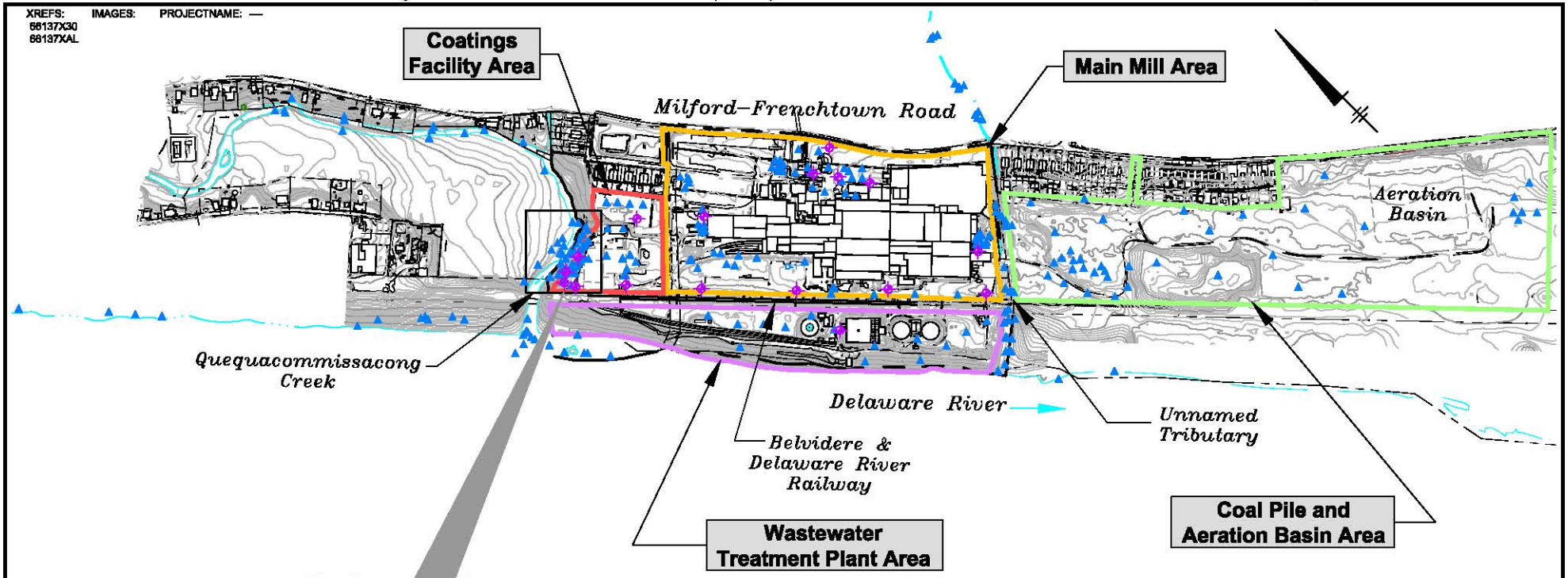

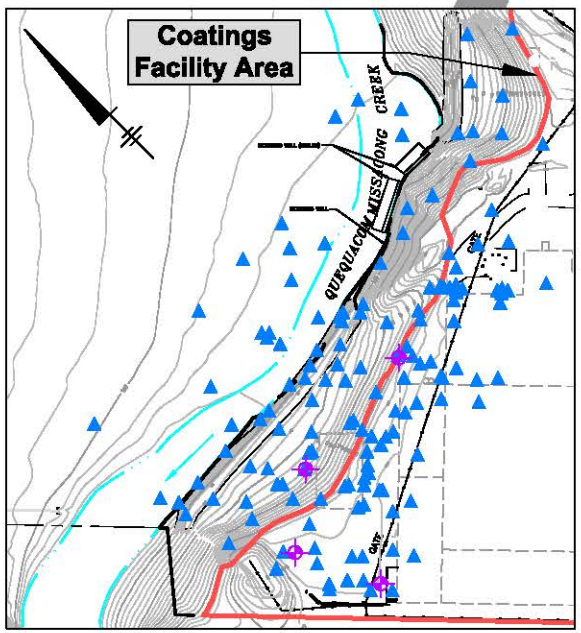

SCALE: 1" = 125'

LEGEND

- SITE BOUNDARY
- LOT LINES
- APPROXIMATE EDGE OF WATER
- FENCE
- RAILROAD
- COAL PILE AND AERATION BASIN AREA
- COATINGS FACILITY AREA
- MAIN MILL AREA
- WASTEWATER TREATMENT PLANT AREA
- SURFACE WATER FLOW DIRECTION
- BUILDING OUTLINE
- BUILDING OUTLINE (DEMOLISHED)
- MONITORING WELL LOCATION
- SAMPLE/BORING LOCATION

SOURCE:

BASEMAP FROM ELECTRONIC FILE PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. FILE NAME: 090609_BOUNDARY_2009-10-20SEND.DWG, DATED 10-13-09.
MODIFIED PER DEMOLITION ACTIVITIES.

0 750' 500'

GRAPHIC SCALE

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

SITE SAMPLE LOCATIONS

FIGURE 6

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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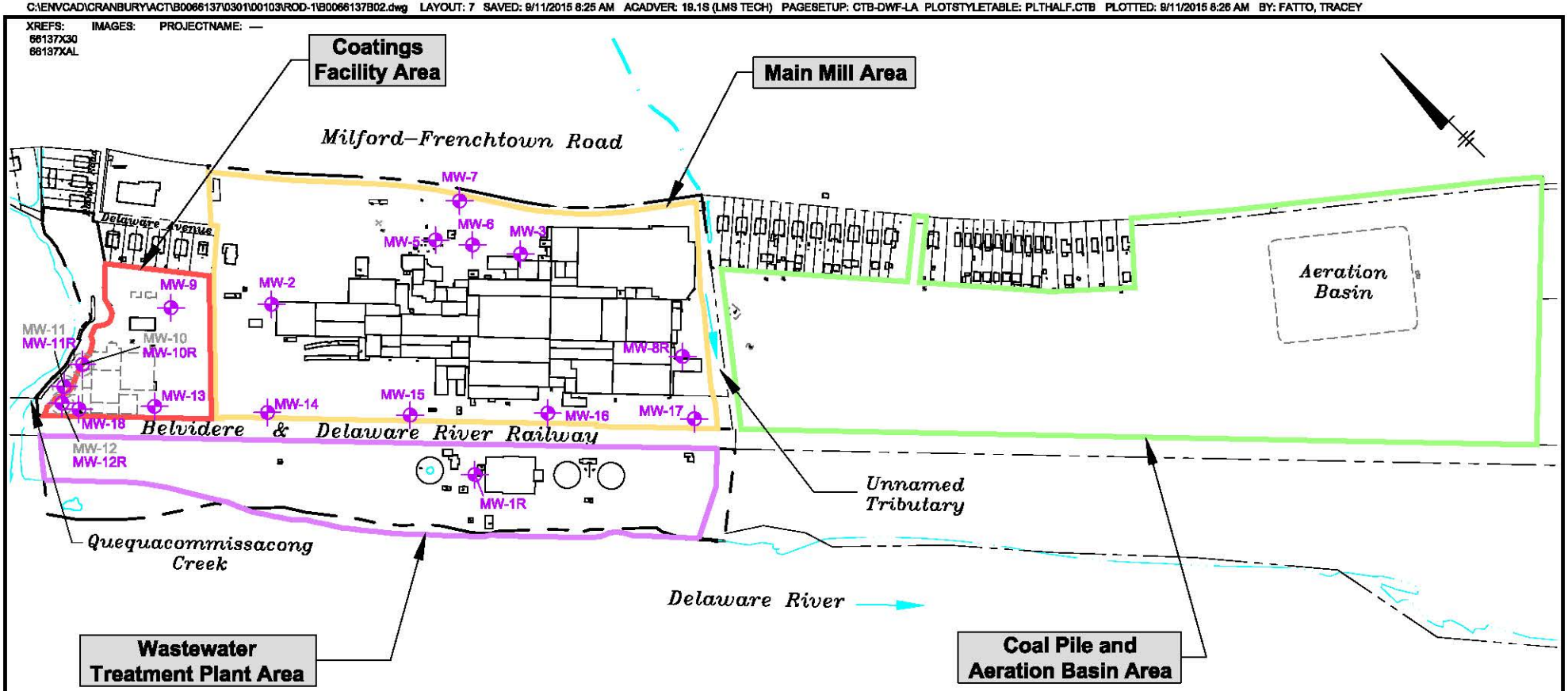

LEGEND

- SITE BOUNDARY
- LOT LINES
- EDGE OF WATER
- COAL PILE AND AERATION BASIN AREA
- COATINGS FACILITY AREA
- MAIN MILL AREA
- WASTEWATER TREATMENT PLANT AREA
- SURFACE WATER FLOW DIRECTION
- BUILDING OUTLINE
- BUILDING OUTLINE (DEMOLISHED)
- MONITORING WELL
- MONITORING WELL (ABANDONED)

0 500' 1000'

GRAPHIC SCALE

SOURCE:

BASEMAP FROM ELECTRONIC FILE PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. FILE NAME: 090609_BOUNDARY_2009-10-20SEND.DWG, DATED 10-13-09.
MODIFIED PER DEMOLITION ACTIVITIES.

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

MONITORING WELL LOCATIONS

FIGURE 7

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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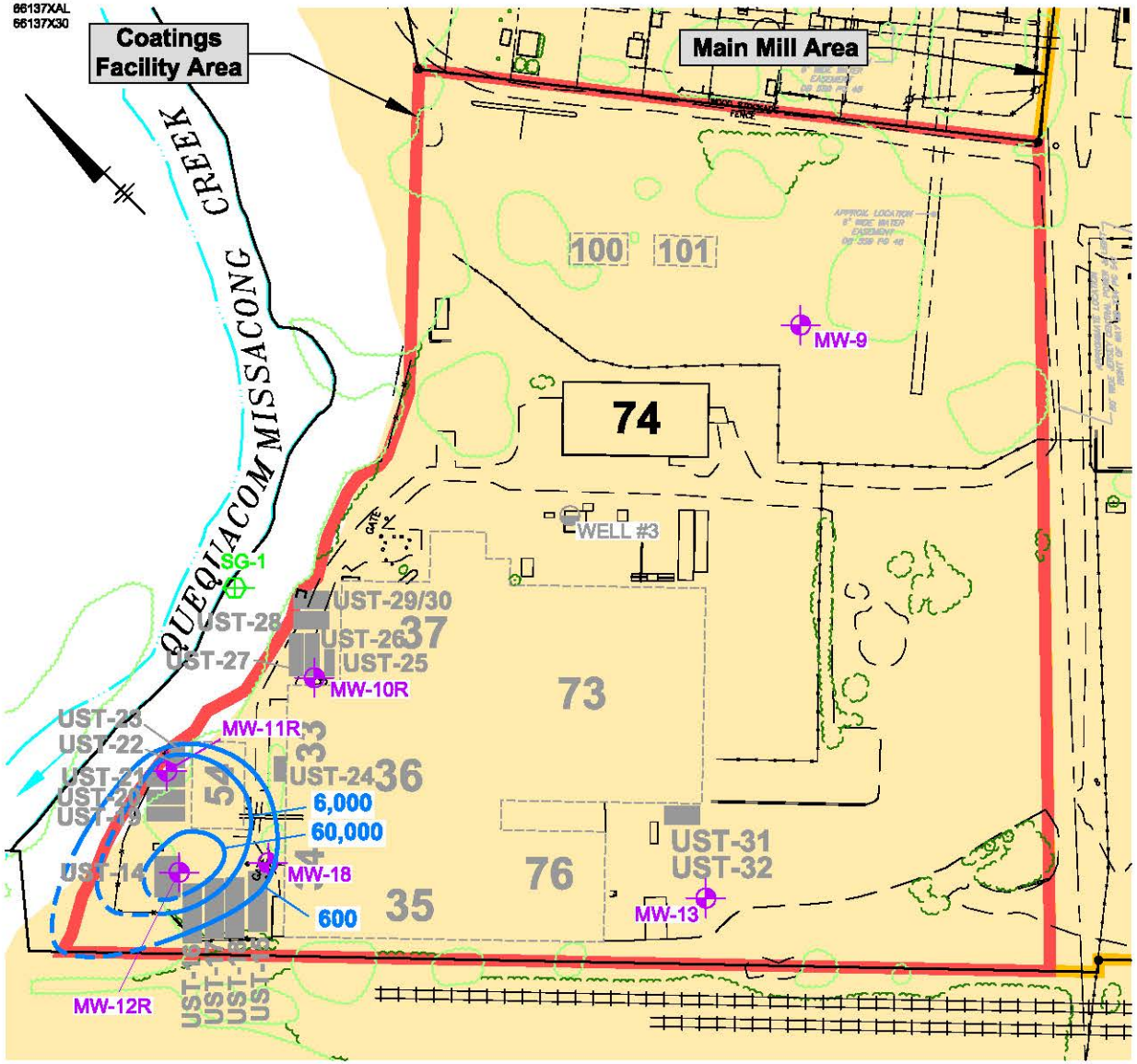

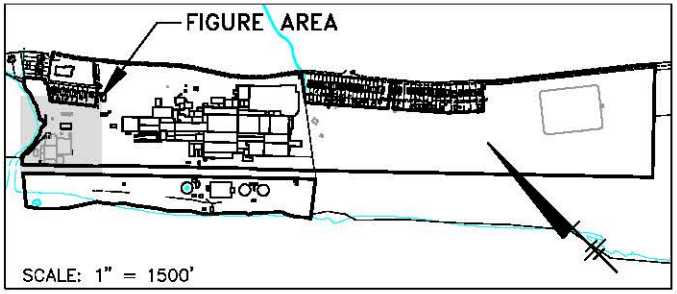

LEGEND

- SITE BOUNDARY
- LOT LINES
- APPROXIMATE EDGE OF WATER
- FENCE
- RAILROAD
- COATINGS FACILITY AREA
- MAIN MILL AREA
- SURFACE WATER FLOW DIRECTION
- 117 BUILDING NUMBER
- BUILDING OUTLINE
- 117 BUILDING NUMBER (DEMOLISHED)
- BUILDING OUTLINE (DEMOLISHED)
- MONITORING WELL
- PRODUCTION WELL (REMOVED)
- STREAM GAUGE
- APPROXIMATE LOCATION OF UST
- GLACIOFLUVIAL DEPOSITS (Qsdwf)
- 600 TOLUENE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)

0 100' 200'

GRAPHIC SCALE

SOURCE:

BASEMAP FROM ELECTRONIC FILE PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. FILE NAME: 090609_BOUNDARY_2009-10-20SEND.DWG, DATED 10-13-09.
MODIFIED PER DEMOLITION ACTIVITIES.

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

CFA TOLUENE GROUNDWATER CONCENTRATIONS AND CONTOURS - 2013

FIGURE 8

CITY: CRANBURY-NJ DIV/GROUP: ENVCAD DB: TFATTO LD: T.FATTO PIC: PM: G.WROBLEWSKI TM: J.KRICZKY LYR: ON=*;OFF=*REF*
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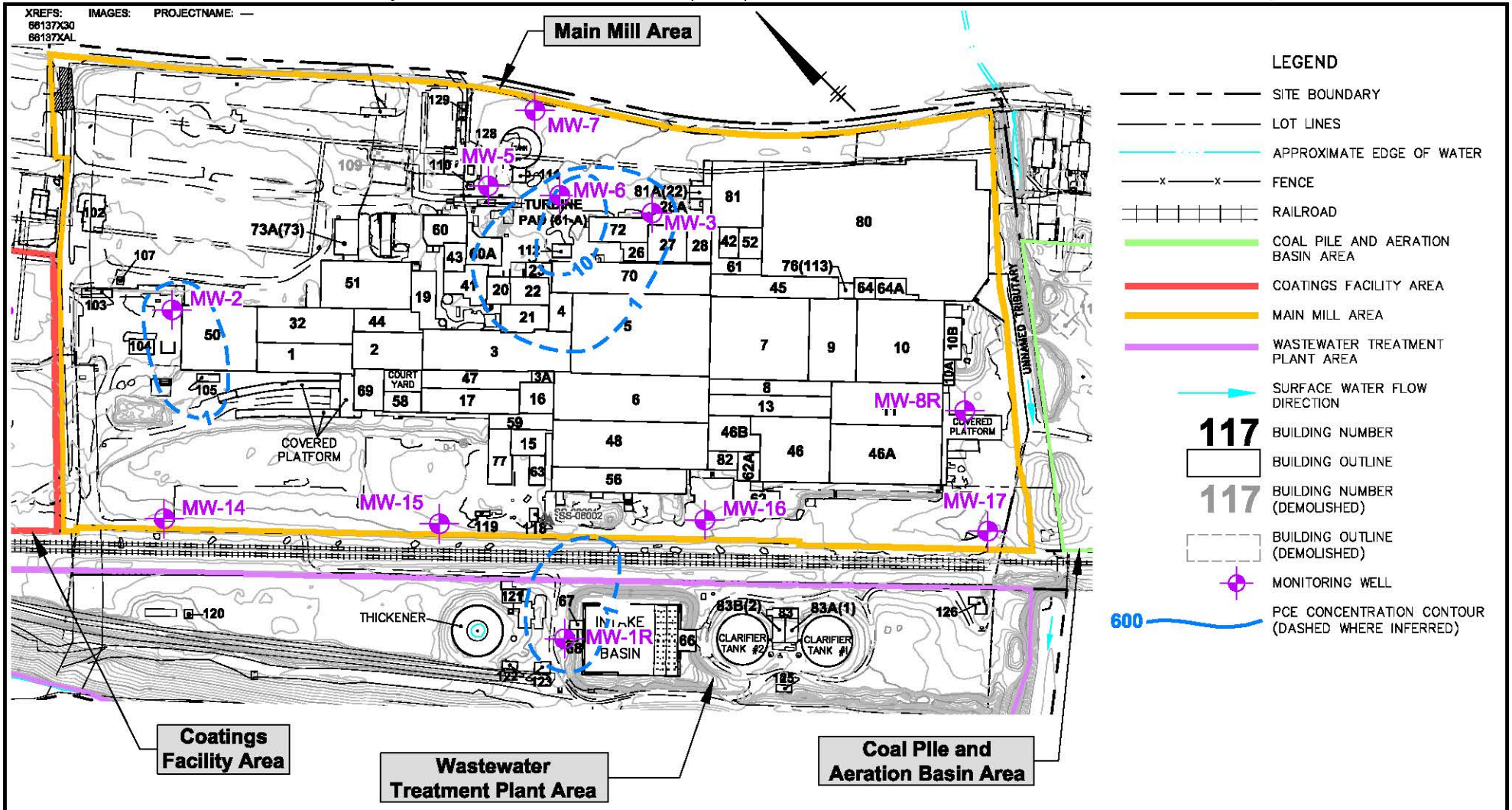
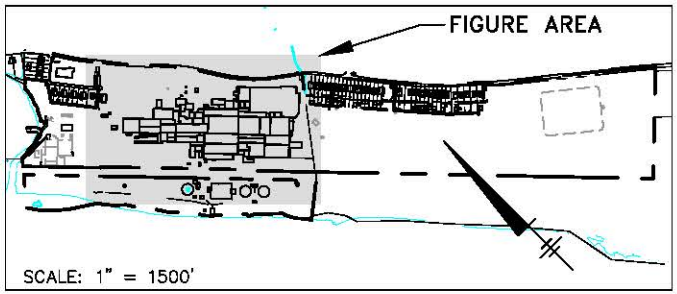


LEGEND

- SITE BOUNDARY
- LOT LINES
- APPROXIMATE EDGE OF WATER
- FENCE
- RAILROAD
- COAL PILE AND AERATION BASIN AREA
- COATINGS FACILITY AREA
- MAIN MILL AREA
- WASTEWATER TREATMENT PLANT AREA
- SURFACE WATER FLOW DIRECTION
- 117 BUILDING NUMBER
- BUILDING OUTLINE
- 117 BUILDING NUMBER (DEMOLISHED)
- BUILDING OUTLINE (DEMOLISHED)
- MONITORING WELL
- 600 PCE CONCENTRATION CONTOUR (DASHED WHERE INFERRED)



0 250' 500'
GRAPHIC SCALE

SOURCE:
BASEMAP FROM ELECTRONIC FILE PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. FILE NAME: 090609_BOUNDARY_2009-10-20SEND.DWG, DATED 10-13-09.
MODIFIED PER DEMOLITION ACTIVITIES.

CURTIS SPECIALTY PAPERS SITE

RECORD OF DECISION

PCE GROUNDWATER CONCENTRATIONS AND CONTOURS - 2010, 2013, 2014

FIGURE **9**

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 2

TABLES

Curtis Specialty Papers Record of Decision

Appendix 2, Table 1
Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Tap Water	Benzene	112	176	ug/l	2/16	176	ug/l	Maximum
	Tetrachloroethylene	0.5	6.3	ug/l	9/16	6.0	ug/l	95% UCL calculated
	Toluene	158,000	199,000	ug/l	2/16	200,000	ug/l	Maximum

95% UCL – 95% upper-confidence limit

ug/L – micrograms per liter

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

This table presents the chemicals of concern (COCs) and exposure point concentrations (EPCs) for each of the COCs in groundwater. The table includes the range of concentrations detected for each COC, as well as the frequency of detection (i.e., the number of times the chemical was detected in the samples collected at the site), the EPC and how it was derived.

Curtis Specialty Papers Record of Decision

Appendix 2, Table 2

Selection of Exposure Scenarios

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis
Current	Upland soil	Surface soil and air	CFA, CPABA	Off-site resident	Adult/Child	Ing/Der/Inh	Quantitative
			CFA, MMA, CPABA, WWTRA	Recreator	Adult/Adolescent	Ing/Der/Inh	Quantitative
	Floodplain/Bank Soil	Surface soil and air	Q Creek and Unnamed Tributary	Recreator	Adult/Adolescent	Ing/Der/Inh	Quantitative
	Groundwater	Indoor air	CFA, CPABA	Off-site resident	Adult/Child	Inh	Quantitative
	Surface water	Surface water	Q Creek, Unnamed Tributary and Delaware River	Recreator	Adult/Adolescent	Ing/Der/Inh	Quantitative
	Sediment	Sediment	Q Creek, Unnamed Tributary and Delaware River	Recreator	Adult/Adolescent	Ing/Der/Inh	Quantitative
	Fish	Fish	Q Creek, Unnamed Tributary and Delaware River	Recreator	Adult/Adolescent	Ing	Quantitative
Future	Upland soil	Surface soil and air	MMA, CFA and Residential Redevelopment	Commercial worker, Groundskeeper and Onsite resident	Adult Adult/Child for onsite resident	Ing/Der/Inh	Quantitative
		Surface and subsurface soil	MMA, CFA	Construction worker	Adult	Ing/Der/Inh	Quantitative
	Groundwater	Tap water	Residential Redevelopment	Onsite resident	Adult/Child	Ing/Der/Inh	Quantitative
	Ambient Air	Air in trench	MFA and	Construction worker	Adult	Inh	Quantitative
	Indoor Air	Air	MFA, CFA and Residential Redevelopment	Commercial worker and Onsite resident	Adult Adult/Child for onsite resident	Inh	Quantitative

Ing – Ingestion

Der – Dermal

Inh - Inhalation

Summary of Selection of Exposure Pathways

The table describes the exposure pathways that were evaluated for the risk assessment, and the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are included.

Curtis Specialty Papers Record of Decision

Appendix 2, Table 3
Noncancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorp. Efficiency (Dermal)	Adjusted RfD (Dermal)	Adj. Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Date of RfD
Benzene	Chronic	4E-03	mg/kg-day	1	4E-03	mg/kg-day	Blood	300	IRIS	02/16/11
Tetrachloroethylene	Chronic	1E-02	mg/kg-day	1	1E-02	mg/kg-day	Liver	1000	IRIS	02/16/11
Toluene	Chronic	8E-02	mg/kg-day	1	8E-02	mg/kg-day	Kidney	3000	IRIS	02/16/11

Pathway: Inhalation

Chemical of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Inhalation RfDi	Inhalation RfDi Units	Primary Target Organ	Combined Uncertainty/ /Modifying Factors	Sources of RfD: Target Organ	Date of RfC/RfD
Benzene	Chronic	3E-02	mg/m^3	-----	-----	Blood	300	IRIS	02/16/11
Tetrachloroethylene	Chronic	2.7E-01	mg/m^3	-----	-----	CNS	-----	ATSDR	09/01/97
Toluene	Chronic	5E+00	mg/m^3	-----	-----	CNS	10	IRIS	02/16/11

Key

-----: No information available
CNS: Central Nervous System
IRIS: Integrated Risk Information System, U.S. EPA
ATSDR: Agency for Toxic Substances and Disease Registry

Summary of Toxicity Assessment - Noncancer

This table provides noncancer risk information that is relevant to the chemicals of concern in groundwater. When available, the chronic toxicity data have been used to develop oral reference doses (RfDs) and inhalation reference doses (RfDi).

Curtis Specialty Papers Record of Decision

Appendix 2, Table 4
Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral Cancer Slope Factor	Units	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Benzene	5.5E-02	$(mg/kg/day)^{-1}$	5.5E-02	$(mg/kg/day)^{-1}$	A	IRIS	02/16/11
Tetrachloroethylene	5.4E-01	$(mg/kg/day)^{-1}$	5.4E-01	$(mg/kg/day)^{-1}$	-----	CalEPA	02/16/11
Toluene	-----	-----	-----	-----	D	-----	02/16/11

Pathway: Inhalation

Chemical of Concern	Unit Risk	Units	Inhalation Slope Factor	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Benzene	7.8E-03	(ug/m^3)	-----	-----	A	IRIS	02/16/11
Tetrachloroethylene	5.9E-03	(ug/m^3)	-----	-----	-----	CalEPA	02/16/11
Toluene	-----	-----	-----	-----	D	-----	02/16/11

Key:

IRIS: Integrated Risk Information System. U.S. EPA
CalEPA: California EPA
-----: No information available

EPA Weight of Evidence:

A – Known human carcinogen
D – Not classifiable as to human carcinogenicity

Summary of Toxicity Assessment - Cancer

This table provides cancer risk information which is relevant to the contaminants of concern in groundwater. Toxicity data are provided for both the oral and inhalation routes of exposure.

Curtis Specialty Papers Record of Decision

Appendix 2, Table 5

Risk Characterization Summary - Noncancer

Scenario Timeframe: Future
Receptor Population: Onsite Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Noncancer Health Hazards			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap water	Benzene	Blood	0.9	1	0.1	2
			Tetrachloroethylene	Liver	0.008	0.003	0.002	0.013
			Toluene	Kidney	70	20	9	99
							Hazard Index Total=	101

Scenario Timeframe: Future
Receptor Population: Onsite Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Noncancer Health Hazards			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap water	Benzene	Blood	3	0.2	2	5.2
			Tetrachloroethylene	Liver	0.02	0.007	0.004	0.031
			Toluene	Kidney	200	40	10	250
							Hazard Index Total=	255

Summary of Risk Characterization - Noncancer

The table presents hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) for exposure to groundwater. The Risk Assessment Guidance for Superfund states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse noncancer effects.

Curtis Specialty Papers Record of Decision

Appendix 2, Table 6

Risk Characterization Summary - Cancer

Scenario Timeframe: Future
Receptor Population: Onsite Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Cancer Risk			
				Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap water	Benzene	6E-05	7E-06	7E-05	1.3E-04
			Tetrachloroethylene	1E-05	6E-06	1E-06	2.0E-05
			Toluene	-----	-----	-----	-----
						Total Cancer Risk =	2E-04

Scenario Timeframe: Future
Receptor Population: Onsite Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Cancer Risk			
				Ingestion	Dermal	Inhalation	Exposure Routes Total
Groundwater	Groundwater	Tap water	Benzene	6E-05	4E-06	3E-05	1E-04
			Tetrachloroethylene	1E-05	3E-06	4E-07	1E-05
			Toluene	-----	-----	-----	-----
						Total Cancer Risk =	1E-04

----- – not available at this time due to no reference dose being available – cancer hazards are underestimated

Summary of Risk Characterization – Cancer

The table presents cancer risks for groundwater exposure. As stated in the National Contingency Plan, the point of departure is 10^{-6} and the acceptable risk range for site-related exposure is 10^{-6} to 10^{-4}.

Curtis Specialty Papers Record of Decision

Appendix 2, Table 7 (part 1 of 3)

Chemical-Specific Applicable or Relevant and Appropriate Requirements (ARARs)

Media	Authority	Citation	Law/Regulation	Description	ARAR Status
Groundwater	Federal Regulatory	40 CFR 141.61	Safe Drinking Water Act, National Primary Drinking Water Regulations, Maximum Contaminant Levels (MCLs)	Specify the maximum permissible concentrations of contaminants in public drinking water supplies. Federally enforceable standards based, in part, on health effects and on the availability and cost of treatment techniques.	Relevant and appropriate for groundwater standards.
	State of New Jersey	NJAC 7:9-6	NJ Class IIA Ground Water Quality Standards	Specify the maximum permissible concentrations of contaminants in Class IIA groundwater. Enforceable by the State.	Applicable for Class IIA groundwater.
		NJAC 7:10	NJ Safe Drinking Water Act	Specify drinking water standards and maximum contaminant levels (MCLs). Enforceable by the State.	Relevant and appropriate for groundwater standards.
Air	Federal Regulatory	40 CFR 50, 60, 61	Clean Air Act	National primary and secondary ambient air quality standards, standards of performance for new stationary sources, and national emissions standards for hazardous air pollutants.	Applicable for alternatives involving the treatment and discharge of vapors.
	State of New Jersey	NJAC 7:27	NJ Air Pollution Control	Concerns the protection and improvement of air quality. Control and prohibit air pollution from area, stationary and mobile sources.	Applicable for alternatives involving the treatment and discharge of vapors.

Curtis Specialty Papers Record of Decision
Appendix 2, Table 7 (part 2 of 3)
Action-Specific Applicable or Relevant and Appropriate Requirements (ARARs)

Authority	Citation	Law/Regulation	Description	ARAR Status
Federal Regulatory	40 CFR 144	SDWA Underground Injection Control Program	These regulations establish minimum requirements for Underground Injection Control (UIC) programs.	Applicable for alternatives inclusive of substrate injections.
	40 CFR 52.1-30 40 CFR 52.870-884 40 CFR 60.1-19	National Emission Standards for Hazardous Air Pollutants	Establishes national standards for criteria pollutants in ambient air.	Applicable for air/vapor discharges from remedial systems.
	40 CFR 261	RCRA – Identification and Listing of Hazardous Waste	This regulation provides the legal requirements for waste classification.	Applicable for classifying wastes as hazardous.
	49 CFR 107, 171.1 – 172.558	U.S. Department of Transportation Rules for Transportation of Hazardous Materials	This regulation provides requirements for transportation of hazardous waste.	Applicable for transport of hazardous waste.
State of New Jersey	NJAC 7:9D	NJ Well Construction and Maintenance; Sealing of Abandoned Wells	Requirements for the construction and decommissioning of wells. Well driller and pump installer licensing requirements.	Applicable for alternatives involving the installation of additional wells.

Curtis Specialty Papers Record of Decision
Appendix 2, Table 7 (part 2 of 3)
Action-Specific Applicable or Relevant and Appropriate Requirements (ARARs)

Authority	Citation	Law/Regulation	Description	ARAR Status
	NJAC 7:14A	NJ Pollutant Discharge Elimination System	Regulates, among other actions, the injection of materials into the subsurface and the discharge of treated groundwater to Publicly Owned Treatment Works (POTW). Enforceable by the State.	Applicable for alternatives that involve injection of substrate into groundwater.
	NJAC 7:26C-7.3	NJDEP Technical Requirements for Site Remediation. May 2015	This document provides requirements on the use and requirements of CEA/WRAs within the State of New Jersey.	Applicable for groundwater remedies involving the use of CEA/WRA.
	NJAC 7:26E	NJDEP Technical Requirements for Site Remediation, May 2012	This document outlines the requirements of site investigation and remediation processes.	Relevant and appropriate (for certain sections as determined by USEPA for federal-lead sites).
	NJAC 7:27	NJDEP Air Pollution Control, September 2011	Regulates, among other things, emissions of volatile organic compounds and toxic air pollutants. Specifies allowable emission rates and control requirements.	Applicable for alternatives that involve emissions to the atmosphere.

Curtis Specialty Papers Record of Decision
Appendix 2, Table 7 (part 3 of 3)
Location-Specific Applicable or Relevant and Appropriate Requirements (ARARs)

Authority	Citation	Law/Regulation	Description	ARAR Status
Federal Regulatory	Public Law 89-665; 16 USC 470 et seq.	National Historic Preservation Act of 1966	These regulations protect and preserve properties, places, or things identified on the National Register of Historic Places.	ARAR – Applicable if implementation, operation, or monitoring activities impact areas with historic value.
	16 USC 1531 et seq	Endangered Species Act	The Act provides for the conservation of endangered or threatened species (consult with the Department of the Interior).	ARAR – Applicable for actions that have the potential to impact habitat; however there is no applicable habitat within the areas to be remediated.
	16 USC 1271 et seq	Wild and Scenic Rivers Act	This act provides for the protection and preservation of rivers with outstanding natural, cultural, and recreational values.	ARAR – Applicable for actions that have the potential to impact the Delaware River.
State of New Jersey	NJAC 7:5C; NJAC 7:25	Endangered Plant Species Program; Endangered Nongame and Exotic Wildlife Program	These programs detail the protection of critical habitats of endangered and threatened species in New Jersey.	ARAR – Applicable although impacts to habitat during remediation are not anticipated.
	NJSA 58:16A-50 et seq; NJAC 7:13-10.4	Flood Hazard Area Control Act; Flood Hazard Area Control Act Rules	This Act incorporates standards for construction within flood hazard areas, specifically in the flood fringe for this site.	ARAR – Applicable for alternatives that will involve construction in the flood fringe.
	(see next column)	Delaware River Basin Compact	The Delaware River Basin Commission regulates water quality impacts, water allocation, and floodplain disturbances.	ARAR – Applicable for alternatives that have the potential to impact the Delaware River.

Curtis Specialty Papers Record of Decision
Appendix 2, Table 7 (part 3 of 3)
Location-Specific Applicable or Relevant and Appropriate Requirements (ARARs)

Authority	Citation	Law/Regulation	Description	ARAR Status
The following are to-be-considered (TBC) location-specific guidance.				
Federal	Exec. Order 11988	Floodplain Management	This order provides for floodplain management to avoid adverse effects, minimize potential harm, and restore/preserve natural and beneficial values.	
Federal	Exec. Order 11990	Protection of Wetlands	This order provides for wetland protection to avoid adverse effects associated with the destruction or modification of wetlands.	
Federal		USEPA OSWER Publication 9280.0-02, 1985	Superfund actions must meet substantive requirements of the Floodplain Management Executive Order (E.O. 11988) and the Protection of Wetlands Executive Order (E.O. 11990).	

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 3

ADMINISTRATIVE RECORD INDEX

COMPREHENSIVE ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

FINAL

09/30/2015 **REGION ID: 02**

Site Name: CURTIS SPECIALTY PAPERS INC.
CERCLIS ID: NJD057143984
OUID: 01
SSID: 02ZD
Action:

DocID:	Doc Date:	Title:	Image Count:	DVD Location	Doc Type:	Addressee Name:	Addressee Organization:	Author Name:	Author Organization:
319300	09/30/2015	ADMINISTRATIVE RECORD INDEX FOR OU1 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	40	DVD1	[AR INDEX]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
147137	01/01/1111	CORRESPONDENCE REGARDING THE BOROUGH OF MILFORD REQUESTING THE USEPA TO PERFORM A REMOVAL ASSESSMENT TO EVALUATE THE PAPER MILL ELIGIBILITY FOR A REMOVAL ACTION UNDER CERCLA FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	1	DVD1	[LETTER]	[PAVLOU, GEORGE]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]
147140	01/01/1111	COMMENTS ON THE REMEDIATION AGREEMENT REGARDING THE MILFORD MILL SITES - SITE INVESTIGATION REPORT (SIR) AND REMEDIAL INVESTIGATION WORKPLAN (RIW) DATED AUGUST 2001 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE AND THE CROWN VANTAGE LANDFILL SITE	29	DVD1	[LETTER]	[SWEITZER, ROBERT]	[CURTIS SPECIALTY PAPERS]	[MIGLIARINO, MAURICE , TAYLOR, LINDA I]	[NJ DEPARTMENT OF ENVIRONMENTAL PROTECTION]
263131	01/01/1111	ROYAL ENVIRONMENTAL HEALTH AND SAFETY MANUAL FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	254	DVD1	[PLAN]	[]	[]	[]	[]
280246	01/01/1111	A & A MACHINERY MOVING'S ATTACHMENT A OF THE RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	61	DVD1	[LETTER]	[]	[]	[]	[]
177362	03/10/1993	REVISED FINAL DRAFT ENVIRONMENTAL PRIORITY INITIATIVE PRELIMINARY ASSESSMENT REPORT- JAMES RIVER PAPER CORPORATION FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	313	DVD1	[REPORT]	[]	[]	[]	[]

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DocID:	Doc Date:	Title:	Image Count:	DVD Location	Doc Type:	Addressee Name:	Addressee Organization:	Author Name:	Author Organization:
177363	03/10/1993	REMEDIAL SITE ASSESSMENT DECISION - US ENVIRONMENTAL PROTECTION AGENCY REGION 2 FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	1	DVD1	[OUTLINE]	[]	[]	[LATKA, MARY]	[US ENVIRONMENTAL PROTECTION AGENCY]
177364	02/01/1995	PRELIMINARY GROUNDWATER INVESTIGATION REPORT FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	238	DVD1	[REPORT]	[,]	[JAMES RIVER CORPORATION]	[,]	[WOODWARD-CLUDE CONSULTANTS]
151611	11/04/2004	DRAFT FINAL NJDEP SITE REMEDIATION PROGRAM PRELIMINARY ASSESSMENT REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	70	DVD1	[REPORT]	[]	[]	[,]	[NJ DEPT OF ENVIRONMENTAL PROTECTION]
177365	11/15/2004	REDEVELOPMENT PLAN FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	35	DVD1	[PLAN]	[]	[]	[,]	[T & M ASSOCIATES]
280249	03/01/2005	NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICE'S REPORT OF INSPECTION - ASBESTOS INSPECTION CHECKLIST FOR 03/2005 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	24	DVD1	[REPORT]	[]	[]	[,]	[NEW JERSEY DEPARTMENT OF HEALTH]
280250	05/01/2005	NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICE'S REPORT OF INSPECTION - ASBESTOS INSPECTION CHECKLIST FOR 05/2005 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	46	DVD1	[REPORT]	[]	[]	[,]	[NEW JERSEY DEPARTMENT OF HEALTH]
181285	11/03/2006	CORRESPONDENCE REGARDING COMPRESSED GAS CYLINDERS BEING REMOVED ALONG WITH A FEW SMALL CONTAINERS FOR THE CROWN VANTAGE LANDFILL SITE	4	DVD1	[E MAIL MESSAGE]	[CONSENTINO, JOE]	[US ENVIRONMENTAL PROTECTION AGENCY]	[ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]
147134	12/31/2006	INTERNET NEWS ARTICLE - EXPRESS-TIMES: BLIGHT HINDERS MILL PLANS - THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	2	DVD1	[ARTICLE]	[]	[]	[EILENBERGER, ANDREA]	[EXPRESS-TIMES, THE]

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DocID:	Doc Date:	Title:	Image Count:	DVD Location	Doc Type:	Addressee Name:	Addressee Organization:	Author Name:	Author Organization:
180573	01/09/2007	CORRESPONDENCE REGARDING THE US EPA EFFORTS TO ADDRESS THE REQUEST OF A REMOVAL EVALUATION OF THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE AND THE CROWN VANTAGE LANDFILL SITE	2	DVD1	[LETTER]	[]	[]	[ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]
178100	01/22/2007	HIGHEST AND BEST USE EVALUATION OF THE CURTIS PAPER PROPERTY IN MILFORD, NEW JERSEY FOR CURTIS SPECIALTY PAPERS, INC. SITE	29	DVD1	[REPORT]	[,]	[BOROUGH OF MILFORD]	[,]	[JEFFREY DONOHOE ASSOCIATES LLC]
147136	02/13/2007	CORRESPONDENCE REGARDING THE NJDEP SUBMITTING THE SITE FOR REMOVAL ACTION CONSIDERATION UNDER THE FEDERAL CERCLA ACT FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	3	DVD1	[LETTER]	[PAVLOU, GEORGE]	[US ENVIRONMENTAL PROTECTION AGENCY]	[KROPP, IRENE]	[US ENVIRONMENTAL PROTECTION AGENCY]
180891	02/27/2007	NJDEP BUREAU OF EMERGENCY RESPONSE REGION I INVESTIGATION REPORT - JOB NO.: A2403800 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	15	DVD1	[REPORT]	[]	[]	[]	[]
147135	02/28/2007	CORRESPONDENCE REGARDING THE REMOVAL ACTION BRANCH RECEIVING THE REQUEST FOR A CERCLA REMOVAL ASSESSMENT FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	1	DVD1	[LETTER]	[MUMFORD, FRED]	[NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION]	[ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]
185273	03/22/2007	22D CHEMICAL BATTALION (TECHNICAL ESCORT) OPERATION: RADIATION SAFETY FOR USE OF THE PORTABLE ISOTOPIC NEUTRON SPECTROSCOPY FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	150	DVD1	[PLAN]	[]	[]	[]	[]

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DocID:	Doc Date:	Title:	Image Count:	DVD Location	Doc Type:	Addressee Name:	Addressee Organization:	Author Name:	Author Organization:
147138	04/05/2007	ACCESS AGREEMENT FOR THE PROPERTY AT 404 FRENCHTOWN ROAD, MILFORD, HUNTERDON COUNTY, NEW JERSEY FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	2	DVD1	[AGREEMENT]	[]	[]	[]	[]
147141	05/17/2007	TRANSMITTAL OF THE REQUESTED ISRA RELATED DOCUMENTS FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	393	DVD1	[REPORT]	[INCE, ALEXANDRA]	[US ENVIRONMENTAL PROTECTION AGENCY]	[STURTZ, CRAIG A]	[SQUIRE, SANDERS & DEMPSEY L.L.P.]
180845	05/18/2007	SAMPLING AND ANALYSIS PLAN (SAP) - CONTRACT NO.: EP-S3-05-02 - TDD NO.: E13-008-07-04-007 - DOCUMENT TRACKING NO.: 0326 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	88	DVD1	[PLAN]	[MAGRIPLES , NICHOLAS]	[US ENVIRONMENTAL PROTECTION AGENCY]	[WENNING, STEPHANIE]	[TETRA TECH EM INC]
180857	05/29/2007	DRUM/CONTAINER LOG SUMMARY MAY 2007 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	28	DVD1	[REPORT]	[]	[]	[]	[]
151609	05/30/2007	JAMES RIVER PAPER COMPANY SAMPLING TRIP REPORT - TDD NO.: E13-008-07-04-007 - DTN NO.: 0341 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	53	DVD1	[REPORT]	[]	[]	[]	[]
180884	06/04/2007	TETRA TECH FIGURE 2: SAMPLE LOCATION MAP FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	1	DVD1	[MAP]	[]	[]	[]	[]
180854	06/05/2007	CORRESPONDENCE REGARDING THE ANNUAL RADIATION INVENTORY AT THE CROWN VANTAGE MILFORD MILL FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	3	DVD1	[LETTER]	[]	[]	[]	[]
119619	06/11/2007	POLLUTION REPORT NO. 1 INITIAL FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	4	DVD1	[REPORT]	[BLOCK, ARTHUR , PAVLOU, GEORGE , ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]	[COSENTINO, JOSEPH , DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]

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180853	07/23/2007	DRUM LOG SUMMARY, CONTAINER LOG SUMMARY, TANK SUMMARY AND DRUM SCREENING DATA FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	30	DVD1	[REPORT]	[]	[]	[]	[]
147142	08/22/2007	DRUM INVENTORY LOGS FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	467	DVD1	[LIST]	[]	[]	[]	[]
180886	08/27/2007	SITE PHOTOGRAPHS FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	9	DVD1	[PHOTOGRAPH]	[]	[]	[]	[]
180847	09/28/2007	FINAL SAMPLING TRIP REPORT - CONTRACT NO.: EP-S3-05-02 - TDD NO.: E13-014-07-07-021 - DOCUMENT TRACKING NO.: 0390 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	96	DVD1	[REPORT]	[MAGRIPLES , NICHOLAS]	[US ENVIRONMENTAL PROTECTION AGENCY]	[WENNING, STEPHANIE]	[TETRA TECH EM INC]
181034	11/19/2007	CORRESPONDENCE REGARDING THE EPA/CERCLIS/RCRA ID NUMBER FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	1	DVD1	[E MAIL MESSAGE]	[]	[]	[]	[]
237642	05/13/2008	REMOVAL SITE EVALUATION (RSE) FOR CURTIS SPECIALTY PAPERS, INCORPORATED SITE	20	DVD1	[REPORT]	[]	[]	[MAGRIPLES, NICK]	[US ENVIRONMENTAL PROTECTION AGENCY]
117205	06/20/2008	[TRANSMITTAL OF THE REMOVAL ADMINISTRATIVE RECORD INDEX AND DOCUMENTS FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE]	7	DVD1	[LETTER]	[LOCKE, JENNIFER]	[MILFORD PUBLIC LIBRARY]	[DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
180842	06/20/2008	REMOVAL ADMINISTRATIVE RECORD INDEX AND DOCUMENTS VOLUME 1 OF 3 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	573	DVD1	[AR INDEX]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
180843	06/20/2008	REMOVAL ADMINISTRATIVE RECORD INDEX AND DOCUMENTS VOLUME 2 OF 3 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	650	DVD1	[AR INDEX]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]

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DocID:	Doc Date:	Title:	Image Count:	DVD Location	Doc Type:	Addressee Name:	Addressee Organization:	Author Name:	Author Organization:
180844	06/20/2008	REMOVAL ADMINISTRATIVE RECORD INDEX AND DOCUMENTS VOLUME 3 OF 3 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	546	DVD1	[AR INDEX]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
180849	07/03/2008	NOTICE OF PUBLIC AVAILABILITY OF THE ADMINISTRATIVE RECORD FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	1	DVD1	[ARTICLE]	[]	[]	[]	[]
178103	07/30/2008	BOROUGH OF MILFORD MASTER PLAN REEXAMINATION REPORT FOR CURTIS SPECIALTY PAPERS, INC. SITE	46	DVD1	[REPORT]	[,]	[BOROUGH OF MILFORD]	[MOODY, MARY M]	[NONE]
157461	08/06/2008	US EPA GENERAL NOTICE LETTER SENT TO BRIAN HEIM FOR THE CURTIS SPECIALTY PAPERS, INC SITE	4	DVD1	[LETTER]	[HEIM, BRIAN]	[INTERNATIONAL PAPER CO]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
157462	08/06/2008	US EPA GENERAL NOTICE LETTER TO MELLONIE S. FLEMING FOR THE CURTIS SPECIALTY PAPERS, INC SITE	4	DVD1	[LETTER]	[FLEMING, MELLONIE S]	[GEORGIA-PACIFIC CONSUMER PRODUCTS LP]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
157463	08/06/2008	US EPA GENERAL NOTICE LETTER TO SAMUEL FRANKEL FOR THE CURTIS SPECIALTY PAPERS, INC SITE	4	DVD1	[LETTER]	[FRANKEL, SAMUEL]	[CURTIS SPECIALTY PAPERS]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
284541	09/03/2008	HAZARD RANKING SYSTEM DOCUMENTATION FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	2590	DVD1	[REPORT]	[]	[]	[]	[]
157465	09/30/2008	UNILATERAL ADMINISTRATIVE ORDER FOR REMOVAL RESPONSE ACTIVITIES FOR THE CURTIS SPECIALTY PAPERS, INC SITE	17	DVD1	[ORDER]	[GOODMAN, DAVID]	[PERRY VIDEX LLC]	[DIFORTE, NICOLETTA]	[US ENVIRONMENTAL PROTECTION AGENCY]
157466	09/30/2008	TRANSMITTAL OF A UNILATERAL ADMINISTRATIVE ORDER ISSUED TO CURTIS PAPERS, INC. FOR THE CURTIS SPECIALTY PAPERS, INC SITE	2	DVD1	[LETTER]	[STURTZ, CRAIG A]	[SQUIRE, SANDERS & DEMPSEY L.L.P.]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
178208	10/16/2008	NEWSPAPER ARTICLE - HUNTERDON DEMOCRAT: EPA: MILL BRIMS WITH TOXINS, CURTIS SPECIALTY PAPERS SITE	2	DVD1	[ARTICLE]	[]	[]	[MONTEITH, JOHN]	[HUNTERDON DEMOCRAT]

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280227	10/16/2008	PERRY VIDEX'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	363	DVD1	[LETTER]	[LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[ISRAEL, SAMUEL H]	[FOX ROTHSCHILD]
280220	10/20/2008	KPS SPECIAL SITUATIONS FUND LIMITED PARTNERSHIP AND KPS CAPITAL PARTNERS LIMITED PARTNERSHIP'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	163	DVD1	[LETTER]	[LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GWATHMEY, GAINES]	[PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP]
280221	10/29/2008	KPS SPECIAL SITUATIONS FUND LIMITED PARTNERSHIP AND KPS CAPITAL PARTNERS LIMITED PARTNERSHIP'S RESPONSE TO US EPA 104E REQUEST FOR ADDITIONAL INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	17	DVD1	[LETTER]	[LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GWATHMEY, GAINES]	[PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP]
157467	11/03/2008	NOTICE OF INTENT WITH RESPECT TO COMPLIANCE WITH THE UNILATERAL ADMINISTRATIVE ORDER FOR REMOVAL RESPONSE ACTIVITIES FOR THE CURTIS SPECIALTY PAPERS, INC SITE	7	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[STURTZ, CRAIG A]	[SQUIRE, SANDERS & DEMPSEY L.L.P.]
170052	11/18/2008	CORRESPONDENCE REGARDING NEGOTIATIONS FOR PERFORMANCE OF REMEDIAL INVESTIGATION / FEASIBILITY STUDY FOR THE CURTIS SPECIALTY PAPERS SITE	2	DVD1	[LETTER]	[KUBIAK, TIMOTHY]	[U.S. FISH AND WILDLIFE SERVICE]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
170053	11/18/2008	CORRESPONDENCE REGARDING NEGOTIATIONS FOR PERFORMANCE OF REMEDIAL INVESTIGATION / FEASIBILITY STUDY FOR THE CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[ROSMAN, LISA]	[NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
178105	12/15/2008	REQUEST FOR ACCESS TO PROPERTY OF CURTIS PAPERS, INC. FOR CURTIS SPECIALTY PAPERS, INC. SITE	3	DVD1	[LETTER]	[STURTZ, CRAIG A]	[SQUIRE, SANDERS & DEMPSEY L.L.P.]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]

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119622	12/19/2008	POLLUTION REPORT NO. 1 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	3	DVD1	[REPORT]	[BLOCK, ARTHUR , PAVLOU, GEORGE , ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]	[COSENTINO, JOSEPH , DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
120443	12/19/2008	POLLUTION REPORT NO. 9 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4	DVD1	[REPORT]	[BLOCK, ARTHUR , PAVLOU, GEORGE , ROTOLA, JOSEPH]	[AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, US ENVIRONMENTAL PROTECTION AGENCY]	[COSENTINO, JOSEPH , DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
280233	12/23/2008	US EPA 104E REQUESTS FOR INFORMATION SENT TO GOINDUSTRY USA INCORPORATED FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	13	DVD1	[LETTER]	[FOX, DAVID S]	[GOINDUSTRY USA INCORPORATED]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
280239	12/23/2008	US EPA 104E REQUESTS FOR INFORMATION SENT TO MILFORD POWER LIMITED PARTNERSHIP FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	13	DVD1	[LETTER]	[MITCHELL, JOHN E]	[TRAMMEL CROW CENTER]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
280242	12/23/2008	US EPA 104E REQUESTS FOR INFORMATION SENT TO PERRY VIDEX LLC FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	14	DVD1	[LETTER]	[GOODMAN, DAVID]	[PERRY VIDEX LLC]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
280245	12/23/2008	US EPA 104E REQUESTS FOR INFORMATION SENT TO VARIOUS PRPS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	14	DVD1	[LETTER]	[,]	[ADDRESSEES]	[BASSO, RAYMOND]	[US ENVIRONMENTAL PROTECTION AGENCY]
280223	01/08/2009	CORRESPONDENCE REGARDING GOINDUSTRY USA INCORPORATED'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SHEAHAN, BRIAN M]	[GEBHARDT & SMITH LLP]
280228	01/09/2009	KPS SPECIAL SITUATIONS FUND LIMITED PARTNERSHIP'S RESPONSE TO US EPA 104E REQUESTS FOR ADDITIONAL INFORMATION PART I FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	901	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GWATHMEY, GAINES]	[PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP]

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280229	01/09/2009	KPS SPECIAL SITUATIONS FUND LIMITED PARTNERSHIP'S RESPONSE TO US EPA 104E REQUESTS FOR ADDITIONAL INFORMATION PART II FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1005	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GWATHMEY, GAINES]	[PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP]
280230	01/09/2009	KPS SPECIAL SITUATIONS FUND LIMITED PARTNERSHIP'S RESPONSE TO US EPA 104E REQUESTS FOR ADDITIONAL INFORMATION PART III FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1837	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GWATHMEY, GAINES]	[PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP]
280248	01/14/2009	RIG ALL INCORPORATED'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	8	DVD1	[LETTER]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[WILLIAMS, PATRICIA]	[RIG ALL INCORPORATED]
280243	01/19/2009	PERRY VIDEC LLC'S FOLLOW-UP RESPONSE TO US EPA 104E REQUESTS FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	13	DVD1	[LETTER]	[LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[ISRAEL, SAMUEL H]	[FOX ROTHSCHILD]
280222	02/04/2009	KPS SPECIAL SITUATIONS FUND LP AND KPS CAPITAL PARTNERS LP'S RESPONSE TO US EPA 104E REQUEST FOR DOCUMENTATION RELATING TO ACTIVITIES TAKEN AT THE MILFORD NEW JERSEY FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	306	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GWATHMEY, GAINES]	[PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP]
280224	02/13/2009	GOINDUSTRY USA INCORPORATED'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2286	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SKLAR, JAMES]	[GOINDUSTRY DOVEBID]

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280244	02/23/2009	PIONEER MAINTENANCE AND ERECTORS INCORPORATED'S ATTACHMENT B OF THE RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	49	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MARLEY, CAROLYN L]	[PIONEER MAINTENANCE & ELECTORS INCORPORATED]
280234	02/24/2009	GOINDUSTRY USA INCORPORATED' INFORMATION REGARDING SOLD AND UNSOLD ASSETS AT THE AUCTION WITH THE BIDDERS IDENTIFIED BY NUMBERS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	95	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SKLAR, JAMES]	[GOINDUSTRY DOVEBID]
280225	03/05/2009	PURENERGY I LLC'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	17	DVD1	[LETTER]	[FLANAGAN, SARAH P, LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SADAT, ELLEN RADOW]	[DRINKERBIDDLE & SHANLEY]
280226	03/05/2009	MILFORD POWER LIMITED PARTNERSHIP'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	316	DVD1	[LETTER]	[FLANAGAN, SARAH P, LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SADAT, ELLEN RADOW]	[DRINKERBIDDLE & SHANLEY]
280247	03/09/2009	OVERALL OVERHAUL'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]
157464	03/12/2009	US EPA GENERAL NOTICE LETTER TO DAVID GOODMAN FOR THE CURTIS SPECIALTY PAPERS, INC SITE	7	DVD1	[LETTER]	[GOODMAN, DAVID]	[PERRY VIDEX LLC]	[DIFORTE, NICOLETTA]	[US ENVIRONMENTAL PROTECTION AGENCY]

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104307	06/04/2009	ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY, U.S. EPA Region 2 CERCLA Docket No. 02-2009-2017, Proceeding Under Sections 104, 107 and 122 of the Comprehensive Environmental Response...	84	DVD1	[AGREEMENT]	[]	[]	[]	[]
119620	06/10/2009	POLLUTION REPORT NO. 2 AND FINAL FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	3	DVD1	[REPORT]	[BLOCK, ARTHUR , PAVLOU, GEORGE , ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
178210	07/02/2009	NEWSPAPER ARTICLE - HUNTERDON COUNTY RECORD: PAPER COMPANIES BUY MILFORD MILL, CURTIS SPECIALTY PAPERS SITE	1	DVD1	[ARTICLE]	[]	[]	[MONTEITH, JOHN]	[HUNTERDON DEMOCRAT]
178109	07/11/2009	US EPA APPROVAL OF THE FINAL REPORT SUBMITTED BY CURTIS PAPERS INCORPORATED AND NOTICE OF COMPLETION PURSUANT TO UNILATERAL ADMINISTRATIVE ORDER - CERCLA DOCKET NO. 02-2008-2023 FOR CURTIS SPECIALTY PAPERS INCORPORATED SITE	1	DVD1	[NOTICE]	[FRANKEL, SAMUEL]	[CURTIS SPECIALTY PAPERS]	[DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
119621	09/01/2009	POLLUTION REPORT NO. 2 AND FINAL FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	3	DVD1	[REPORT]	[BLOCK, ARTHUR , MUGDAN, WALTER E, ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
177352	09/17/2009	PRESENTATION MATERIALS OF NATIONAL PRIORITY LISTING DISCUSSION FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	22	DVD1	[OUTLINE]	[,]	[GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]	[,]	[LATHAM & WATKINS]
178211	09/23/2009	NEWS RELEASE FROM REGION 2: EPA ADDS CURTIS PAPER SITE TO THE SUPERFUND LIST OF HAZARDOUS WASTE SITES, CURTIS SPECIALTY PAPERS SITE	2	DVD1	[ARTICLE]	[]	[]	[TOTMAN, ELIZABETH]	[US ENVIRONMENTAL PROTECTION AGENCY]
146040	09/25/2009	PRELIMINARY CONCEPTUAL SITE MODEL FOR THE CURTIS SPECIALTY PAPERS SITE	174	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[INTERNATIONAL PAPER]

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117183	10/01/2009	EARLY RESPONSE ACTION REPORT FOR OIL CONTAINING ELECTRICAL EQUIPMENT REMOVAL FOR THE CURTIS SPECIALTY PAPERS SITE	58	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER, TRC]
263136	11/01/2009	PRE-REMEDIAL INVESTIGATION / FEASIBILITY STUDY BUILDING SURVEY REPORT VOLUME 1 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	207	DVD1	[REPORT]	[]	[]	[]	[]
263137	11/01/2009	PRE-REMEDIAL INVESTIGATION / FEASIBILITY STUDY BUILDING SURVEY REPORT VOLUME 2 FOR THE CURTIS SPECIALTY PAPERS, INCORPORATED SITE	928	DVD1	[REPORT]	[]	[]	[]	[]
152431	11/18/2009	PRE-REMEDIAL INVESTIGATION / FEASIBILITY STUDY BUILDING SURVEY REPORT - VOLUME 1 AND 2 OF 2 FOR CURTIS SPECIALTY PAPERS SITE	1135	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[INTERNATIONAL PAPER COMPANY]
152432	11/18/2009	PRE-REMEDIAL INVESTIGATION / FEASIBILITY STUDY REPORT FOR THE CURTIS SPECIALTY PAPERS SITE	55	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]
298133	01/07/2010	CORRESPONDENCE REGARDING REQUEST TO DEMOLISH GARAGE STRUCTURES ON THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	3	DVD1	[LETTER]	[REIF, DAVID]	[NEW JERSEY CODE ENFORCEMENT OFFICE]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]
177355	01/25/2010	AGENDA OF COMMUNITY ADVISORY GROUP MEETING ON JANUARY 25, 2010 FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	9	DVD1	[AGENDA]	[]	[]	[]	[]
117018	01/27/2010	FINAL PUBLIC HEALTH ASSESSMENT FOR THE CURTIS SPECIALTY PAPERS SITES	69	DVD1	[CHART / TABLE, MAP, PHOTOGRAPH, REPORT]	[]	[]	[,]	[NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICES]
146033	03/01/2010	COMMUNITY INVOLVEMENT PLAN FOR THE CURTIS SPECIALTY PAPERS SITE AND CROWN VANTAGE LANDFILL SITE	16	DVD1	[REPORT]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]

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170075	03/18/2010	CORRESPONDENCE REGARDING NOTIFICATION THAT POTENTIAL INJURIES TO NATURAL RESOURCES MAY RESULT FROM RELEASES UNDER INVESTIGATION AT THE CURTIS SPECIALTY PAPERS SITE	6	DVD1	[LETTER]	[RADDANT, ANDREW L]	[US DEPARTMENT OF THE INTERIOR]	[ENCK, JUDITH A]	[US ENVIRONMENTAL PROTECTION AGENCY]
170080	04/19/2010	CORRESPONDENCE REGARDING POTENTIAL NATURAL RESOURCE INJURIES AT THE CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[FILIPPELLI, JOHN]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SACCO , JOHN]	[NJ DEP-OFFICE OF NATURAL RESORCE RESTORATION]
177356	04/26/2010	AGENDA OF COMMUNITY ADVISORY GROUP MEETING ON APRIL 26, 2010 FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	1	DVD1	[AGENDA]	[]	[]	[]	[]
117107	06/01/2010	REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	66	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
236661	06/14/2010	TRANSMITTAL OF HISTORICAL PHOTOGRAPHS DATES RANGE FROM 03/19/1938 - 03/30/2007 FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	4	DVD1	[LETTER]	[JOHNSON, KIMBERLY , LIN, JOHN]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
236662	06/14/2010	HISTORICAL PHOTOGRAPHS DATES RANGE FROM 03/19/1938 - 03/30/2007 FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	20	DVD1	[PHOTOGRAPH]	[JOHNSON, KIMBERLY , LIN, JOHN]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
236663	06/17/2010	TRANSMITTAL OF HISTORICAL PHOTOGRAPHS DATES RANGE FROM 11/14/1939 - 04/26/2005 FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	3	DVD1	[LETTER]	[JOHNSON, KIMBERLY , LIN, JOHN]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
236664	06/17/2010	HISTORICAL PHOTOGRAPHS DATES RANGE FROM 11/14/1939 - 04/26/2005 FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	30	DVD1	[PHOTOGRAPH]	[JOHNSON, KIMBERLY , LIN, JOHN]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]

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177358	06/21/2010	AGENDA OF COMMUNITY ADVISORY GROUP MEETING ON JUNE 21, 2010 FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	2	DVD1	[AGENDA]	[]	[]	[]	[]
117034	06/25/2010	LETTER CONCERNING FUTURE USES FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[]	[]	[YORK, EDWIN G]	[ALEXANDRIA TOWNSHIP]
178212	06/30/2010	CORRESPONDENCE REGARDING BLOCK 17.01, LOT 1.01 PRESERVED AS OPEN SPACE, CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[FUERSTENBERGER, HARRY]	[ALEXANDRIA TOWNSHIP]
178214	07/13/2010	CORRESPONDENCE REGARDING 404 FRENCHTOWN ROAD ZONED FOR INDUSTRIAL USE WITH NO PLANS FOR REZONING, CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]
117033	07/20/2010	LETTER REGARDING PUBLIC INPUT ON JULY 2010 DRAFT REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[,]	[INTERESTED PARTIES]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]
178215	07/22/2010	CORRESPONDENCE REGARDING STARTING A COMMUNITY NEWSPAPER CALLED THE RIVER VALLEY VOICE, CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[]	[]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
152428	07/23/2010	FRESHWATER WETLANDS GENERAL PERMITS NO. 12 EQUIVALENCY APPLICATION PACKAGE - REMEDIAL INVESTIGATION ACTIVITIES FOR CURTIS SPECIALTY PAPERS SITE	173	DVD1	[REPORT]	[CONTOIS, DENIS , HESS, ALISON]	[NJ DEP, US ENVIRONMENTAL PROTECTION AGENCY]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
117032	08/11/2010	E MAIL MESSAGE REGARDING PUBLIC INPUT ON JULY 2010 DRAFT REUSE ASSESSMENT FOR CURTIS SPECIALTY PAPERS SITE	2	DVD1	[E MAIL MESSAGE]	[FLANAGAN, SARAH P, HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SEPPI, PAT]	[US ENVIRONMENTAL PROTECTION AGENCY]
177360	08/16/2010	SOIL EROSION AND SEDIMENT CONTROL PLAN EQUIVALENCY APPLICATION FOR CERTIFICATION - AERATION BASIN DEMOLITION FOR THE CURTIS SPECIALTY PAPERS, INC. SITE	232	DVD1	[PLAN]	[,]	[GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]	[,]	[ARCADIS]

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152434	08/26/2010	PHASE 1A CULTURAL RESOURCES INVESTIGATION REPORT FOR THE CURTIS SPECIALTY PAPERS SITE	110	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]
178182	08/26/2010	CORRESPONDENCE REGARDING AERATION BASIN DEMOLITION ACTIVITIES PERMIT APPLICATION EQUIVALENCY PACKAGES FOR THE CURTIS SPECIALTY PAPERS SITE	3	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
117181	08/27/2010	TECHNICAL MEMORANDUM ON EXPOSURE SCENARIOS AND ASSUMPTIONS FOR CURTIS SPECIALTY PAPERS SITE	171	DVD1	[MEMORANDUM]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
117036	09/01/2010	LETTER REGARDING REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[CASTANGA, LINDA , CASTANGA, ROBERT M]	[CHESNUT HILL ON THE DELAWARE]
117040	09/08/2010	EMAIL FORWARDING THE LETTER REGARDING THE IMPORTANCE OF PRESERVATION OF NATURAL ENVIRONMENT (PUBLIC INPUT ON REUSE ASSESSMENT REPORT) FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[E MAIL MESSAGE, LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[YOUNG, KATHLEEN C, ZUMMERMAN, LILLY]	[NONE, RESIDENT OF MILFORD]
117042	09/10/2010	CORRESPONDENCE REGARDING THE REUSE ASSESSMENT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DRUSTRUP, MICK , HOFFMAN, CAROL]	[LOWER DELAWARE RIVER WILD AND SCENIC MANAGEMENT COMMITTEE]
178220	09/11/2010	TRANSMITTAL OF THE AERIAL PHOTOGRAPHIC ANALYSIS FOR THE CURTIS SPECIALTY PAPERS SITE	6	DVD1	[LETTER]	[JOHNSON, KIMBERLY , LIN, JOHN]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
178221	09/11/2010	AERIAL PHOTOGRAPHIC ANALYSIS FOR THE CURTIS SPECIALTY PAPERS SITE	40	DVD1	[REPORT]	[]	[]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
117031	09/29/2010	E MAIL MESSAGE REGARDING THE PLANNED LAND USE (PUBLIC INPUT ON REUSE ASSESSMENT REPORT) FOR CURTIS SPECIALTY PAPERS SITE	3	DVD1	[E MAIL MESSAGE]	[LIETO, VINCENT]	[NONE]	[ZACHOS, GEORGE]	[US ENVIRONMENTAL PROTECTION AGENCY]

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152424	09/29/2010	FLOOD HAZARD AREA INDIVIDUAL PERMIT AND FRESHWATER WETLANDS GENERAL PERMIT NO. 11 EQUIVALENCY APPLICATION PACKAGE - AERATION BASIN DEWATERING FOR CURTIS SPECIALTY PAPERS SITE	186	DVD1	[REPORT]	[CONTOIS, DENIS]	[NJ DEP]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
152426	09/29/2010	TRANSMITTAL OF AERATION BASIN DEWATERING ACTIVITIES PERMIT APPLICATION EQUIVALENCY PACKAGES FOR CURTIS SPECIALTY PAPERS SITE	2	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
165298	09/29/2010	REVISED DISCHARGE TO SURFACE WATER PERMITTING EQUIVALENCY, FORMER AERATION BASIN DEMOLITION ACTIVITIES FOR CURTIS SPECIALTY PAPERS SITE	2645	DVD1	[REPORT]	[,]	[NJ DEPT OF ENVIRONMENTAL PROTECTION]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
178019	09/29/2010	CORRESPONDENCE REGARDING PERMIT EQUIVALENCIES FOR AERATION BASIN DEWATERING FOR CURTIS SPECIALTY PAPERS, INC. SITE	2	DVD1	[E MAIL MESSAGE]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[ROMAINE, KATHLEEN]	[ARCADIS]
178186	09/29/2010	CORRESPONDENCE REGARDING AERATION BASIN DEWATERING ACTIVITIES PERMIT APPLICATION EQUIVALENCY PACKAGES FOR THE CURTIS SPECIALTY PAPERS SITE	2	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
117122	09/30/2010	E MAIL MESSAGE REGARDING PUBLIC COMMENTS ON REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[E MAIL MESSAGE]	[HESS, ALISON , SEPPI, PAT]	[US ENVIRONMENTAL PROTECTION AGENCY]	[HORSTMANN, LELAND]	[]
117123	09/30/2010	E MAIL MESSAGE REGARDING PUBLIC COMMENTS ON REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	2	DVD1	[E MAIL MESSAGE]	[HESS, ALISON , HORSTMANN, LELAND , SEPPI, PAT]	[US ENVIRONMENTAL PROTECTION AGENCY]	[MCNUTT, RICHARD H]	[TIDEWATERS GATEWAY PARTNERSHIP INCORPORATED]
152436	09/30/2010	PHASE 1B CULTURAL RESOURCES INVESTIGATION REPORT- AERATION BASIN AREA ARCHEOLOGICAL TESTING FOR THE CURTIS SPECIALTY PAPERS SITE	40	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]

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117030	10/01/2010	E MAIL MESSAGE REGARDING PUBLIC COMMENTS ON REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	2	DVD1	[E MAIL MESSAGE]	[HESS, ALISON , SEPPI, PAT]	[US ENVIRONMENTAL PROTECTION AGENCY]	[CROWN, LORRAINE]	[NONE]
117127	10/01/2010	COMMUNITY NOTIFICATION: AERATION BASIN TO BE CLOSED FOR THE CURTIS SPECIALTY PAPERS SITES	1	DVD1	[FACTSHEET]	[,]	[NONE]	[,]	[GEORGIA PACIFIC , INTERNATIONAL PAPER, US ENVIRONMENTAL PROTECTION AGENCY]
117028	10/06/2010	E MAIL MESSAGE REGARDING PUBLIC COMMENTS ON REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	7	DVD1	[E MAIL MESSAGE]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]
117029	10/06/2010	E MAIL MESSAGE REGARDING PUBLIC COMMENTS ON REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	7	DVD1	[E MAIL MESSAGE]	[, , HESS, ALISON]	[ADDRESSEES, US ENVIRONMENTAL PROTECTION AGENCY]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]
117027	10/07/2010	E MAIL MESSAGE REGARDING PUBLIC COMMENTS ON REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	5	DVD1	[E MAIL MESSAGE]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]
157468	10/27/2010	PROPOSALS FOR HANDLING THE DEMOLITION ACTIVITIES FOR THE CURTIS SPECIALTY PAPERS, INC SITE	2	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GENGEL, GARY]	[LATHAM & WATKINS]
178181	10/27/2010	CORRESPONDENCE REGARDING RESULTS OF NATURAL RESOURCE TRUSTEE NOTIFICATION FOR THE CURTIS SPECIALTY PAPERS SITE	3	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[FERREIRA, STEVEN J]	[US ENVIRONMENTAL PROTECTION AGENCY]
152439	10/29/2010	TRANSMITTAL OF THE PHASE 1B CULTURAL RESOURCES INVESTIGATION REPORT- NORTHERN PARCEL ARCHEOLOGICAL TESTING FOR THE CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
152440	10/29/2010	PHASE 1B CULTURAL RESOURCES INVESTIGATION REPORT- NORTHERN PARCEL ARCHEOLOGICAL TESTING FOR THE CURTIS SPECIALTY PAPERS SITE	29	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]

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157469	11/02/2010	TRANSMITTAL OF THE AMENDMENT INCORPORATING PRE-DEMOLITION WORK INTO ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER OF CONSENT FOR THE CURTIS SPECIALTY PAPERS, INC SITE	1	DVD1	[LETTER]	[GENGEL, GARY]	[LATHAM & WATKINS]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
157470	11/08/2010	ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR REMEDIAL INVESTIGATION / FEASIBILITY STUDY - AMENDMENT NO. 1 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	34	DVD1	[ORDER]	[]	[]	[MUGDAN, WALTER E]	[US ENVIRONMENTAL PROTECTION AGENCY]
157471	11/08/2010	TRANSMITTAL OF FULLY EXECUTED AMENDMENT INCORPORATING THE PRE-DEMOLITION ACTIVITIES AT THE CURTIS SPECIALTY PAPERS SITE INTO ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR THE CURTIS SPECIALTY PAPERS, INC SITE	1	DVD1	[LETTER]	[GENGEL, GARY]	[LATHAM & WATKINS]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
152438	11/19/2010	PHASE 1B CULTURAL RESOURCES INVESTIGATION REPORT- FORMER BRICK RESIDENCE ARCHITECTURAL EVALUATION AND ARCHEOLOGICAL TESTING FOR THE CURTIS SPECIALTY PAPERS SITE	38	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]
152442	11/19/2010	PRESERVATION PLAN - AERATION BASIN AREA FOR THE CURTIS SPECIALTY PAPERS SITE	15	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]
178216	12/02/2010	CORRESPONDENCE REGARDING THE IMPACT OF DEMOLITION AND THE PRESERVATION OF LOCAL HISTORICAL RESOURCES, CURTIS SPECIALTY PAPERS SITE	2	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[HUZAR, ANDREW P]	[MILFORD BOROUGH HISTORICAL SOCIETY]

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178217	12/16/2010	NEWSPAPER ARTICLE - HUNTERDON COUNTY DEMOCRAT: MILFORD SUPERFUND LIGHTS ANNOY PENNSYLVANIA MAN, CURTIS SPECIALTY PAPERS SITE	1	DVD1	[ARTICLE]	[]	[]	[FASANELLO, TERESA]	[HUNTERDON DEMOCRAT]
117021	01/01/2011	BUILDING CHARACTERIZATION SAMPLING REPORT FOR CURTIS SPECIALTY PAPERS SITE	12146	DVD1	[CHART / TABLE, MAP, REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
178218	01/27/2011	NEWSPAPER ARTICLE - HUNTERDON COUNTY DEMOCRAT: MILFORD RECALLS RIEGEL PAPER, OPERA HOUSE IN ORAL HISTORY, CURTIS SPECIALTY PAPERS SITE	1	DVD1	[ARTICLE]	[]	[]	[FASANELLO, TERESA]	[HUNTERDON DEMOCRAT]
178219	01/30/2011	NEWSPAPER ARTICLE - THE EXPRESS TIMES: FUTURE MURKY FOR MILL SITE, CURTIS SPECIALTY PAPERS SITE	2	DVD1	[ARTICLE]	[]	[]	[MACK, WEBSTER]	[LOCKHEED MARTIN TECHNOLOGY SERVICES]
117011	02/01/2011	REVISED REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	66	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
117026	02/03/2011	FAX TRANSMITTING CORRECTIONS FOR REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	2	DVD1	[FAX, LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[OFFICE OF BOROUGH OF MILFORD]
117092	02/04/2011	EPA COMMENTS ON TECHNICAL MEMORANDUMON EXPOSURE SCENARIOS AND ASSUMPTIONS (AUGUST 2010), CURTIS SPECIALTY PAPERS SITE	2	DVD1	[LETTER]	[MASSENGILL, DAVID G, SCHUMER, ROGER]	[GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]
117017	03/11/2011	MEMORANDUM TRANSMITTING PUBLIC HEALTH ASSESSMENT FOR THE CURTIS SPECIALTY PAPERS SITE	1	DVD1	[MEMORANDUM]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[GRAZIANO, LEAH]	[DEPARTMENT OF HEALTH AND HUMAN SERVICES]
117041	03/16/2011	LETTER SUBMITTING THE FEBRUARY 2011 REUSE ASSESSMENT REPORT FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[FUERSTENBERGER, HARRY , GALLOS, JAMES , LOCKE, JENNIFER]	[ALEXANDRIA TOWNSHIP, BOROUGH OF MILFORD, MILFORD PUBLIC LIBRARY]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]

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117086	03/24/2011	LETTER REGARDING MEMORANDUM OF EXPOSURE SCENARIOS AND ASSUMPTIONS AND REASONABLY ANTICIPATED FUTURE LAND USE, CURTIS SPECIALTY PAPERS SITE	2	DVD1	[LETTER]	[MASSENGILL, DAVID G, SCHUMER, ROGER]	[GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER]	[CARPENTER, ANGELA]	[US ENVIRONMENTAL PROTECTION AGENCY]
319334	03/30/2011	CORRESPONDENCE REGARDING IMPACT OF ANTICIPATED FUTURE LAND USE ON RISK ASSESSMENT AND UPCOMING MESA AND PAR DELIVERABLES FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[FARER, DAVID B]	[FARER FERSKO]
117085	03/31/2011	RESPONSE TO EPA MARCH 24, 2011 LETTER ON THE TECHNICAL MEMORANDUM ON EXPOSURE SCENARIOS AND ASSUMPTIONS AND REASONABLY ANTICIPATED FUTURE LAND USE, CURTIS SPECIALTY PAPERS SITE	9	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SCHUMER, ROGER]	[INTERNATIONAL PAPER]
117128	05/01/2011	COMMUNITY NOTIFICATION: MATERIAL REMOVAL WORK TO BEGIN FOR THE CURTIS SPECIALTY PAPERS SITES	1	DVD1	[FACTSHEET]	[,]	[NONE]	[,]	[GEORGIA PACIFIC , INTERNATIONAL PAPER, US ENVIRONMENTAL PROTECTION AGENCY]
117054	05/10/2011	LETTER SUBMITTING COMMENTS ON PHASE IA AND IB CULTURAL RESOURCES INVESTIGATION WORK PLANS AND REPORTS FOR CURTIS SPECIALTY PAPERS SITE	5	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SAUNDERS, DANIEL]	[NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION]
117039	05/25/2011	LETTER REGARDING THE EFFECTS OF PROPOSED REMOVAL AND REMEDIAL ACTIONS ON PROPERTIES LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES FOR CURTIS SPECIALTY PAPERS SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[WALLACE, RAYMOND V]	[OFFICE OF FEDERAL AGENCY PROGRAMS]
117015	07/01/2011	REVISED SITE CHARACTERIZATION SUMMARY REPORT FOR THE CURTIS SPECIALTY PAPERS SITE	1012	DVD1	[CHART / TABLE, FORM, LETTER, MAP, REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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280235	08/10/2011	FOLLOW-UP ON GOINDUSTRY USA INCORPORATED' INFORMATION REGARDING SOLD AND UNSOLD ASSETS AT THE AUCTION WITH THE BIDDERS IDENTIFIED BY NUMBERS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4	DVD1	[LETTER]	[SKLAR, JAMES]	[GOINDUSTRY DOVEBID]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
280236	08/16/2011	US EPA 104E REQUESTS FOR INFORMATION FOLLOW-UP SENT TO GOINDUSTRY USA INCORPORATED FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[LETTER]	[SKLAR, JAMES]	[GOINDUSTRY DOVEBID]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]
280237	08/17/2011	LIST OF IDENTITY AND CONTACT INFORMATION OF THE REQUESTED BUYERS IN RESPONSE TO THE US EPA 104E REQUESTS FOR INFORMATION FOLLOW-UP SENT TO GOINDUSTRY USA INCORPORATED FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	8	DVD1	[LETTER]	[FLANAGAN, SARAH P]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SKLAR, JAMES]	[GOINDUSTRY DOVEBID]
117012	08/31/2011	REVISED TECHNICAL MEMORANDUM ON CANDIDATE TECHNOLOGIES FOR CURTIS SPECIALTY PAPERS SITE	43	DVD1	[MEMORANDUM]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
178191	09/26/2011	COMMUNITY ADVISORY GROUP MEETING AGENDA FOR 09/26/2011 FOR THE CROWN VANTAGE LANDFILL SITE AND THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1	DVD1	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
295927	09/30/2011	POLLUTION REPORT NO. 1 INITIAL FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6	DVD1	[REPORT]	[ENCK, JUDITH A, PLEVIN, LISA , ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]

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206578	10/01/2011	PHASE IB CULTURAL RESOURCES INVESTIGATION REPORT - BUILDING AND ACCESSORY STRUCTURE EVALUATION ARCHAEOLOGICAL TESTING FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	72	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[INTERNATIONAL PAPER COMPANY]
157474	10/05/2011	REQUEST FOR RESPONSE FOR REIMBURSEMENT OF COSTS TO PERRY VIDEX LLC FOR THE CURTIS SPECIALTY PAPERS, INC SITE	9	DVD1	[LETTER]	[GOODMAN, DAVID]	[PERRY VIDEX LLC]	[DIFORTE, NICOLETTA]	[US ENVIRONMENTAL PROTECTION AGENCY]
280231	10/18/2011	US EPA 104E REQUESTS FOR INFORMATION SENT TO DAVE SUGAR EXCAVATING INCORPORATED FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	13	DVD1	[LETTER]	[SUGAR, DAVE]	[DAVE SUGAR EXCAVATING INCORPORATED]	[MUGDAN, WALTER E]	[US ENVIRONMENTAL PROTECTION AGENCY]
280232	12/15/2011	DAVE SUGAR EXCAVATING LLC'S RESPONSE TO US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	235	DVD1	[LETTER]	[LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[HUNT, NATHAN]	[THOMPSON HINE]
318372	01/01/2012	REVISED SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT (MARCH 2011, REVISED JUNE 2011, REVISED SEPTEMBER 2011, REVISED JANUARY 2012) FOR THE CURTIS SPECIALTY PAPER INCORPORATION SITE	817	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[INTERNATIONAL PAPER]
117125	02/01/2012	COMMUNITY NOTIFICATION: DISMANTLING WORK IN COATINGS FACILITY AREA FOR THE CURTIS SPECIALTY PAPERS SITES	1	DVD1	[FACTSHEET]	[,]	[NONE]	[,]	[GEORGIA PACIFIC , INTERNATIONAL PAPER]

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336162	03/29/2012	MEMORANDUM OF AGREEMENT BETWEEN US EPA AND NJ STATE HISTORIC PRESERVATION OFFICE WITH CONCURRENCES SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	16	DVD1	[AGREEMENT]	[]	[]	[ARMSTRONG, JANICE E, HOFFMANN, CAROL S, MONTNEY, PAUL A, MUGDAN, WALTER , SAUNDERS, DANIEL D, SCHUMER, ROGER]	[ALEXANDRIA TOWNSHIP HISTORICAL SOCIETY, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER, MILFORD BOROUGH HISTORICAL SOCIETY, NEW JERSEY STATE HISTORIC PRESERVATION OFFICE, US ENVIRONMENTAL PROTECTION AGENCY]
206574	04/01/2012	AERATION BASIN DEMOLITION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	1306	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[INTERNATIONAL PAPER CO]
236676	05/14/2012	AGENDA OF COMMUNITY ADVISORY GROUP MEETING ON 05/14/2012 FOR THE CURTIS SPECIALTY PAPER INCORPORATION SITE	2	DVD1	[AGENDA]	[]	[]	[]	[]
117126	07/01/2012	COMMUNITY NOTIFICATION: SOIL SAMPLING TO TAKE PLACE THE FOR CURTIS SPECIALTY PAPERS SITES	1	DVD1	[FACTSHEET]	[,]	[NONE]	[,]	[GEORGIA PACIFIC , INTERNATIONAL PAPER, US ENVIRONMENTAL PROTECTION AGENCY]
236683	07/18/2012	TRANSMITTAL OF CERTIFIED COPY OF RESOLUTION NO. RE2012-090 FOR THE BOROUGH OF MILFORD FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	1	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DYSART, KAREN]	[MUNICIPAL CLERK]
236684	07/18/2012	BOROUGH OF MILFORD RESOLUTION NO. RE2012-090 FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	2	DVD1	[OTHER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DYSART, KAREN]	[MUNICIPAL CLERK]

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318377	09/17/2012	COMMUNITY ADVISORY GROUP MEETING AGENDA FOR 09/17/2012 FOR THE CROWN VANTAGE LANDFILL SITE AND CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
319332	11/08/2012	SUPPLEMENTAL BUILDING CHARACTERIZATION SAMPLING REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	11818	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
236691	01/28/2013	COMMUNITY ADVISORY GROUP MEETING AGENDA FOR 01/28/2013 FOR THE CROWN VANTAGE LANDFILL SITE AND CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
236699	03/11/2013	CERTIFIED COPY OF RESOLUTION NO. RE2012-090 BOROUGH OF MILFORD APPROVED IN JULY OF 2012 FOR THE BOROUGH OF MILFORD FOR THE CURTIS SPECIALTY PAPERS INCORPORATION SITE	4	DVD1	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DYSART, KAREN]	[MUNICIPAL CLERK]
280241	03/13/2013	US EPA'S SECOND 104E REQUESTS FOR INFORMATION SENT TO MILFORD POWER LIMITED PARTNERSHIP FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	11	DVD1	[LETTER]	[SADAT, ELLEN RADOW]	[DRINKERBIDDLE & SHANLEY]	[DIFORTE, NICOLETTA]	[US ENVIRONMENTAL PROTECTION AGENCY]
284702	05/01/2013	REVISED BASELINE HUMAN HEALTH RISK ASSESSMENT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1667	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]

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280240	05/17/2013	MILFORD POWER LIMITED PARTNERSHIP'S RESPONSE TO SECOND US EPA 104E REQUEST FOR INFORMATION FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	30	DVD1	[LETTER]	[FLANAGAN, SARAH P, LOPEZ, IRMGARD]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SADAT, ELLEN RADOW]	[DRINKERBIDDLE & SHANLEY]
284704	08/01/2013	REVISED BASELINE ECOLOGICAL RISK ASSESSMENT REPORT (JULY 2013, REVISED AUGUST 2013) FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	267	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
284735	08/01/2013	COMMUNITY NOTIFICATION: WORK IN COAL PILE AND AERATION BASIN AREA FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1	DVD1	[FACTSHEET]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284738	08/05/2013	LETTER ON BEHALF OF THE BOROUGH OF MILFORD'S COMMUNITY FOR APPRECIATION ON THE REMEDIATION EFFORTS AND THE MONTHLY STATUS REPORT PROVIDED BY ARCADIS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[LETTER]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]
284741	08/13/2013	APPROVAL OF THE HISTORIC INDUSTRIAL AND ARCHITECTURAL DOCUMENTATION RECORDATION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1	DVD1	[LETTER]	[JONES, BRIAN E, MONTNEY, PAUL]	[GEORGIA PACIFIC , INTERNATIONAL PAPER]	[SAUNDERS, DANIEL]	[NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION]
284742	08/19/2013	RESPONSE TO THE LETTER ON BEHALF OF THE BOROUGH OF MILFORD'S COMMUNITY DATED 08/05/2013 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[LETTER]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
268379	09/19/2013	HISTORIC INDUSTRIAL AND ARCHITECTURAL DOCUMENTATION OF FORMER CURTIS SPECIALTY PAPERS INCORPORATED SITE	547	DVD1	[REPORT]	[,]	[ARCADIS U.S. INCORPORATED, INTERNATIONAL PAPER COMPANY]	[RABER, MICHAEL]	[RABER ASSOCIATES]

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284748	09/23/2013	COMMUNITY ADVISORY GROUP MEETING - AGENDA OF 09/23/2013 MEETING FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD1	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
284706	10/01/2013	REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	37	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
284707	10/01/2013	APPENDICES A - C OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1557	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
284708	10/01/2013	APPENDIX D OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5146	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
284709	10/01/2013	APPENDIX E - J OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6148	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255660	10/01/2013	APPENDICES K1 AND K2 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	16	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255661	10/01/2013	APPENDIX K3 (FIRST HALF) OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4888	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255662	10/01/2013	APPENDIX K3 (SECOND HALF) OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5177	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]

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255663	10/01/2013	APPENDIX L OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5198	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255664	10/01/2013	APPENDICES M-N OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1800	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255665	10/01/2013	APPENDIX O OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	3617	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255666	10/01/2013	APPENDICES P - R OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5883	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255667	10/01/2013	APPENDICES S1 AND S2 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	214	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255668	10/01/2013	APPENDIX S3 PART 1 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7840	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255669	10/01/2013	APPENDIX S3 PART 2 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7643	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]

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255670	10/01/2013	APPENDIX S3 PART 3 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7316	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255671	10/01/2013	APPENDIX S3 PART 4 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7824	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255672	10/01/2013	APPENDIX S3 PART 5 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5752	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255673	10/01/2013	APPENDIX S3 PART 6 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7706	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255674	10/01/2013	APPENDIX S3 PART 7 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5709	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255675	10/01/2013	APPENDIX S3 PART 8 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5598	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255676	10/01/2013	APPENDIX S3 PART 9 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4285	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]

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255677	10/01/2013	APPENDIX S3 PART 10 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5252	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255678	10/01/2013	APPENDIX S3 PART 11 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5502	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255679	10/01/2013	APPENDIX S3 PART 12 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5532	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255680	10/01/2013	APPENDIX S3 PART 13 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6248	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255681	10/01/2013	APPENDIX S3 PART 14 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5676	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255682	10/01/2013	APPENDIX S3 PART 15 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4246	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255683	10/01/2013	APPENDIX S3 PART 16 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4747	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]

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255684	10/01/2013	APPENDICES S4 AND S5 OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	309	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
255685	10/01/2013	APPENDIX T OF REVISED SLOPE AREA MITIGATION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2561	DVD1	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
318374	10/01/2013	TECHNICAL MEMORANDUM ON THE DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES FOR THE CURTIS SPECIALTY PAPER INCORPORATION SITE	66	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[INTERNATIONAL PAPER]
284749	10/04/2013	TRANSMITTAL OF APPROVED HISTORIC INDUSTRIAL AND ARCHITECTURAL DOCUMENTATION RECORDATION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	3	DVD2	[LETTER]	[SAUNDERS, DANIEL]	[NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284763	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	78	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284764	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX A PART 1 OF 5 - ANALYTICAL DATA REPORTS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	18990	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284765	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX A PART 2 OF 5 - ANALYTICAL DATA REPORTS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	11787	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]

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284766	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX A PART 3 OF 5 - ANALYTICAL DATA REPORTS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6454	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284767	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX A PART 4 OF 5 - ANALYTICAL DATA REPORTS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7966	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284940	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX A PART 5 OF 5 - ANALYTICAL DATA REPORTS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	8665	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284941	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX B - DISPOSAL DOCUMENTATION - EQUIPMENT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	41	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284942	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX C - DISPOSAL DOCUMENTATION - FLYASH FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	25	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284943	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX D - PART 1 OF 2 - SUPPLEMENTAL BUILDING CHARACTERIZATION SAMPLING REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5340	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]

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284949	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX D - PART 2 OF 2 - SUPPLEMENTAL BUILDING CHARACTERIZATION SAMPLING REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6479	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284944	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX E - PERIMETER AIR MONITORING DATA - ASBESTOS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	332	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284945	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX F - DISPOSAL DOCUMENTATION - ASBESTOS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	194	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284946	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX G - DISPOSAL DOCUMENTATION - UNIVERSAL WASTE FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	13	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284947	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX H - DISPOSAL DOCUMENTATION - CONCRETE FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284948	12/01/2013	PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT - APPENDIX I - DISPOSAL DOCUMENTATION - SCRAP METAL FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	123	DVD2	[REPORT]	[]	[]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]

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284759	12/05/2013	APPROVAL OF THE HISTORIC INDUSTRIAL AND ARCHITECTURAL DOCUMENTATION DATED 09/2013 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[LETTER]	[FERREIRA, STEVEN J]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SAUNDERS, DANIEL]	[NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION]
284768	01/10/2014	LETTER SENT TO US EPA REQUESTING AGENCY TO MOVE QUICKLY TO RESTORE THE SITE TO RESIDENTIAL STANDARDS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[LETTER]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DOHERTY, MICHAEL J]	[NEW JERSEY SENATE]
284789	01/27/2014	COMMUNITY ADVISORY GROUP MEETING - AGENDA OF 01/27/2014 MEETING FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
284773	02/01/2014	COATING FACILITY AREA DEMOLITION PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	608	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER CO]
284774	02/10/2014	RESPONSE TO LETTER SENT TO US EPA REQUESTING AGENCY TO MOVE QUICKLY TO RESTORE THE SITE TO RESIDENTIAL STANDARDS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[LETTER]	[DOHERTY, MICHAEL J]	[NEW JERSEY SENATE]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]
319292	02/27/2014	WORK PLAN FOR THE MARCH 2012 MEMORANDUM OF AGREEMENT, STIPULATION III: INTERPRETATION AND TREATMENT OF IDENTIFIED ARCHITECTURAL AND PRE-CONTACT PERIOD HISTORIC PROPERTIES FOR THE CURTIS SPECIALTY PAPERS SITE	72	DVD2	[PLAN]	[HESS, ALISON]	[US ENVIRONMENTAL PROTECTION AGENCY]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]
284787	06/02/2014	COMMUNITY ADVISORY GROUP MEETING - AGENDA OF 06/02/2014 MEETING FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]

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295928	06/06/2014	POLLUTION REPORT NO. 10 FINAL FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	14	DVD2	[REPORT]	[ENCK, JUDITH A, PLEVIN, LISA , ROTOLA, JOSEPH]	[US ENVIRONMENTAL PROTECTION AGENCY]	[DIGUARDIA, LOUIS]	[US ENVIRONMENTAL PROTECTION AGENCY]
284800	06/30/2014	CORRESPONDENCE REGARDING CONCERNS FOR THE SITE TO BE REMEDIATED TO RESIDENTIAL STANDARDS FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[LETTER]	[HESS, ALISON , ROMAINE, KATHLEEN]	[ARCADIS, US ENVIRONMENTAL PROTECTION AGENCY]	[GALLOS, JAMES]	[BOROUGH OF MILFORD]
319295	08/29/2014	PRESERVATION PLAN REPORT - COATINGS FACILITY AREA FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	36	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319094	09/01/2014	REMEDIAL INVESTIGATION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	697	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319335	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 1 AND ATTACHMENT 2A - 2G FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5293	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319315	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - SLOPE AREA MITIGATION PROJECT COMPLETION REPORT DATED 10/2013 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	42	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319316	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX A - B FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	46	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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319317	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX C FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1511	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319318	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX D FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5146	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319319	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX E - I FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5536	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319320	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX J FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	612	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319321	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX K FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	10081	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319322	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX L FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5198	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319323	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX M FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	259	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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319324	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX N FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1541	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319325	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX O FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	3617	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319326	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX P FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4353	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319327	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX Q FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1526	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319328	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX R FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319329	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX S - CROSS REFERENCE SHEET ONLY FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319330	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX T-1 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	254	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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319331	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2.H - APPENDIX T-2 THROUGH T-6 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	292	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319299	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - PRE-DEMOLITION ENVIRONMENTAL REMOVALS PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	79	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319301	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX A - PART 1 OF 5 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	18990	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319302	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX A - PART 2 O F 5 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	11787	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319303	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX A - PART 3 OF 5 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6454	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319304	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX A - PART 4 OF 5 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	7966	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319305	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX A - PART 5 OF 5 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	8665	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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319306	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX B FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	41	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319307	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX C FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	25	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319308	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX D - PART 1 OF 2 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	5340	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319309	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX D - PART 2 OF 2 FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	6479	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319310	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX E FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	332	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319311	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX F FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	194	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319312	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX G FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	13	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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319313	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX H FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	4	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319314	09/01/2014	REMEDIAL INVESTIGATION REPORT - ATTACHMENT 2-I - APPENDIX I FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	123	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319091	09/16/2014	MISCELLANEOUS SITE MAINTENANCE PROJECT COMPLETION REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	189	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
283174	09/22/2014	COMMUNITY ADVISORY GROUP MEETING AGENDA FOR 09/22/2014 FOR THE CROWN VANTAGE LANDFILL SITE AND CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
283170	12/04/2014	REQUEST FOR WRITTEN STATEMENT FROM US FISH AND WILDLIFE SERVICE REGARDING ANY PROPOSED THREATENED OR ENDAGERED SPECIES OR CRITICAL HABITATS PRESENT ON OR IN THE VICINITY OF THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	11	DVD2	[LETTER]	[SCHRADING, ERIC]	[US FISH & WILDLIFE SERVICE]	[FERREIRA, STEVEN J]	[US ENVIRONMENTAL PROTECTION AGENCY]
319092	12/05/2014	EASTERN LOADOUT AND VEHICLE ACCESS SETUP - PROJECT COMPLETION REPORT (NO APPENDIX C) FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	51	DVD2	[REPORT]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]

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283171	01/02/2015	US FISH AND WILDLIFE SERVICES' RESPONSE TO US EPA REQUEST FOR WRITTEN STATEMENT REGARDING ANY PROPOSED THREATENED OR ENDAGERED SPECIES OR CRITICAL HABITATS PRESENT ON OR IN THE VICINITY OF THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	3	DVD2	[LETTER]	[FERREIRA, STEVEN J]	[US ENVIRONMENTAL PROTECTION AGENCY]	[SCHRADING, ERIC]	[US FISH & WILDLIFE SERVICE]
283172	02/23/2015	COMMUNITY ADVISORY GROUP MEETING AGENDA FOR 02/23/2015 FOR THE CROWN VANTAGE LANDFILL SITE AND CURTIS SPECIALTY PAPERS INCORPORATED SITE	2	DVD2	[AGENDA]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
319093	04/15/2015	FEASIBILITY STUDY REPORT FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	1824	DVD2	[REPORT]	[]	[]	[,]	[ARCADIS, GEORGIA-PACIFIC CONSUMER PRODUCTS LP, INTERNATIONAL PAPER COMPANY]
319333	05/19/2015	PROPOSED PLAN FOR THE CURTIS SPECIALTY PAPERS INCORPORATED SITE	18	DVD2	[PLAN]	[]	[]	[,]	[US ENVIRONMENTAL PROTECTION AGENCY]
372878	09/16/2015	NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION DEED NOTICE REGARDING THE CURTIS SPECIALTY PAPERS SITE	1	DVD2	[LETTER]	[ZERVAS, GWEN]	[NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION]	[JONES, BRIAN E]	[INTERNATIONAL PAPER]

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 4

STATE LETTER

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Site Remediation and Waste Management Program
Mail Code 401-406
P.O. Box 420
Trenton, New Jersey 08625-0420
Telephone: 609-292-1250

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

September 25, 2015

Mr. Walter Mugdan, Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency Region II
290 Broadway
New York, NY 10007-1866

RE: Curtis Papers, Inc.
404 Frenchtown Rd
Borough of Milford and Alexandria Township, Hunterdon County

Dear Mr. Mugdan:

The New Jersey Department of Environmental Protection (Department) has completed its review of the Record of Decision (ROD) for the first and only Operable Unit at the site, prepared by the U.S. Environmental Protection Agency (EPA) Region II.

The remedy selected in the ROD addresses contaminated ground water only, and includes the following components:

- Institutional controls consisting of a Classification Exception Area and a Well Restriction Area, to limit future use of the groundwater until remediation standards are met;
- Implementing an in-situ biological treatment (anaerobic biological oxidation) program to remediate contaminated ground water;
- Monitoring ground water to assess the effectiveness of treatment and to determine whether the ground water remediation standards have been achieved.

The Department agrees that this remedy is appropriate for remediation of ground water at the site.

However, no remedy was selected for soil in the ROD, and constituents were detected in soil in excess of New Jersey's Soil Remediation Standards. The ROD states that a response action is not warranted under CERCLA for these detections since the risk assessment did not identify unacceptable human exposures to soil. However, the Department requires that a deed notice be placed on a property with constituent levels in soil in excess of the Residential Direct Contact Soil Cleanup Standards and an engineering control and deed notice when constituent levels are in excess of the Non-Residential Direct Contact Soil Cleanup Standards. The ROD does not

require these actions, therefore the Department cannot concur with the ROD.

DEP appreciates the opportunity to participate in the decision making process. If you have any questions, please call me at 609-292-1250.

Sincerely,

Mark J. Pedersen
Assistant Commissioner
Site Remediation Program

CC: Gwen Zervas, Bureau of Case Management

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 5

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

CURTIS SPECIALTY PAPERS SUPERFUND SITE RECORD OF DECISION

September 2015

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RESPONSIVENESS SUMMARY

FOR THE

RECORD OF DECISION
CURTIS SPECIALTY PAPERS SUPERFUND SITE

BOROUGH OF MILFORD AND ALEXANDRIA TOWNSHIP
HUNTERDON COUNTY, NEW JERSEY

INTRODUCTION

This Responsiveness Summary provides a summary of comments received during the public comment period related to the Proposed Plan for the Curtis Specialty Papers Superfund site (Appendix 5-A) and provides the U.S. Environmental Protection Agency's (EPA's) responses to those comments. All comments summarized in this document have been considered in EPA's final decision in the selection of a remedy to address the contamination at the site.

SUMMARY OF COMMMUNITY RELATIONS ACTIVITIES

A Community Advisory Group (CAG) has been meeting quarterly since September 2009. The local community provides input to EPA and has been kept informed of the progress on the remedial investigation and feasibility study (RI/FS) and other Superfund actions through community notification flyers, presentations, and updates in accordance with the 2010 Community Involvement Plan for the site. As the RI/FS progressed, EPA added site documents to the local site repository maintained at the Milford Public Library in Milford, New Jersey and on EPA's website for the site, http://www.epa.gov/region2/superfund/npl/curtisspecialtypapers/.

EPA released the Proposed Plan for public comment, along with a press release, on May 19, 2015. Members of the CAG on the email distribution list received the press release and a link to the Proposed Plan. The Proposed Plan and other site-related documents were made available to the public in the administrative record file repositories at the Milford Public Library and at the EPA Region 2 Superfund Records Center located at 290 Broadway, New York, New York (see Appendix 3 of the Record of Decision [ROD]). EPA published a notice in the local paper, the *Hunterdon County Democrat*, on May 28, 2015. The notice announced the availability of the Proposed Plan and the supporting documents, a public meeting on May 28, 2015, at the Milford Firehouse in Milford, New Jersey, and a public comment period through June 29, 2015[1]. At the May 28, 2015 public meeting, EPA presented the results of the RI/FS and the Proposed Plan and answered questions from the community.

The public notice can be found in Appendix 5-B. The sign-in sheets of the public meeting are in Appendix 5-C.

[1] The May 19, 2015, press release and the May 28, 2015, public notice announced the public comment period through June 29, 2015. The Proposed Plan stated a standard 30-day public comment period through June 18, 2015; however, EPA extended the public comment period for an additional 11 days, through June 29, 2015, when the Agency learned that the earliest date for publication in the *Hunterdon County Democrat* would be May 28, 2015, thus ensuring a 30-day public comment period from the date of publication of the notice.

SUMMARY OF COMMENTS AND RESPONSES

Comments were received at the May 28, 2015, public meeting and in writing (letters and emails). Written comments were received from the Borough of Milford and from 10 individuals (one commenter sent comments on two dates).

The transcript of the public meeting can be found in Appendix 5-D. The written comments are contained in Appendix 5-E. A summary of the comments provided at the public meeting and in writing, as well as EPA's responses to them, are provided below.

REMEDIAL INVESTIGATION

Underground Storage Tank Removal

Comment #1: A commenter asked if the tanks under the coating department foundation were removed during the site investigation/feasibility study.

EPA Response to Comment #1: All five underground storage tanks (USTs) in the Coatings Facility Area (CFA) (USTs 20, 21, 22, 23 and a previously unidentified tank, UST-X) were removed to implement the Slope Area Mitigation conducted during the RI. The removal of these tanks is noted on page 6 of the Proposed Plan and is discussed in detail in Section 2.2.3: UST Removals, of the 2013 Slope Area Mitigation Project Completion Report.

Perfluorooctanoic Acid

Comment #2: A commenter asked whether site operations included use of perfluorooctanoic acid (PFOA) or related chemicals as coatings on food contact paper and, if so, whether they were detected at the site.

EPA Response to Comment #2: EPA is not aware of any site records that indicate PFOA was used at the site. There are records that certain products used on site contained fluoroaliphatic compounds (fluorochemical copolymers Scotchban FC-807 and Scotchban FC-845), which could be considered chemicals in the same family as PFOA. Scotchban FC-807 is a former 3M product that contained Ammonium di-2-(ethyl-heptadecafluorosulfonamido)ethylphosphate. Scotchban FC-845 is a former 3M product that contained an emulsion copolymer of a fluoro acrylate, 2-ethoxyethyl acrylate, diethylaminoethyl methacrylate methyl chloride salt, glycidyl methacrylate, and octyl mercaptan using as emulsifier an ethoxylated amine salt. As these products were applied as coatings, the likely location for the use of the Scotchban products was the CFA. Soils from the CFA were excavated and disposed off-site during site activities, minimizing the potential for these compounds to continue to be present.

Natural Attenuation

Comment #3: A commenter asked if there is any natural attenuation of contaminants at the site.

EPA Response to Comment #3: Natural attenuation of contaminants relies on one or more naturally occurring processes to attenuate (decrease) concentrations of the contaminants. Natural attenuation occurs, to varying degrees, at many contaminated sites, especially where the source of the contamination has been removed (see "A Citizen's Guide to Monitored Natural Attenuation," EPA 542-F-12-014, September 2012).

Data collected during the RI/FS suggest that natural attenuation may be occurring in groundwater at the site. However, the elevated levels of toluene and benzene in groundwater after source removal as part of the Slope Area Mitigation work indicate that an active remedy is needed to address the groundwater contamination in the CFA.

Inhalation While Showering

Comment #4: A commenter noted that the risk assessment section of the Proposed Plan identifies an exposure scenario of inhalation while showering, but stated that there is no plan for future use of the site groundwater – future use would be served by the Milford public water supply.

EPA Response to Comment #4: The baseline human health risk assessment estimates current and future cancer risks and noncancer hazards posed by hazardous substances at the site in the absence of any actions to control or mitigate exposure to the hazardous substances. Providing public water at the site is an action that controls or mitigates exposure, so it is not considered in the baseline human health risk assessment.

FEASIBILITY STUDY and PROPOSED PLAN

Remedial Action Objectives and Preliminary Remediation Goals

Comment #5: Several commenters stated that they want the site cleaned up to residential standards. For example, one commenter stated that EPA must insist that the Responsible Parties mitigate all environmental concerns on the site to the highest and most stringent residential remediation standards, and not the less stringent industrial remediation standards, consistent with residential use, which is the highest possible use permitted in the zone for the site. Another commenter urged EPA to ensure the site is cleaned up enough to allow beneficial reuse of the property, including residential, commercial or light industrial activity.

EPA Response to Comment #5: As discussed on page 11 of the Proposed Plan, the three remedial action objectives address groundwater contamination. The preliminary remediation goals for site contaminants in groundwater, benzene, toluene and tetrachloroethylene (PCE), are the Federal maximum contaminant levels (MCLs) under the Safe Drinking Water Act and the New Jersey MCLs and Class IIA groundwater quality standards. Thus, the remediation goals are appropriate for any future use, including residential use.

Also on page 11 of the Proposed Plan, EPA noted that the human health risk assessment did not identify unacceptable human exposures to soils, even under a future unrestricted use scenario; however, the RI did sporadically detect several constituents in excess of New Jersey's unrestricted use soil standards (i.e., Residential Direct Contact Soil Remediation Standards). While these detections do not warrant a response action under CERCLA, EPA understands that NJDEP will require the property owners to place a deed notice where constituents in soil remain in excess of its Residential Direct Contact Soil Remediation Standards. The current property owners have committed to NJDEP to establish and record a deed notice in the future identifying areas of the property where constituents remain above NJDEP's Residential Direct Contact Soil Remediation Standards.

Comment #6: A commenter asked whether EPA considered any type of remediation to reduce the residual levels of polychlorinated biphenyls (PCBs) remaining at the site, particularly the detection of Aroclor-1260 found at 15.5 milligrams per kilogram (mg/kg) in floodplain/riverbank soil, and if it would be possible to inject chemicals or microbes into the soil at depth to break down the PCBs.

EPA Response to Comment #6: The detection of a PCB mixture, Aroclor-1260, at a concentration of 15.5 mg/kg in floodplain/riverbank soil adjacent to Quequacommissicong Creek (Q Creek) is covered by more than six feet of clean fill material, topsoil, and native vegetation (see pages 6 and 9 of the Proposed Plan). The 15.5 mg/kg detection in floodplain/riverbank soil and another detection at 7 mg/kg in upland soil do not warrant remediation because there is no complete exposure pathway and the isolated detections at this depth do not pose an unacceptable risk to human health or the environment.

Alternative 1: No Action

Comment #7: A commenter asked why Alternative 1: No Action was not selected as the preferred alternative.

EPA Response to Comment #7: Alternative 1: No Action was not selected because, among other reasons, it would not achieve the remedial action objectives or attain the preliminary remediation goals (see pages 11 and 12 of the Proposed Plan) and does not satisfy the Superfund program's two threshold criteria for remedy selection, which are protection to human health and the environment, and compliance with applicable or relevant and appropriate requirements.

Alternative 4: *In-situ* Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls

Comment #8: A commenter asked whether the preferred Alternative 4 is a chemical or a biological treatment, given that it involves injecting sulfates. Another commenter asked if EPA considered adding microbes to speed up the process, such as *dechloromonas aromatica* strain RCB.

EPA Response to Comment #8: Alternative 4 uses microbes to clean up contaminated groundwater. Microbes are very small organisms, such as bacteria, that live in the subsurface environment and change the contaminants into small amounts of water and harmless gases. The sulfate solution is introduced to the subsurface though injection wells to stimulate the growth of the microbes. In general, naturally occurring microbes are preferred because their presence demonstrates that they can survive, grow, and reproduce in the specific subsurface conditions of the site, but if the subsurface does not have enough of the right microbes, they can be added. *Dechloromonas aromatica* strain RCB is a type of anaerobic bacteria that could be added as an amendment if necessary. The need for any amendments will be evaluated in the engineering design and, following construction, as part of the performance monitoring of the remedy.

Comment #9: A commenter asked if bioremediation has effectively remediated volatile organic compounds (VOCs) in groundwater in sites similar to the Curtis Specialty Papers Superfund Site.

EPA Response to Comment #9: Bioremediation has successfully cleaned up many sites and has been selected or is being used at more than 100 Superfund sites across the country, as reported in "A Citizen's Guide to Bioremediation", EPA 542-F-12-003, September 2012).

Comment #10: Two comments expressed concern about Alternative 4 in light of the naturally occurring arsenic in the groundwater in the area. One commenter asked whether implementing the remedy might make the arsenic problem worse at the site. Another commenter was concerned about the possibility of converting the immobile arsenic into a highly toxic and highly mobile arsenite.

EPA Response to Comment #10: Arsenic is present naturally in the aquifer soil at the site, typically in association with iron minerals in the soil. Microbial activity stimulated by the presence of organic carbon (i.e., the VOCs) may result in use of the dissolved oxygen as an electron acceptor. With the oxygen consumed, iron could then be used as an electron acceptor. The iron dissolves into the groundwater under

anaerobic conditions and arsenic, either as arsenic(V) (arsenate) or arsenic(III) (arsenite), sorbs to the iron. Under the geochemically-reducing conditions in the VOC plume, the arsenic tends to dissolve as arsenite.

Anaerobic biological oxidation (ABOx) will remediate the VOCs, primarily toluene, at an approximately 200 foot by 200 foot area located in the northwest corner of the CFA. Because of the presence of the VOCs, the groundwater is already anaerobic and under geochemically-reducing conditions. With the ABOx treatment component of the selected remedy, a new electron acceptor, sulfate, would be introduced to enhance anaerobic biodegradation of dissolved VOCs. During the active treatment period, there might be a temporal and local increase in dissolved arsenic concentration at the treatment area; however, the dissolved arsenic concentration will decrease as the VOCs are treated. Arsenic will not be present in surface water because it will preferentially co-precipitate with iron under aerobic conditions. Once the remediation is complete and the VOC levels attain the remediation goals, the arsenic will return to its stable background geochemistry. Thus, implementation of the selected remedy will result in overall improved conditions in the CFA area of the site. Without the cleanup, the existing anaerobic condition would persist and the dissolved arsenic concentrations would remain elevated for more years than if the toluene and benzene are actively treated.

Comment #11: Several commenters expressed support for EPA's preferred alternative, Alternative 4: In-situ Biological Treatment (ABOx) and Institutional Controls.

EPA Response to Comment #11: EPA acknowledges the comments in support of its preferred alternative.

New Alternative

Comment #12: A commenter asked for a new alternative that would be faster and more expensive than the ones presented in EPA's Proposed Plan.

EPA Response to Comment #12: No technology or alternative would be expected to achieve the remedial action objectives and attain the remediation goals in a shorter amount of time than EPA's preferred Alternative 4. Very expensive technologies were eliminated in the screening based on overall implementability, effectiveness and cost, consistent with Superfund regulations and guidance.

Source of Funding

Comment #13: A commenter asked about the source of funding for the remedy and whether the taxpayers or Milford would be paying for the project.

EPA Response to Comment #13: The Superfund law has enforcement provisions for identifying entities legally responsible for contamination at a site and having those parties pay for the investigation or cleanup of a site. Where viable potentially responsible parties (PRPs) cannot be identified or do not have the finances to pay for the cleanup, the federal and state government share in the cleanup costs. PRPs have paid for past response actions and investigations performed to date at the Curtis Specialty Papers site, and have expressed a willingness to fund additional cleanup costs.

Cleanup Timeframe

Comment #14: A commenter stated that nowhere in the four scenarios did EPA point out how long the cleanup is going to take. Another commenter noted that "the remediation of the area you're looking at is somewhere in the 10-year range." Another commenter wanted to know how long it will take to bioremediate the VOCs.

EPA Response to Comment #14: The Proposed Plan discusses the remedial timeframes for each alternative. Alternative 1, No Action, and Alternative 2, Institutional Controls, would not offer any groundwater cleanup and thus will not attain the cleanup standards for groundwater. Alternative 3, Physical/Chemical Treatment (Air Sparging/Soil Vapor Extraction) and Institutional Controls, is estimated to take 15 years to restore groundwater to cleanup standards. The preferred alternative, Alternative 4, *In-situ* Biological Treatment (ABOx) and Institutional Controls, is estimated to take 10 years for toluene and benzene and 15 years for the low-level, isolated detections of PCE. As noted on page 17 of the Proposed Plan, Alternative 4 is preferred, among other reasons, because it will achieve the groundwater cleanup standards for toluene and benzene in a shorter amount of time than Alternative 3.

Monitoring Schedule and Five Year Review

Comment #15: Two comments addressed the groundwater monitoring schedule and the five-year review. One commenter asked whether there will be more periodic sampling of existing monitoring wells more than once every five years. Another commenter stated that the five-year periodic review is excessively long and detrimental to Borough's redevelopment of the site in the event the methods employed in Alternative 4 result in accelerated attenuation of VOCs at the site, and stated that with monthly monitoring data the reporting should be every two years.

Response to Comment #15: The groundwater monitoring schedules for the selected remedy will be established in the upcoming remedial design phase and, following construction, in the operation and maintenance (O&M) plan. Typical sampling frequencies range from monthly to quarterly to semiannually (twice a year) depending on the purpose for which the groundwater data are being collected. The O&M data will be reviewed on an ongoing basis and reported on a periodic basis, typically quarterly or semi-annually, to assess the performance of the remedy. EPA will conduct a review at least once every five years until the remediation goals are attained. If warranted by the ongoing review the groundwater data being collected to monitor the performance of the remedy, EPA can conduct the policy five-year review sooner than five years from the start of remedy construction. There is no requirement for EPA to wait five years.

FUTURE USE and REDEVELOPMENT

Comment #16: Many commenters stated that they wanted the site to be reused to provide a benefit to the community and to generate tax revenues. In some cases, commenters offered very specific ideas for future use such as condos, a park, or an assisted living/hospice/rehab facility. Several commenters were interested in converting the Belvidere-Delaware railway at the site to a trail and connecting it to the existing trail from Frenchtown. A commenter noted that the Proposed Plan incorrectly states that railroad sections to the north and south of the site have become part of a rails-to-trails program.

EPA Response to Comment #16: The Superfund cleanup remedy for the site takes into account the current and reasonably anticipated future land use. EPA engaged the local community on the issue of site reuse during numerous meetings of the CAG. One of the early steps was for EPA to require preparation of a Reuse Assessment Report for the site, which was made available for public input and then finalized in 2011. The specific end uses for the site will not be decided by EPA; they will be determined by the owners of the site, local government, state, or other stakeholders. Currently, the rails-to-trails path that extends northward from Frenchtown ends south of the site. Alternative 4, *In-Situ* Biological Treatment (ABOx) and Institutional Controls, is expected to be compatible with future use of the railway at the site as a trail to connect with the Frenchtown rails-to-trails path.

Comment #17: A commenter noted that EPA will be around for the groundwater cleanup and asked if the Agency would have any oversight or be involved for the rest of the site (i.e., redevelopment)?

EPA Response to Comment #17: EPA ensures its cleanup decisions at Superfund sites are consistent with the current and reasonably anticipated future land use; however, the Agency does not decide or oversee the redevelopment itself.

Comment #18: A commenter noted that the Borough of Milford had recently received a letter from someone interested in a Brownfields site in New Jersey with railroad access and wondered if 20 or 30 acres of the site could be made available in the next year.

EPA Response to Comment #18: EPA has not been provided with the letter the commenter mentioned. However, Alternative 4, *In-Situ* Biological Treatment (ABOx) and Institutional Controls, is expected to be compatible with reasonably anticipated future uses of the site. The northwest corner of the site with the toluene and benzene contamination in groundwater is not an area that is likely to be developed or to be a part of any major reuse plans because it is located in the floodway and in the riparian setback from Q Creek. Other areas of the site will essentially be unaffected by construction of the remedy, such that reuse can proceed while the groundwater remediation is underway.

DEMOLITION

Comment #19: Many commenters expressed a desire for the buildings at the site to be demolished.

EPA Response to Comment #19: Comment acknowledged. The Proposed Plan noted, on page 11, that additional actions are anticipated by the property owners, including demolition of additional structures.

Comment #20: A commenter asked if the remediation would stop demolition.

EPA Response to Comment #20: The *in-situ* biological treatment system is planned for the CFA in the small northwest corner of the site, near where Q Creek discharges into the Delaware River. Significant demolition has already taken place in this area of the site. Demolition of buildings in other areas of the site can proceed while the groundwater remediation is underway.

NATIONAL PRIORITIES LIST (NPL) DELETION

Comment #21: Several commenters asked whether EPA would consider deleting portions of the site from the NPL that are not involved in actively remediating the groundwater.

EPA Response to Comment #21: EPA will consider deleting portion(s) of the site at the earliest opportunity. Based upon EPA's experience at other NPL sites, reuse and redevelopment can proceed prior to deletion, as long as they are not inconsistent with the Superfund actions at the site.

MILFORD PUBLIC WATER SUPPLY – NEW WELL

Comment #22: Two commenters addressed Milford Public Water Supply's two new water supply wells. A commenter requested that EPA provide a letter addressing the suitability and safety of various wells which are awaiting permitting and/or approval by NJDEP. Another commenter asked EPA whether the Agency and NJDEP had "gotten together to figure out when we could get our wells online….I think they are waiting for your okay."

EPA Response to Comment #22: As noted on page 4 of the Proposed Plan, the Milford Water Department serves the Borough of Milford with two water supply wells in the bedrock aquifer and has drilled two

additional wells, Well 3 and Well 4. In an August 5, 2014, letter, EPA sent site reports, including groundwater data, to George Sniffin, Councilmember of the Borough of Milford, Public Works – Water and Sewer (with a copy to Karen Dysert, Borough Clerk), and to Chelsea DuBrul of the NJDEP Bureau of Water Allocation and Well Permitting. In a September 8, 2014, letter to Rick Aller of the Milford Borough Water Department, Ms. DuBrul of NJDEP acknowledged receipt of the reports from EPA and stated that although Well 4 is an approved diversion source on the permit and would not be impacted by groundwater contamination at the site, Milford has not submitted an application to the NJDEP Bureau of Water System Engineering to operate the well. Ms. DuBrul also wrote that the Milford Borough's capacity issues would be resolved once Well 4 was in operation. With respect to Well 3, Ms. DuBrul stated that the Bureau would be willing to review a minor modification application for the approval of Well 3, if it can be demonstrated that operation of Well 3 will not pull the groundwater contamination at the site toward the well. Based upon NJDEP's September 8, 2014, letter, the Bureau is not waiting for any approval or concurrence from EPA with regard to either Well 3 or Well 4. To date, the Agency has not been informed of any submittal by the Borough of Milford to NJDEP of either an application to operate Well 4 or a minor modification application for Well 3. The Superfund program does not have a role in the NJDEP permitting process and, therefore, is not in a position to provide the requested letter. It is EPA's understanding that the next steps in this process are to be taken by the Borough of Milford and NJDEP.

Comment #23: A commenter noted that the Proposed Plan states that residences and commercial businesses along Frenchtown Road near the site are connected to the [Milford] public water supply and stated that, to the best of his knowledge, there are no commercial establishments in Alexandria Township using Milford water.

EPA Response to Comment #23: Properties on Frenchtown Road near the site that are connected to the Milford public water supply system include the commercial establishments and residences located in Milford to the north of the site, and the residences located in Alexandria Township to the south of the site. Thus, both the commenter and the statement in the Proposed Plan are correct.

PAPER MILL FIRE PROTECTION

Comment #24: A commenter noted that the paper mill had its own fire protection system that was connected to hydrants that served the paper mill and portions of Milford Borough and Alexandria Township; this commenter asked about the condition of the fire protection system and if it can be restored.

EPA Response to Comment #24: EPA understands that the fire protection system at the paper mill is not functional. EPA also understands that there are ongoing discussions regarding access to water for fire protection between the Borough of Milford Fire Chief and Emergency Management Coordinator and the current property owners.

Comment #25: A commenter stated there was also a ramp to the Delaware River behind the water treatment facility of the paper mill that was used to pump river water for fire protection and asked if the ramp can be restored.

EPA Response to Comment #25: EPA understands that the Borough of Milford Fire Chief and Emergency Management Coordinator were escorted to the Delaware River access point at the site and determined that the location is no longer a viable point of access.

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 5-A

PROPOSED PLAN

Superfund Proposed Plan

U.S. Environmental Protection Agency

Curtis Specialty Papers Superfund Site

Hunterdon County, New Jersey

May 2015

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan describes the remedial alternatives considered for the Curtis Specialty Papers Superfund site and identifies the preferred remedial alternative along with the rationale for this preference.

This Proposed Plan was developed by the United States Environmental Protection Agency (EPA), the lead agency for the site, in consultation with the New Jersey Department of Environmental Protection (NJDEP), the support agency. EPA is issuing this document as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The nature and extent of the contamination at the site and the remedial alternatives summarized in this Proposed Plan are described in detail in the remedial investigation (RI) and feasibility study (FS) reports issued in September 2014 and April 2015, respectively. These and other documents are part of the publicly available administrative record file. EPA encourages the public to review these reports to gain a more comprehensive understanding of the site and the Superfund activities completed at the site.

EPA's preferred alternative builds upon cleanup actions conducted under CERCLA as the site investigation progressed. The major components of the preferred alternative are in-situ biological treatment (anaerobic biological oxidation, or ABOx) to remediate groundwater, institutional controls (ICs) to restrict groundwater use until cleanup standards are attained, monitoring, and review of site conditions every five years while cleanup standards are still exceeded to ensure that the remedy remains protective of human health and the environment.

The estimated total present worth cost of the preferred alternative is $1,239,000.

MARK YOUR CALENDAR

Public Comment Period - May 19 to June 18, 2015

EPA will accept written comments on the Proposed Plan during the public comment period. Written comments should be addressed to:

Alison Hess, Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, NY 10007
Fax: (212) 637-4866
Email:hess.alison@epa.gov

Public Meeting - May 28, 2015 at 7:00 PM

EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at:

Milford Firehouse
21 Water Street
Milford, New Jersey

EPA's website for the Curtis Specialty Papers Site:

http://www.epa.gov/region2/superfund/npl/curtisspecialty

EPA's Proposed Plan:

http://www.epa.gov/region02/superfund/npl/curtisspecialty/ProposedPlan

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Community Role in the Selection Process

This Proposed Plan is being issued to inform the public of EPA's preferred alternative and to solicit public comments pertaining to the remedial alternatives evaluated, including the preferred alternative. Changes to the preferred alternative, or a change from the preferred alternative to another alternative, may be made if public comments or additional data indicate that such a change would result in a more appropriate remedial action. The final decision regarding the selected remedy will be made after EPA has taken into consideration all public comments. EPA is soliciting public comments on the alternatives considered in the Proposed Plan, because EPA may select a remedy other than the preferred alternative. This Proposed Plan has been made available to the public for a public comment period that concludes on June 18, 2015.

A public meeting will be held during the public comment period to present the conclusions of the RI/FS, elaborate further on the reasons for recommending the preferred remedy, and receive public comments. The public meeting will include a presentation by EPA of the preferred alternative and other cleanup options. Information on the public meeting and submitting written comments can be found in the "Mark Your Calendar" text box on page 1.

Comments received at the public meeting, as well as written comments received during the comment period, will be documented in the Responsiveness Summary section of the Record of Decision (ROD). The ROD is the document that explains which alternative has been selected and the basis for the selection of the remedy.

SCOPE AND ROLE OF THE ACTION

This site is being addressed in its entirety as a single operable unit. The RI/FS was conducted for all contaminants, environmental media, and exposure pathways of concern. While the RI/FS was underway, several actions were taken to improve site safety and security and to address conditions that presented an immediate threat to human health and the environment. These actions are summarized on pages 4 to 6.

The response actions in this Proposed Plan were developed to address the present conditions at the site.

SITE BACKGROUND

The site is a former food-grade paper mill located along the Delaware River at 404 Frenchtown Road (County Route 619) in Hunterdon County, New Jersey. Security personnel and chain-link fencing currently restrict access to the site. The tax parcels that comprise the study area occupy approximately 109 acres in the Borough of Milford and Alexandria Township (Figure 1).

Paper production began in 1907 and ended in 2003. During these 96 years, four operational areas developed at the 86-acre site:

- Main Mill Area (MMA) – approximately 28 acres in Milford consisting of process and office facilities, a brick house, a cogeneration power plant, and loading/unloading areas.

- Coatings Facility Area (CFA) – approximately 5 acres in Milford consisting of the Coatings Facility, solvent recovery building, and supporting outbuildings (now mostly demolished).

- Wastewater Treatment Plant Area (WWTPA) – approximately 13 acres in Milford; two clarifier basins, a settling tank, and intake/outfall structures on the shoreline of the Delaware River.

- Coal Pile and Aeration Basin Area (CPABA) – approximately 40 acres in Alexandria Township currently undeveloped; historically a portion of the CPABA served as a staging area for coal that powered site operations.

Frenchtown Road borders the paper mill to the east, with residential and undeveloped properties along it. The Delaware River borders the paper mill to the west, with Pennsylvania on the other

bank. Quequacommissacong Creek (Q Creek) borders the mill to the north. North of Q Creek is approximately 20 acres of property (called the "northern parcel") owned by each of the successive mill owner/operators but that was never developed and was not used for paper mill operations. Other properties north of Q Creek are residential and commercial/industrial. Farmland and the Crown Vantage Landfill border the site to the south.

A railroad right-of-way runs north to south through the site. Railroad sections to the north and south of the site have become part of a rails-to-trails program. According to current tax records of the Borough of Milford, the Belvidere and Delaware River Railroad owns the section of right-of-way that crosses the site.

Site owners and operators have changed through time among a number of entities, including Riegel Paper Corporation, Federal Paper Board Company, Inc., Riegel Products Corporation, James River Corporation, James River Paper Company, Inc., Crown Vantage and Curtis Papers, Inc. (including their predecessors, subsidiaries, and other related ventures). International Paper Company (IP) is the corporate successor to Federal Paper Board Company, Inc., and Georgia-Pacific Consumer Products LP (GP) is the successor to Fort James Operating Company and James River Paper Company, Inc.

Superfund History

In August 2008, EPA named IP and GP as potentially responsible parties associated with the site. In September 2008, the Curtis Specialty Papers site was proposed for inclusion on the National Priorities List (NPL) at the request of NJDEP. On September 23, 2009, EPA placed the Curtis Specialty Papers site on the NPL.

In June 2009, IP and GP entered into an Administrative Settlement and Order on Consent (AOC) with EPA to conduct a RI/FS at the site. In July 2009, IP and an indirect, wholly-owned subsidiary of Georgia-Pacific LLC (also the parent company of Georgia-Pacific Consumer Products LP) purchased the site. The AOC was amended in 2010 to add an early response action for pre-demolition activities. Under the terms of the AOC, IP and GP have completed numerous studies, investigations, removals, reports, and other actions.

A Community Advisory Group (CAG) has been meeting quarterly since September 2009. The local community is kept informed of the progress on the RI/FS and other Superfund actions through Community Notification flyers, presentations, and updates in accordance with the 2010 Community Involvement Plan for the site. The local community is interested in future use of the site.

Geology and Hydrology

The site is in the Piedmont Physiographic Province. The regional topography consists of flat, low-lying floodplains and steep valley walls. The relatively flat topography of the site steepens at slopes along Q Creek, the Delaware River, and the unnamed tributary. The site soil is classified as the Pope series, which consists of fine, sandy loam with medium organic content. The soil is deep, well-drained, and level with moderate soil water holding capacity, moderately rapid permeability, limited runoff potential, and slight erosion potential.

The bedrock underlying the site is the Jurassic and Triassic-age (225- to 190-million year old) Passaic Formation, which consists predominantly of grayish-red to reddish-brown shale, siltstone, very fine- to coarse-grained sandstone and a red-matrix conglomerate.

Two water-bearing units occur at the site: an

overburden aquifer in the unconsolidated glacial drift and river alluvium and the Brunswick aquifer within the Passaic Formation. The depth to groundwater is approximately 14 to 29 feet. The groundwater elevations indicate groundwater flow is predominantly to the west toward the Delaware River. While the surface alluvium is permeable, the deposits are small in extent and scattered, and the overburden aquifer is not a major source of domestic water supply.

Groundwater from the Brunswick bedrock aquifer is a source of drinking water in the area. The Milford Water Department serves the Borough of Milford with two public water supply wells in the bedrock aquifer. Well 1 is approximately 3,600 feet north, 60 feet deep, and hydrogeologically upgradient of the site. Well 2 is approximately 880 feet north, 255 feet deep, and hydrogeologically upgradient of the site. The Milford Water Department has drilled two additional wells that are in the NJDEP permit review process. Well 3 is approximately 265 feet east, 420 feet deep, and hydrogeologically upgradient of the site. Well 4 is approximately 750 feet east, 220 feet deep, and hydrogeologically upgradient of the site. Residences and commercial businesses along Frenchtown Road near the site are connected to the public water supply.

The Delaware River near the site is a large non-tidal river with a dynamic seasonal flow pattern during the year (high flows after rain or snow melt events). The Lower Delaware is a federally-designated recreational river under the National Wild and Scenic Rivers Act, and the river reach adjacent to the site is designated as Special Protection Waters by the Delaware River Basin Commission. The Delaware River has a 50-foot riparian buffer zone. The most recent flood hazard area and floodway boundaries were drawn by the Federal Emergency Management Agency (FEMA) in September 2009, and most of the site is in the 100-year flood hazard area.

Q Creek originates upstream and flows east to west at the northern boundary of the paper mill before discharging into the Delaware River. Near the site, Q Creek typically has a shallow channel (except during high flow events) and steep banks. Near the confluence with the Delaware River, there is an alluvial fan of coarse sand and gravel. Q Creek is classified by NJDEP as a Trout Production (FW2-TP) – Category One waterway with a 300-foot riparian buffer zone on either side. The Borough of Milford wastewater treatment plant and its permitted outfall are on the north side of Q Creek near the confluence with the Delaware River.

The unnamed tributary is an intermittent drainage feature that originates off-site and collects rainwater and stormwater from Frenchtown Road, residential properties, and farmland. It runs east to west across the site and discharges the runoff into the Delaware River. NJDEP classifies the unnamed tributary as FW2-NT, indicating that it does not support trout populations, with a 50-foot riparian buffer zone on either side. A portion of the unnamed tributary channel onsite is a culvert pipe.

PRELIMINARY INVESTIGATIONS AND EARLY RESPONSE ACTIONS

Site characterization began as part of remedial activities related to releases such as spills during site operations (i.e., pre-2003). Responses to some spills resulted in a determination of No Further Action from NJDEP, while other spills required follow-up activities. The historical investigations and releases at the site as well as any associated response actions are summarized in the 2011 Site Characterization Summary Report.

EPA Removal Site Evaluation and Removal Action (2007 to 2008)

From 2007 to 2008, EPA collected 19 surface samples from locations where electrical transformers were either presently or historically located, and from areas where oil-stained soils were visible. In 2007, a EPA contractor sampled surface and subsurface soil, surface water, sediment, and soil gas. Additional Delaware River sediment samples were collected in 2008.

Also from 2007 to 2008, EPA conducted a removal action to dispose of approximately 30 pallets of containerized waste (i.e., drums, pails, small containers), vats, low-level radiation devices, and six 55-gallon galvanized steel drums left on-site when operations ceased in 2003.

These activities are summarized in the 2008 Removal Site Evaluation and the 2011 Site Characterization Summary Report.

Pre-RI/FS Activities and Oil-Containing Electrical Equipment Removal (2009)

Under the terms of the AOC, in 2009 IP and GP completed pre-RI/FS activities in and around the buildings at the site, such as identifying storage vessels, staging and storage areas, and discharge features. Also in 2009, IP and GP removed oil-containing electrical equipment identified during pre-RI/FS activities.

These activities are summarized in three reports issued in 2009: the Pre-Remedial Investigation/ Feasibility Study Building Survey Report, the Pre-Remedial Investigation/Feasibility Study Report, and the Early Response Action Report – Oil-Containing Electrical Equipment Removal.

Aeration Basin Closure (2010 to 2011)

In 2010 and 2011, IP and GP demolished the aeration basin in the southeast corner of the site. The basin had been excavated in the early 1990s and excess soil was used to construct a berm around the excavation. Infrastructure included an 80-millimeter (3-inch) high density polyethylene liner, mechanical aerators and mixers, an electrical shed, concrete pumping pit/lift station, valve pit, piping, and a perimeter fence. The demolition project involved characterizing water and sludge/sediment, dewatering the basin, clearing and preparing the area, removing the liner, demolishing ancillary structures, stabilizing sludge/sediment, transporting and disposing of off-site waste at permitted facilities, backfilling and final grading, and restoring the site. Six inches of topsoil and a native seed mix were placed throughout the disturbed area. The aeration basin area has returned to a vegetated, open habitat area.

These activities are summarized in the 2012 Aeration Basin Demolition Project Completion Report.

Miscellaneous Site Maintenance Projects (2010 to 2013)

In 2010, IP and GP demolished two small garages identified as Buildings 100 and 101 in the CFA to improve site security. Floor slabs were removed and the areas were regraded to match the surrounding grade, seeded, and mulched.

From 2011 to 2012, IP and GP closed the six production wells that had provided water for site operations. The wells were decommissioned, pumps and casings were removed, boreholes were filled and sealed with grout, and NJDEP Well Decommissioning Reports were filed for these wells.

In 2013, IP and GP demolished the above grade portion of four CPABA buildings and associated structures to improve site security and reduce the health and safety risks associated with abandoned structures. Buildings 114, 115, 116, and 117 were demolished to grade and underground storage tank (UST)-37, located adjacent to Building 114, was removed and the surrounding soil excavated. All asbestos-containing material (ACM), construction and demolition debris, liquid waste, petroleum-impacted soil, concrete and masonry materials, and scrap metal were properly disposed of.

These activities are summarized in the 2014 Miscellaneous Site Maintenance Project Completion Report.

Pre-Demolition Environmental Removal Activities (2011 to 2013)

In 2011 to 2013, IP and GP removed hazardous and regulated materials from the four operational areas of the site, including equipment oil, aboveground storage tank (AST) residuals, fly

ash, lead-based paint, Galbestos, universal waste (batteries, mercury-containing devices, lamps, light ballasts, fire extinguishers, sprinkler heads, electronic waste, exit signs, containerized chemicals, and refrigerant-containing equipment); ACM, and process piping. All hazardous and regulated materials were properly disposed of off-site at licensed facilities.

These activities are summarized in the 2013 Pre-Demolition Environmental Removals Project Completion Report.

SAM and CFA Demolition (2012 to 2013)

In late 2011, the Delaware River basin and its tributaries, including Q Creek, experienced heavy rains and flooding, leading to the failure of a dam on Q Creek upstream of the site near Bridge Street in Milford. The rains and dam failure resulted in significant erosion of the banks of Q Creek, exposing USTs and piping and further deteriorating the structural integrity of certain buildings in the CFA. IP and GP proposed a Slope Area Mitigation project (SAM), including a drainage area velocity evaluation, to address the exposed discharge pipes and USTs and provide long-term stability for the eroded bank area of Q Creek at the site.

Planning began immediately for SAM activities, which were conducted from 2012 to 2013, including hydrologic and engineering analyses to understand erosive forces and flood stage conditions in Q Creek near the site; removal of CFA infrastructure (e.g., USTs, sumps, discharge pipes); soil excavation to establish stable slope conditions; and restoration. Some 10,679 cubic yards of soil in the CFA/Q Creek bank area were removed from the site, including soils impacted by toluene and polychlorinated biphenyls (PCBs). Post-excavation samples were collected and excavated areas were backfilled with three feet or more of clean cover, compacted, covered with at least 12 inches of topsoil, and seeded. To conduct the SAM activities, 11 buildings in the CFA were demolished to improve access to the bank of Q Creek. Building floor slabs were left in place unless they needed to be removed to accomplish SAM activities. The bank of Q Creek is now stable and restored with native vegetation.

These activities are summarized in the 2013 Slope Area Mitigation Project Completion Report and the 2014 Coatings Facility Area Demolition Project Completion Report.

Eastern Loadout and Vehicle Access Setup Activities (2014)

In 2014, IP and GP implemented eastern loadout and vehicle access setup (ELVAS) activities in a former electrical transformer area at the eastern perimeter of the MMA near Frenchtown Road. IP and GP dismantled infrastructure, including Building 109, which required removal of PCB-impacted soil, and regraded the area in preparation for future vehicle access and construction use.

These activities are summarized in the 2014 Eastern Loadout and Vehicle Access Setup Project Completion Report.

REMEDIAL INVESTIGATION

Site characterization activities outlined in the 2010 RI/FS Work Plan focused on three main objectives: 1) evaluating potential source materials, 2) characterizing the nature and extent of constituents of potential concern in groundwater and soil at the four operational areas of the site (i.e., MMA, WWTPA, CPABA, and CFA), and in floodplain/bank soil, sediment, and surface water in the Delaware River, Q Creek, and the unnamed tributary, and 3) performing work to support the human health and ecological risk assessments such as characterizing habitat and wildlife receptors, delineating wetlands and flood hazard areas, and identifying potential receptors and exposure pathways. Because the northern parcel was not used for mill operations, no investigatory or other work was performed at that parcel and it is not considered part of the site.

Cultural Resources

Activities conducted under CERCLA are required to comply with the National Historic Preservation Act of 1966. In addition, in 2003, the New Jersey State Historic Preservation Office determined that the site buildings are eligible for listing on the National Register of Historic Properties and together constitute the Curtis Paper Mill Historical District. As an early step in site characterization, IP and GP conducted architectural and pre-contact period cultural resource investigations, which are summarized in the 2010 Phase IA Cultural Resources Investigation Report, three 2010 Phase IB Cultural Resources Investigation Reports, and the 2011 Phase IB Cultural Resources Investigation Report.

Two special efforts on cultural resources are the 2013 Historic Industrial and Architectural Documentation of Former Curtis Specialty Papers Site, Milford, New Jersey (i.e., recordation report) and a set of three related documents (brochure, illustrated booklet, and teacher's guide) entitled, "The Milford Paper Mill: A Legacy of Achievement." This set of documents was released in draft for public input and is being finalized for use by the local community.

Reuse Assessment

To develop an understanding of the reasonably anticipated future use of the site, EPA requested that IP and GP perform a reuse assessment. The reuse assessment integrated several elements related to land use and planning, such as property ownership, physical constraints, zoning and local ordinance, regulatory constraints, and community input.

For the portion of the site within the Borough of Milford, the reasonably anticipated future use is industrial (i.e., the permitted and conditional industrial uses that are specified in the Code of the Borough of Milford for its Industrial Zones) or as specified in the redevelopment overlay in the Borough of Milford 2004 Redevelopment Plan. The redevelopment overlay uses are non-residential (approximately 21 acres), residential (13 acres), public (vacant brick house), mixed professional office and residential (2.8 acres), and conservation uses (balance of the property). Future development would be subject to the flood mapping (e.g., by FEMA in 2009) and associated floodplain regulations.

For the portion of the site within Alexandria Township, the reasonably anticipated future use is open space. The nearly 40 acres occurs within the 100-year flood hazard area. As specified in the Land Use Code of Alexandria Township, the CPABA occurs in a Floodplain District overlay, limiting permitted uses to agriculture, recreation, accessory residential, and accessory commercial. In addition, there is no public sewerage for this portion of the site property, and the use of septic systems would be severely limited under State law as a result of the proximity of the Delaware River.

The results of the reuse assessment were released in draft for public input. The Reuse Assessment Report was finalized in 2011.

RI Fieldwork

RI fieldwork was conducted in 2010 and was supplemented through 2014 with samples collected during early response actions and to support development of the 2015 FS Report. Table 1 summarizes the number of samples in the RI dataset that characterize the present site conditions.

Table 1: Site Characterization Dataset*								
Environmental Media	**MMA**	**WWTPA**	**Delaware River**	**CPABA**	**Unnamed Tributary**	**CFA**	**Q Creek**	**Background**
Upland surface soil	87	28	---	57	---	35	---	11
Upland subsurface soil	8	1	---	2	---	125	---	2
Floodplain/bank soil	---	---	---	---	38	---	22	---
Sediment	---	---	28	---	17	---	30	---
Surface water	---	---	10	---	5[+]	---	21	---
Sub-slab soil gas	---	---	---	---	---	3	---	---
Site-wide groundwater	16 monitoring wells ^							

Notes:

*Table 1 does not include samples collected of demolition debris (to evaluate for reuse on the site), topsoil, and imported fill analyzed as part of SAM and/or ELVAS activities.

[+]Portions of the unnamed tributary were dry during sampling activities in August 2007 and August 2010. Surface-water data are only available for upstream samples.

^Subsequent to the RI sampling, an additional five rounds of groundwater sampling were conducted in a subset of monitoring wells.

Groundwater

Analytical results from groundwater sampling identified two volatile organic compounds (VOCs) in the CFA at levels of concern: toluene and benzene. The high concentrations of toluene and benzene in groundwater correlated to locations of USTs, establishing that the toluene and benzene detected in UST contents and surrounding soil removed during the SAM activities were source materials for the groundwater contamination.

A comparison of groundwater sampling data collected before and after the SAM activities shows a substantial decline in the concentration of toluene at locations near the center of the plume due to the SAM activities (e.g., 284,000 micrograms per liter [ug/L] reduced to 82,500 mg/L, and 153,000 ug/L to 82,100 ug/L), although the concentration remains above the Safe Drinking Water Act maximum contaminant level (MCL) of 600 ug/L. The concentrations of benzene in groundwater started lower (e.g., 241 ug/L) and showed a similar substantial decline after the removal of the source materials, although levels remain above the MCL for benzene of 1 ug/L.

The VOC tetrachloroethylene (perc or PCE) was detected at low levels and at isolated locations in the MMA and WWTPA. In the MMA, PCE was detected at concentrations slightly above the MCL (from 6.4 ug/L to 10.6 ug/L, compared to the MCL of 5 ug/L). In the WWTPA, PCE was detected in one well at a concentration of 2.8 ug/L, which is below the MCL of 5 ug/L and above the State standard of 1 ug/L.

Soil

Soil samples collected in the MMA, WWTPA, and CPABA were generally consistent with background upland soil samples. Background is defined as naturally occurring or anthropogenic constituents or locations that are not influenced by releases from the site.

In the CFA, post-excavation soil sampling performed as part of the SAM activities showed

non-detect or very low detections of the PCB mixture Aroclor 1260 for the majority of samples. There are two detections of note: one at 7.03 milligrams per kilogram (mg/kg) in upland soil, and one detection in floodplain/bank soil at 15.5 mg/kg. Both of these sample locations are covered by more than six feet of clean fill material, topsoil and native vegetation, and both are within the Q Creek riparian buffer zone.

Delaware River

Surface water and sediment samples collected by EPA in 2007 in the Delaware River were generally low or non-detect along and upriver of the site. PCBs were detected in one sediment sample adjacent to the site, at a lower concentration (0.053 mg/kg) than the upriver sediment samples. In Delaware River surface water, PCBs were not detected along or upriver of the site, except for one very low detection of Aroclor 1260 from a sample that was collected adjacent to the site in 2007 (estimated at 0.26 ug/L).

Q Creek

Aroclor 1260 was detected in Q Creek sediment samples collected by EPA in 2007 (from 0.12 to 3.3 mg/kg) and in one RI sediment sample collected in 2010 adjacent to the CFA (0.101 mg/kg). SAM activities in 2012 through 2013 permanently addressed potential sources of PCBs and related migration pathways to Q Creek sediment.

Unnamed Tributary

Analytical results of sediment samples and floodplain/bank soil samples from the unnamed tributary were generally very low or non-detect and consistent with concentrations observed upstream of the site. The portion of the unnamed tributary on the site was dry when RI field work was conducted, so surface water data are only available for upstream sample locations.

SUMMARY OF SITE RISKS

As part of the RI/FS, baseline risk assessments are conducted to estimate current and future risks to human and ecological receptors posed by hazardous substances at a site in the absence of any actions to control or mitigate exposures to the hazardous substances. The text boxes on page 10 present information on the process EPA uses for human health and ecological risk assessments conducted under CERCLA. Consistent with the NCP, the results of the baseline risk assessment are used to determine whether remediation is necessary and which pathways need to be remediated.

Human Health Risk Assessment

Potential current human receptors include off-site residents, recreators, and anglers. Potential future human receptors include commercial/industrial workers, groundskeepers, construction workers, and on-site residents. The media of interest evaluated include upland soil, ambient air, indoor air (evaluated through sub-slab soil gas samples), groundwater, and floodplain/bank soil, in addition to the sediment and surface water associated with Q Creek, the unnamed tributary, and the Delaware River. Fish consumption was evaluated for Q Creek and the Delaware River. Potential human health risks were evaluated for each exposure area associated with the four operational areas of the site and the three surface water receptor areas.

For almost all the exposure scenarios, the potential cancer risk and noncancer health hazards based on present site conditions are less than or within EPA acceptable levels (i.e., a cancer risk range of 10^{-4} to 10^{-6} and a hazard index [HI] of 1 or less).

The only exposure scenarios with potential risks/hazards due to site-related hazardous substances above EPA levels are exposure (through ingestion, dermal contact and inhalation while showering) to benzene and toluene in groundwater as a potable water supply for potential future on-site residents (adults and

children).

The risks and hazards associated with the low-level, isolated detections of PCE in groundwater are within EPA's acceptable levels. The risks and hazards for future on-site residents exposed to soil in each of the four operation areas of the site are also within EPA's acceptable levels.

Detailed information regarding the site-specific human health risk assessment can be found in the 2013 Baseline Human Health Risk Assessment and Appendix L of the 2014 RI Report.

Ecological Risk Assessment

In the baseline ecological risk assessment, the locations of ecologically sensitive areas, chemicals of potential ecological concern, potentially complete exposure pathways, and the results of exposure modeling conducted during the screening level risk assessment, were used to evaluate four assessment endpoints (and associated measurement endpoints) that assess the potential risk to sustainability of the following: 1) mammals and birds that eat insects or worms, such as the short-tailed shrew and American robin; 2) mammals and birds that eat other animals, such as the red fox and red-tailed hawk; 3) mammals that eat fish, such as the mink; and 4) birds that eat aquatic insects, such as the tree swallow.

The risk characterization concluded that potential ecological risk is unlikely for each receptor, chemicals of potential ecological concern, and exposure area evaluated. Thus, the ecological risk assessment indicates that the present site conditions pose no unacceptable risks to ecological receptors.

Detailed information regarding the site-specific ecological risk assessment can be found in the 2012 Screening Level Ecological Risk Assessment and the 2013 Baseline Ecological Risk Assessment Report.

WHAT IS *HUMAN HEALTH* RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current and future land uses. A four-step process is utilized to assess site-related human health risks for reasonable maximum exposure (RME) scenarios.

Hazard Identification: In this step, the chemicals of potential concern at a site in various media (*e.g.,* soil, surface water, and sediment) are identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a reasonable maximum exposure scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment*:* In this step, the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a one-in-ten-thousand excess cancer risk; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk) with 10^{-6} being the point of departure. For noncancer health effects, a hazard index (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a noncancer HI is that a threshold level (measured as an HI of 1) exists below which noncancer health effects are not expected to occur.

WHAT IS *ECOLOGICAL* RISK AND HOW IS IT CALCULATED?

A Superfund baseline ecological risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current and future land uses. The process used for assessing site-related ecological risks includes:

Problem Formulation: In this step, the contaminants of potential ecological concern at a site are identified. Assessment endpoints are defined to determine what ecological entities are important to protect. Then, the specific attributes of the entities that are potentially at risk and important to protect are determined. This provides a basis for measurement in the risk assessment. Once assessment endpoints are chosen, a conceptual model is developed to provide a visual representation of hypothesized relationships between ecological entities (receptors) and the stressors to which they may be exposed.

Exposure Assessment: In this step, a quantitative evaluation is made of what plants and animals are exposed to and to what degree they are exposed. This estimation of exposure point concentrations includes various parameters to determine the levels of exposure to a chemical contaminant by a selected plant or animal (receptor), such as area use (how much of the site an animal typically uses during normal activities); food ingestion rate (how much food is consumed by an animal over a period of time); bioaccumulation rates (the process by which chemicals are taken up by a plant or animal either directly from exposure to contaminated soil, sediment or water, or by eating contaminated food); bioavailability (how easily a plant or animal can take up a contaminant from the environment); and life stage (e.g., juvenile, adult).

Ecological Effects Assessment: In this step, literature reviews, field studies or toxicity tests are conducted to describe the relationship between chemical contaminant concentrations and their effects on ecological receptors, on a media-, receptor- and chemical-specific basis. In order to provide upper and lower bound estimates of risk, toxicological benchmarks are identified to describe the level of contamination below which adverse effects are unlikely to occur and the level of contamination at which adverse effects are more likely to occur.

Risk Characterization: In this step, the results of the previous steps are used to estimate the risk posed to ecological receptor. Individual risk estimates for a given receptor for each chemical are calculated and a hazard quotient (HQ), which is the ratio of contaminant concentration to a given toxicological benchmark. In general, an HQ above 1 indicates the potential for unacceptable risk. The risk is described, including the overall degree of confidence in the risk estimates, summarizing uncertainties, citing evidence supporting the risk estimates and interpreting the adversity of ecological effects.

FEASIBILITY STUDY

The FS is the mechanism for the evaluation of alternative remedial actions. During the FS phase, remedial action objectives (RAOs) are developed, preliminary remediation goals (PRGs) are identified, technologies are screened based on overall implementability, effectiveness and cost, and remedial alternatives are assembled and analyzed in detail with respect to the nine criteria for remedy selection under CERCLA.

Detailed information is available in the 2011 Technical Memorandum of Candidate Technologies, the 2013 Technical Memorandum on the Development and Screening of Alternatives, and the 2015 FS Report.

The RAOs below only address groundwater. The HHRA did not identify unacceptable human exposures to soils, even under a future unrestricted use scenario; however, the RI did sporadically detect several constituents in excess of New Jersey's unrestricted use soil standards (i.e., the Residential Direct Contact Soil Remediation Standards). While these detections do not warrant a response action under CERCLA, EPA understands that NJDEP will require the imposition of an IC, in the form of a deed notice, on portions of the site property where levels of constituents are in excess of the Residential Direct Contact Soil Remediation Standards. Because additional actions are anticipated by the property owner, including demolition of additional structures and further post-demolition sampling, it is not possible to determine at this time if, and to what extent, an IC might be required. These determinations would be addressed between NJDEP and the property owner prior to the reuse of the site.

Remedial Action Objectives

RAOs describe what the proposed site cleanup is expected to accomplish. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered standards and guidance, and site-specific risk-

based levels. The following RAOs have been developed to address the groundwater impacts at the site:

- Prevent ingestion of groundwater having constituent concentrations greater than their respective MCLs

- Reduce the cancer risk and noncancer health hazards due to exposure to toluene and benzene in groundwater to within or below EPA's acceptable levels of 10^{-6} to 10^{-4} for cancer and HI of 1 or less for noncancer

- Restore groundwater to unrestricted use by reducing concentrations of VOCs in groundwater, including benzene, toluene, and PCE.

Preliminary Remediation Goals

PRGs become final remediation goals when EPA makes a final decision to select a remedy for the site, after taking into consideration public comments. The PRGs for groundwater were developed to meet the site-specific RAOs.

Constituent in Groundwater	PRG (µg/L)
Benzene	1
Toluene	600
PCE	1

Remedial Alternatives

CERCLA § 121(b)(1), 42 U.S.C. § 9621 (b)(1), mandates that remedial actions be protective of human health and the environment, be cost effective, and use permanent solutions, alternative treatment technologies, and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which use, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA § 121(d), 42 U.S.C. § 9621(d), further specifies that a remedial action must require a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA § 121(d)(4), 42 U.S.C. § 9621(d)(4).

Remedial alternatives for the site are summarized below. Capital costs are those expenditures that are required to construct a remedial alternative. Operation and maintenance costs are those post-construction costs necessary to ensure or verify the continued effectiveness of a remedial alternative and are estimated on an annual basis. Present worth is the amount of money which, if invested in the current year, would be sufficient to cover all the costs over time associated with a project, calculated using a discount rate of seven percent and a 30-year time interval. Construction time is the time required to construct and implement the alternative and does not include the time required to design the remedy, negotiate performance of the remedy with the responsible parties, or procure contracts for design and construction.

Remedial Alternatives	
Alternative	**Description**
1	No Action
2	Institutional Controls
3	Physical/Chemical Treatment (Air Sparging/Soil Vapor Extraction) and Institutional Controls
4	In-situ Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls

Alternative 1: No Action

Capital Cost:	$0
Annual Operation & Maintenance (O&M) Cost:	$0
Present Worth Cost:	$0
Construction Time	0 months

The No Action alternative is required by the NCP and EPA guidance as a baseline with which to compare other remedial action alternatives. Alternative 1 is not protective of human health and the environment because it does not include any measures to prevent ingestion of contaminated groundwater, reduce cancer risks and noncancer health hazards, or restore the groundwater.

Because Alternative 1 would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, a review of site conditions would be conducted at least once every five years, as required by CERCLA.

Alternative 2: Institutional Controls

Capital Cost:	$79,000
Annual O&M Cost:	$37,000
Present Worth Cost:	$532,000
Construction Time	1 year

In this alternative, institutional controls (ICs) would be used to control potential exposure routes to impacted groundwater. ICs would consist of a Classification Exception Area/Well Restriction Area (CEA/WRA) to restrict groundwater use and prevent future use of site groundwater for potable purposes. The CEA/WRA would be established pursuant to the substantive requirements of New Jersey Administrative Code (N.J.A.C.) 7:26C-7.3, and would remain in effect until RAOs and PRGs are achieved.

Because Alternative 2 would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, a review of site conditions would be conducted at least once every five years, as required by CERCLA.

Alternative 3: Physical/Chemical Treatment (Air Sparging/Soil Vapor Extraction) and Institutional Controls

Capital Cost:	$761,000
Annual O&M Cost:	$75,000
Present Worth Cost:	$1,442,000
Construction Time:	15 years

This alternative involves physical/chemical treatment comprised of air sparging (AS) technology to remove VOCs from groundwater, and soil vapor extraction (SVE) technology to capture and remove vapors from the subsurface.

ICs in the form of a CEA/WRA would be established, as described under Alternative 2.

AS technology involves the injection of air into the subsurface through a network of sparge wells or trenches. Air bubbles released from sparge points rise up through the subsurface, contacting groundwater. This action results in a transfer of VOC mass from the dissolved (aqueous) phase to the vapor phase. The SVE technology involves inducing air flow in the subsurface with an applied vacuum. This vacuum creates a capture zone for the vapor-phase constituents.

Treatment and discharge of vapors would be aboveground by physical or chemical methods (e.g., activated carbon or catalytic oxidation) and would comply with effluent emissions requirements.

During remedial design, pilot testing would be conducted to maximize the air contact with impacted groundwater and identify the appropriate flow rates and the number and locations of sparge wells and vapor extraction wells, as well as the operating parameters for the aboveground vapor treatment system. For purposes of the FS Report, AS/SVE was assumed to be implemented in the area of highest concentration with eight sparge wells and four vapor extraction wells. A monitoring plan would be implemented to assess the effectiveness of the AS/SVE system in reducing VOC concentrations in groundwater and to optimize its performance.

This alternative would comply with EPA guidance for completion of groundwater remedies (e.g., May 2014 Groundwater Remedy Completion Strategy, OSWER Directive 9200.2-144).

Because Alternative 3 would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, a review of site conditions would be conducted at least once every five years until the RAOs and PRGs are met.

Alternative 4: In-situ Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls

Capital Cost:	$444,000
Annual O&M Cost:	$87,000
Present Worth Cost:	$1,239,000
Construction Time:	10-15 years

In this alternative, in-situ biological treatment (anaerobic biological oxidation or ABOx) would be used to remove VOCs from the groundwater. A network of injection wells would be installed to deliver a sulfate solution to the subsurface.

ICs in the form of a CEA/WRA would be established, as described for Alternative 2.

The construction (clean-up) time is estimated to be 10 years for toluene and benzene in the CFA and 15 years for the low-level, isolated detections of PCE.

During remedial design, pilot testing would be conducted to assess injection hydraulics, sulfate concentrations, and the number and locations of the full-scale injection wells. For purposes of the FS Report, ABOx was assumed to be implemented in the area of highest concentration with quarterly injections over five years (20 total injection events). A monitoring plan would be implemented to assess the effectiveness of the biological treatment in reducing VOCs in groundwater and to optimize its performance.

This alternative would comply with EPA guidance for completion of groundwater remedies (e.g., May 2014 Groundwater Remedy Completion Strategy, OSWER Directive 9200.2-144).

Because Alternative 4 would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, a review of site conditions would be conducted at least once every five years until RAOs and PRGs are met.

COMPARATIVE ANALYSIS OF ALTERNATIVES

In the FS, each alternative is assessed against the evaluation criteria for Superfund remedial alternatives and is compared to the other alternatives under consideration with respect to the Superfund evaluation criteria. A description of each criterion is provided in the text box on page 15. A summary of the comparative analysis of alternatives is provided in Table 5-1 of the 2015 FS Report.

Overall Protection of Human Health and the Environment

Alternative 1 would provide no additional protection to human health and the environment.

Alternative 2 would employ ICs to restrict the use of groundwater and thereby provide protection to human health and the environment for the first two RAOs. However, it would not achieve the third RAO of restoring groundwater to unrestricted use.

Alternatives 3 and 4 would provide the greatest protection to human health and the environment through active treatment and ICs, and would address all three RAOs.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Appendix C of the 2015 FS Report includes a summary of the action-specific, location-specific

and chemical-specific ARARs for the remedial alternatives evaluated.

Alternative 1 does not trigger any action-specific ARARs. Alternative 2 would comply with the action-specific ARARs for establishing the CEA/WRA. Alternatives 1 and 2 do not involve any location-specific ARARs. Alternatives 1 and 2 would not comply with chemical-specific ARARs.

Alternatives 3 and 4 would comply with action-specific, location-specific and chemical-specific ARARs. Alternative 4 is preferred to Alternative 3 because the chemical-specific ARARs are expected to be met in a shorter period of time.

Long-Term Effectiveness and Permanence

Alternative 1 would not provide long-term effectiveness or permanence because groundwater impacts would not be addressed.

Alternative 2 calls for ICs, which would provide long-term effectiveness and permanence with respect to the first two RAOs. Alternative 2 would not provide long-term effectiveness and permanence with respect to the third RAO.

Alternatives 3 and 4 would provide long-term effectiveness and permanence for all three RAOs by removing VOCs from the groundwater.

Reduction of Toxicity, Mobility, or Volume through Treatment

Alternatives 1 and 2 would not use treatment to reduce toxicity, mobility, or the volume of the impacted groundwater and would be considered the least effective alternatives for meeting this criterion.

Alternatives 3 and 4 would use treatment to reduce toxicity, mobility and volume of VOCs though treatment. Alternative 3 would utilize air sparging, extraction, and aboveground treatment of VOC vapors, transferring the contaminants to another medium that requires further treatment and disposal. Alternative 4 would use in-situ biological treatment in the subsurface . Therefore, Alternative 4 is considered marginally more effective than Alternative 3 in meeting this criterion.

Short-Term Effectiveness

Alternatives 1 and 2 would not pose potential additional risk or hazard to the community, the workers, or the environment. However, this alternative does not mitigate existing potential exposure pathways.

Alternatives 3 and 4 are effective in the short-term. Alternatives 3 and 4 would have minimal potential risks or hazards associated with well installation activities, which would be minimized using administrative and engineering controls, health and safety measures, and proper personal protective equipment. The effectiveness monitoring for Alternative 4 would ensure that biological degradation does not cause transient surface water quality issues. Alternative 3 would have additional potential risks or hazards associated with the installation of the aboveground collection and treatment facilities for the extracted vapors. In addition, Alternative 3 is estimated to take longer (15 years) than Alternative 4 (10 years) to meet the RAOs and achieve the PRGs for toluene and benzene. Therefore, Alternative 4 is preferred to Alternative 3 with respect to this criterion.

Implementability

Alternative 1 would require no resources or effort to implement.

Alternative 2 is considered the most implementable alternative as it is administratively and technically feasible and requires minimal resources and limited effort to implement.

Alternatives 3 and 4 are administratively and technically feasible; however, implementation of either alternative would take a greater level of effort than Alternative 2. Alternative 4 is considered more administratively and technically

feasible to implement than Alternative 3 because it does not require the design, construction, and implementation of an aboveground treatment and discharge system.

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES

1. Overall Protection of Human Health and the Environment evaluates whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

3. Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contaminant present.

5. Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

6. *Implementability* considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

7. *Cost* includes estimated capital and annual operation and maintenance costs, as well as present-worth cost. Present-worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

8. *State Acceptance* considers whether the State agrees with EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

9. *Community Acceptance* considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Cost

A table of the estimated capital, annual O&M, and present worth costs for each alternative is provided below.

Alter-native	Capital Costs	Annual O&M Costs	Present Worth
1	$0	$0	$0
2	$79,000	$37,000	$532,000
3	$761,000	$75,000	$1,442,000
4	$444,000	$87,000	$1,239,000

State Acceptance

NJDEP is reviewing the proposed remedy.

Community Acceptance

Community acceptance of the preferred alternative will be assessed in the ROD following review of the public comments received on the Proposed Plan.

PREFERRED ALTERNATIVE AND BASIS FOR SELECTION

EPA's preferred alternative is Alternative 4: In-situ Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls.

The major components of the preferred alternative are as follows:

- Establishing and maintaining ICs in the form of a CEA/WRA to restrict groundwater use and ensure that groundwater is not used for potable purposes until the RAOs and PRGs have been met;
- Installing additional monitoring wells (approximately three wells are assumed) to supplement the existing monitoring well network;
- Implementing an ABOx injection program;

- Monitoring groundwater to evaluate biological treatment effectiveness until the RAOs and PRGs are met; and

- Reviewing site conditions at least once every five years, as required by CERCLA, until the RAOs are met.

The preferred alternative satisfies the two threshold criteria and achieves the best combination of the five balancing criteria of the comparative analysis. This alternative is preferred because it will achieve the RAOs and PRGs in the shortest amount of time. It provides underground treatment of VOCs in groundwater that constitute potential risk and hazard drivers at the site. Effectiveness monitoring will provide data to optimize the treatment during remedy implementation and will ensure that the RAOs and PRGs are achieved.

Based on information currently available, EPA believes the preferred alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing criteria. EPA expects the preferred alternative to satisfy the following statutory requirements of CERCLA § 121(b): 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost effective; 4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and 5) satisfy the preference for treatment as a principal element. EPA will assess the two modifying criteria of State acceptance and community acceptance in the Record of Decision to be issued following the close of the public comment period.

FOR FURTHER INFORMATION

The administrative record file, which contains copies of the Proposed Plan and supporting documentation, is available at the following locations:

Milford Public Library
40 Frenchtown Road
Milford, New Jersey 08848
(908) 995-4072
Hours: Mon, 12:00 PM-7:00 PM; Tues, 11:00 AM-5:00 PM; Wed, 12:00 PM-8:00 PM; Thurs, 11:00 AM-8:00 PM; Fri, 10:00 AM-1:00 and 5:00 PM-8:00 PM; Sat, 10:00 AM-1:00 PM.

EPA Region 2, Superfund Records Center
290 Broadway, 18th Floor
New York, New York 10007-1866
(212) 637-4308
Hours: Mon – Fri, 9:00 AM-5:00 PM

In addition, select documents from the administrative record are available on-line at:

http://www.epa.gov/region2/superfund/npl/curtisspecialtypapers/


MAIN MILL AREA
COATINGS FACILITY AREA
600
6,000
60,000
WASTEWATER
TREATMENT PLANT AREA
QUEQUACOMMISSACONG CREEK
LEGEND
RAILROAD
BUILDING OUTLINE
BUILDING OUTLINE (DEMOLISHED)
FLOOD HAZARD AREA BOUNDARY
FLOODWAY
FLOOD HAZARD AREA
RIPARIAN ZONE
10
PCE CONCENTRATION CONTOUR
(DASHED WHERE INFERRED)
600
TOLUENE CONCENTRATION CONTOUR
(DASHED WHERE INFERRED)
NOTES:
1. BENZENE CONTOURS COVER A SMALLER AREAL EXTENT AND ARE ENTIRELY WITHIN THE TOLUENE CONTOURS. THEREFORE, BENZENE CONTOURS ARE NOT SHOWN.
2. CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L).
0
200'
400'
GRAPHIC SCALE
Milford
NORTHERN PARCEL
QUEQUACOMMISSACONG CREEK
COATINGS FACILITY AREA
MAIN MILL AREA
Upper
Black Eddy
HUNTERDON CO
BUCKS CO
WASTEWATER
TREATMENT PLANT AREA
COAL PILE AND
AERATION BASIN AREA
UNNAMED TRIBUTARY
DELAWARE
Lodi
0
2000'
4000'
GRAPHIC SCALE
NEW JERSEY
CURTIS SPECIALTY PAPERS SITE
PROPOSED PLAN
SITE PLAN
1

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 5-B

PUBLIC NOTICE

LOCAL NEWS

RARITAN TWP.

Recycle POPS (paint, oil, propane tank, smoke detector)

By Terry Wright
For Hunterdon County Democrat

Hunterdon residents will be able to recycle some hard-to-get-rid-of items on Saturday from 9 a.m. to 1 p.m. at the Route 12 County Complex in Raritan Township.

Alan Johnson, country recycling coordinator, calls the special event POPS Day. That's because it's specifically for things starting with those four letters: paint, (motor) oil, propane tanks and smoke detectors.

All sorts of paints and coatings — including latex — will be accepted. The first 10 gallons per resident are at no charge; after that it's $1.49 a pound.

Latex paint can be disposed of with household trash if it has been dried out.

To dry small amounts of latex paint, find a safe area away from pets and kids, remove the lid and let the paint dry in the can.

People who haven't done that can dispose of the latex paint Saturday, Johnson said.

There is no limit on the amount of used motor oil that will be taken per resident.

There's also no limit on 20-gallon propane tanks, the kind typically used with grills.

Johnson noted that tanks with old-style valves can't legally be refilled. Nor can tanks that were made more than 12 years ago.

After that, the tank must be re-certified with a new date stamped on it, adding five years to the expiration. But the cost and inconvenience of recertifying almost always outweighs the price of a new tank.

Smoke detectors are hazardous because of the radioactive element they contain that actually senses the smoke.

While people can mail old detectors back to their manufacturers for recycling, it's a hassle, Johnson acknowledged.

Terry Wright, twright@njnpublishing.com

Primary

CONTINUED FROM PAGE A1

candidates Peter Mendonez Jr. and Anthony Giordano are unopposed. Democrats have a race there, with three people vying for two openings. They are incumbents Reed Gusciora and Elizabeth Maher Muoio (appointed to take the seat of Assemblywoman Bonnie Watson Coleman when she left for Congress) along with Dan Toto.

In the 16th District, Republican incumbents Jack Ciattarelli and Donna Simon are unopposed. On the Democrat side, Andrew Zwicker and Maureen Vella also have no opposition.

Here are details on the municipal races:

Alexandria Township Committee, one 3-year term: Incumbent R. Christian Pfefferle Jr. is challenged by Sonya A. Sellers. Both are Republicans; no Democrats filed.

Bethlehem Township Committee, two 3-year terms: Republican incumbents John Graefe and Steve Keefe are running, along with Walter Baumgarten, who previously served on the committee and unsuccessfully sought election in 2012 as an independent. No Democrats filed.

Bloomsbury mayor, 4-year term: Republican incumbent Martha Tersigni is unopposed and no Democrats filed.

Bloomsbury Borough Council, two 3-year terms: Republican incumbents Kathleen Jordan and Chris Smith have no challengers. No Democrats filed.

Califon Borough Council, two 3-year terms: Only Democrat incumbent Michael Medea filed.

Clinton Town mayor, 4-year term: Incumbent Democrat Janice Kovach is running without any opponents. No Republicans are on the ballot.

Clinton Town Council, two 3-year terms: Republicans Beth Sosidka and Sherry Dineen are the only people running under the party banner. No Democrats filed.

Clinton Township Council, two 3-year terms: Republicans Dan McTiernan and Chris D'Alleinne are unopposed. No Democrats filed.

Delaware Township Committee, two 3-year terms: Among Republicans, there's a three-way fight involving incumbents Roger R. Locandro and Kenneth J. Novak along with Alan C. Johnson, a former committeeman. John W. Kuhlman is running alone in the Democrat primary.

East Amwell Township Committee, one 3-year term: Republican John "Andy" Reid and Democrat incumbent David Wang-Iverson are the only members of their parties to file.

Flemington Borough Council, 1-year unexpired term: Only Republican Michelle Oberst filed. Two 3-year terms, Republicans Brooke Liebowitz and Marc D. Hain seek their party nomination. Democrat Joey Novick is the only member of his party who filed.

Franklin Township Committee, two 3-year terms: Republicans Craig Repmann and Joe Darocha filed. No Democrats are on the ballot.

Frenchtown mayor, 4-year term: Incumbent Democrat Warren Cooper is running again with no opposition from either party.

Frenchtown Borough Council, two 3-year terms: Only two people filed, Republican William Sullivan III and Democrat John W. Hindman Jr.

Glen Gardner mayor, 4-year term: On the Republican side, Mattias Schroeter opposes incumbent Stanley Kovach. No Democrats filed.

Glen Gardner Borough Council, two 3-year-terms: Incumbent Republicans Richard Mitterando and Carol J. Morton have no opposition among Republicans or Democrats.

Hampton mayor, 4-year term: Republican incumbent James J. Cregar is challenged by William Todd Shaner, who is on the official party "line" of the ballot with other GOP candidates. No Democrats filed.

Hampton Borough Council, two 3-year terms: On the Republican side, Douglas E. Rega and incumbent Jeffrey A. Tampier are unopposed. No Democrats put in petitions.

High Bridge Council, 1-year unexpired term: Only incumbent Republican Stephen Strange filed. Two 3-year terms: Republicans have a 5-way battle, with incumbents Michael Stemple and Karen Scarcia running along with Alfred Schweikert (a former mayor), Alan Schwartz and Brent Dugan. Democrat Brenden Coughlin was the only candidate filing for his party nomination.

Holland Township Committee, one 3-year term: Republican incumbent Daniel T. Bush is the only person from either party to file.

Kingwood Township Committee, one 3-year term: Republican incumbent Richard Dodds is the only person whose name is on the ballot.

Lambertville City mayor, 3-year term: Incumbent Democrat David M. DelVecchio is the only candidate from either party.

Lebanon Borough Council, two 3-year terms: Republican incumbents Richard J. Burton and Samuel Berger are their party's candidates. No Democrats put in petitions.

Lebanon Township Committee, one 3-year term: Only Mike Schmidt, a Republican, filed.

Milford Borough mayor, 4-year-term: Councilman Ronald R. Rehl seeks his party's nomination. No Democrats filed.

Milford Borough Council, two 3-year terms: There's a three-way race on the Republican side, with incumbents Carole Heller and Henry Schepens on the ballot along with Elisa Yager. No Democrats submitted petitions.

Raritan Township Committee, two 3-year terms: Republican incumbents Craig O'Brien and Karen Gilbert are running. On the Democrat side are Robert Geremia and Surendra K. Puri.

Readington Township Committee, two 3-year terms: On the Republican side, incumbent M. Elizabeth Duffy and Benjamin Smith are on the line with other GOP candidates as part of the "Hunterdon County Regular Republican Organization" while Larry J. Lelah and Deborah A. Lyons are running as "Republicans FIT for Readington." No Democrats filed.

Stockton Borough Council, 1-year unexpired term: Democrat incumbent Adam Juncosa filed but not any Republicans. 2-year unexpired term, another incumbent, Republican Anthony A. Grecco, put in a nomination while no Democrats did. There will also be two 3-year terms filled in November but only two people filed for the four seats, Democrat incumbent Aaron Lipsen and Republican incumbent Nic Messina.

Tewksbury Township Committee, two 3-year terms: Republican incumbents Peter Melick and Dana Desiderio filed and no Democrats.

Union Township Committee, two 3-year terms: Republican incumbents Matt Severino and William Bischoff are running, along with Karen Z. Wisnosky. No Democrats put in petitions.

West Amwell Township Committee, one 3-year term: Only Republican Stephen Bergenfeld filed.

JUNE 2 PRIMARY

Polling locations

Alexandria Twp.: Alexandria Township Middle School, Route 513

Bethlehem Twp.: Old Municipal Building, 405 Mine Road

Bloomsbury: Municipal Building, 91 Brunswick Ave.

Califon: Municipal Building, 39 Academy St.

Clinton Town: Community Center, Halstead St.

Clinton Twp.: Dist. 1, 7, 11, Patrick McGaheran School, Allerton Road East; Dist. 2, 8, 12, North Hunterdon Regional High School, Route 31; Dist. 3, 9, Clinton Township Middle School, 34 Grayrock Road; Dist. 4, 5, 10, Spruce Run School, 27 Belvidere Ave.; Dist. 6, Round Valley School, 128 Cokesbury Road

Delaware Twp.: Sergeantsville Fire Company, Sergeantsville Road

East Amwell Twp.: Municipal Building, 1070 Route 202

Flemington: Dist. 1, Flemington Presbyterian Church, East Main Street; Dist. 2, Municipal Building, 38 Park Ave.; Dist. 3, Flemington Borough Library, Main and Maple streets

Franklin Twp.: Quakertown Firehouse, Quakertown Road

Frenchtown: Municipal Building, 29 Second St.

Glen Gardner: Borough Hall, 83 Main St.

Hampton: Municipal Building, Wells Ave.

High Bridge: High Bridge Rescue Squad, 95 W. Main St.

Holland Twp.: Riegel Ridge Community Center, 910 Milford Warren Glen Road, Milford

Kingwood Twp.: Kingwood Fire Company #1, Route 519

Lambertville: Dist. 1, 2, Municipal Court Justice Center, 25 S. Union St.; Dist. 3, 4, Union Firehouse, 230 N. Main St.

Lebanon Borough: Municipal Building, 6 High St.

Lebanon Twp.: Lebanon Township Fire Station #2, 532 W. Hill Road, Glen Gardner

Milford: Milford Public Library, 40 Frenchtown Road

Raritan Twp.: Dist. 1, 8, JP Case Middle School, Voorhees Corner Road & Case Blvd.; Dist. 2, 4, 12, 15, 20, Desmares School, Old Clinton Road; Dist. 3, 5, 17, 19, 21, Robert Hunter School, Dayton Road; Dist. 6, 11, 13, 18, Copper Hill School, Everitts Road; Dist. 7, 9, 10, 14, 16, Barley Sheaf School, Reaville-Barley Sheaf Road

Readington: Dist. 1, 2, 11, 13, Whitehouse Fire Co. #1, 271 Main St., Whitehouse Station; Dist. 3, 7, 10, Municipal Building, 509 County Route 523, Whitehouse Station; Dist. 4, 9, 12, 15, Readington Firehouse, 6 Hillcrest Road, Whithouse Station; Dist. 5, 8, Three Bridges Firehouse, 467 Main St. Three Bridges; Dist. 6, 14, 16, Stanton Reformed Church, 1 Stanton Mountain Road, Lebanon

Stockton: Stockton Firehouse, Mill Street

Tewksbury Twp.: Dist. 1, Zion Lutheran Church Christian Education Building, 18 Miller Ave, Oldwick; Dist., 2, 5, Mountainville Meeting Hall, 60 Water St.; Dist. 3, 4, Tewksbury First Aid & Rescue Squad, 163 Old Turnpike Road

Union Twp.: Municipal Building, 140 Perryville Road

West Amwell Twp.: Municipal Building, 150 Rocktown-Lambertville Road

U.S. ENVIRONMENTAL PROTECTION AGENCY INVITES PUBLIC COMMENT ON THE PROPOSED PLAN FOR THE CURTIS SPECIALTY PAPERS SUPERFUND SITE BOROUGH OF MILFORD AND ALEXANDRIA TOWNSHIP, NEW JERSEY

The U.S. Environmental Protection Agency (EPA) announces the opening of a 30-day comment period on the preferred plan to address contaminated groundwater at the Curtis Specialty Papers Superfund site, located in the Borough of Milford and Alexandria Township, Hunterdon County, New Jersey. The preferred remedy and other alternatives considered are identified in the Proposed Plan.

The comment period ends on Monday, June 29, 2015. As part of the public comment period, EPA will hold a public meeting on Thursday, May 28, 2015 at 7 pm at the Milford Firehouse, 21 Water Street, Milford, N.J. The Proposed Plan is available electronically at the following address:

http://www.epa.gov/region02/superfund/npl/curtisspecialtypapers/

Written comments on the Proposed Plan, postmarked no later than close of business June 29, 2015 may be emailed to hess.alison@epa.gov or mailed to Alison Hess, U.S. EPA, 290 Broadway, 19th Floor, New York, NY 10007-1866.

The Administrative Record files are available for public review at the following information repositories:

Milford Library, 40 Frenchtown Rd., Milford, N.J.

USEPA Region 2, Superfund Records Center, 290 Broadway, 18th Floor, New York, NY

Please contact Pat Seppi, EPA's Community Involvement Coordinator, at 212-637-3679 for more information.

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 5-C

PUBLIC MEETING TRANSCRIPT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

- - - - - - - - - - - - - X
CURTIS SPECIALTY PAPERS
SUPERFUND SITE
PUBLIC MEETING
- - - - - - - - - - - - - X

Milford Fire House
21 Water Street
Milford, New Jersey

May 28, 2015
7:00 p.m.

A P P E A R A N C E S:

ALISON HESS,
Remedial Project Manager

PAT SEPPI,
Community Liaison

MICHAEL SIVAK,
Acting Branch Chief Special Projects Branch

CHUCK NACE,
Environmental Toxicologist

SARAH FLANAGAN, ESQ.,
Office of Regional Counsel

BRIAN JONES,
International Paper project manager

PAUL MONTNEY,
Georgia Pacific

GAIL SMITH,
Georgia Pacific

GWEN ZERVAS,
Section Chief at NJDEP

MS. SEPPI: So I'd like to go ahead and get started. If people come in, we can certainly fill them in on what's going on, and, first of all, you know, I want to thank you for attending our meeting tonight. I see a few new faces, but a lot of faces that we've seen in our quarterly meetings over the past few years. So that's nice.

So we're here tonight to present EPA's proposed plans for the cleanup of the Curtis Specialty Papers Superfund Site. I guess you all know that we've been heading for this a long time.

Now, this is a little bit different tonight than our regular, you know, the CAG meetings that we have quarterly. This is more formal. You notice we have a stenographer. All your comments that you give tonight about the plan will be recorded, and then when we issue our final record of decision which we're aiming for the end of September, all those comments will be addressed in what's called a

responsiveness summary that's part of that record of decision, and that information, along with a record of decision, the transcript of tonight's meeting, that will all be on our web page, but I'll send everybody out that link and that information when that time comes.

So we want to make sure -- the most important thing tonight is to make sure we have enough time for all of your comments. So we'd like to ask that we let Alison go through her presentation without questions, and then, you know, at the end, we want to have we're hoping at least an hour, an hour and a half, you know, if not more for your comments. You know, that's the best way to do it, because what happens, if people start asking questions, you kind of get off track and it's hard to get back in line and in focus.

Again, tonight your comments are going to be transcripted and put into

the record -- into a responsiveness summary, but that doesn't mean if you don't make a comment tonight, whether it's oral or written, that you can't make any more comments. You actually have until close of business on June 29 to send your written comments or email your comments to Alison, and that information is in the proposed plan.

Is there anybody that wasn't able to see the proposed plan online? Everybody -- good. Oh, good. Everybody saw it and got a copy of it. Okay. Good.

Just one more thing. Just I just kind of wanted a show of hands of people who expect to make comments tonight just so I want to make sure we have plenty of time. Okay. Good. That's fine, and you can certainly change your mind and come up and make a comment. And, also, if you have additional comments after tonight, maybe something in the proposed plan prompts a question, send that in. You

know, as I said, you have until June 29.

So don't forget. There is a sign-in sheet in the back and Alison brought cookies. So please help yourself to those. I might be passing them around shortly.

So I think right now let me turn it over to Alison for her presentation. Thank you.

MS. HESS: Thank you, Pat. This is certainly one of the ways that -- you know, the difference between a CAG meeting and public meeting is for the public meeting I bring the cookies. Normally, it's Pat. So that's one change.

I want to thank everybody for coming out tonight. I really appreciate it. This is such an important part of the Superfund process and you have -- everyone contributing to that processing is really great. I know a lot of familiar faces, a lot of people who come

regularly to our CAG meetings quarterly providing the Community Advisory Group input for us, and it's so valuable to the Superfund process. So I really just appreciate everyone coming out.

Just quickly go over the agenda. I'm going to do about sort of 20, 25 minutes, hopefully, of presentation. We'll take a short break, in part, to help Diane, our stenographer tonight, and then, also, we want to spend the bulk of our time doing public comments. So, please, as I'm going through the presentation, if you think about something that you want to make a comment, then you'll have that opportunity to do so.

Okay. The major milestones that we had for this project, Curtis Specialty Papers, were the remedial investigation. That was conducted from 2009 to 2014. We had a number of different components to that.

Site characterization is one that is typical and standard at Superfund

sites. The risk assessments and the remedial investigation report are also standard.

At Curtis Specialty Papers, we had in addition cultural resources activities that were conducted, and I'm sure everyone in this room knows how important the cultural resources are. Both the prehistoric resources that we have from Native American times as well as the architectural resources that the Curtis Specialty Papers Mill represent, and a number of people in the room, again, have participated as we've gone along and been consulting parties under the Section 106 of the National Historic Preservation Act, and, again, thank you to those members for contributing in that way as well which adds to our process.

The feasibility study was conducted from 2011 to 2015, and that and the proposed plan that we issued this month represents sort of the newer portions of the work that we've been --

we've been tackling since the last time we had a CAG meeting, and you'll notice just from those dates of the remedial investigation and the feasibility study that they were conducted in part in parallel. So we were working on both aspects at the same time.

Okay. So talk about the remedial investigation. Here's a site plan of the site. Curtis Specialty Paper main mill area is here. Here's Frenchtown Road running along here and Delaware River along the bottom.

The area in red is the coatings facility area. That was the part of the site that was developed first. The purple along the Delaware River is the wastewater treatment plant area and the green towards the right, towards the south is the coal pile and aeration basin area, and that part is exclusively in Alexandria Township. So -- and the portion to the left or to the north is the part in the Borough of

Milford.

In addition to those four operational areas, there are also three surface water features. So I just want to point them out on this map. Here is the Quequacommisacong Creek or Q Creek also known as Milford Creek that wraps around here. We have the unnamed tributary that is a dividing line between Alexandria Township and Milford, and then, of course, the Delaware River. So the site is about 86 acres in total with 40 acres in Alexandria and the remainder in Milford.

Okay. Cultural resource activities. We had a Phase I investigation that was conducted which is a literature search. What do we know about cultural resources in the area, and that predominantly focused on the pre-contact or Native American resources.

We also did Phase I about activities which were actual fieldwork,

shovels in the ground, about 254 test pits over the site, and then where we were working in areas either sampling or other work that there was -- there was a likelihood of encountering some cultural resources, then we developed a preservation plan to make sure that we would not disturb those areas.

There's also a very extensive history of the buildings at the main mill that are captured in this recordation report, quite extensive history of the buildings, history of the paper mill operations in town and highlighting the importance of the paper mills in town life. So that is something that is a resource for the community as well, and there are -- a copy of that is in our repository that we maintain at the public library for anyone who's interested.

In addition, that information that was gathered has been produced in different forms, a booklet, a brochure and a teacher's guide, and those

documents have been approved, and they are in the process now of being printed up for use by the local community because we did want to have the architectural history, the town history and the paper mill sort of be able to be used by different groups within the community. So those have been prepared under a memorandum of agreement, and, again, a number of the folks who served as consulting parties to the National Historic Preservation Act work that we did were -- concurred on the memorandum of agreement. So that was one aspect of what we did.

Of course, we did site characterization. So that is -- you know, in many cases, we characterized the buildings, what were the buildings, where were they located, what was inside them. We did a reuse assessment. That was, you know -- and many in the room may remember this. In 2010, we released the reuse assessment for public input in draft form. We got

input from the community, and we finalized that in February of 2011, and so we looked at the setting of the site and what its current land use was and what was reasonably anticipated to be the types of future land uses.

We weren't picking a particular one but, for example, for the portion of the property in Milford, there is an existing industrial land use and a redevelopment plan for an overlay as well.

The remedial investigation was a comprehensive set of sampling that we did, soils, surface water, sediment, groundwater, discharge pipe residue, and those data were used to develop a human health risk assessment and ecological risk assessment, and both the site characterization report and the human health and the ecological risk assessments are reports and information that, as they were developed, were presented at CAG meetings. So as we've taken each step

in the process, we've come and reported out to the community on those.

This is a slide showing some information about the data set that we have. Again, we have the four operational areas of the site, the main mill area, the wastewater treatment plant, coal pile and aeration basin and the coatings facility area and then three surface water features, Delaware River, unnamed tributary and Q Creek. So a range of types of samples that were collected and across -- across the site.

Okay. So what did we find? We found that of all those samples -- we had an area of concern that's over by the coatings facilities area. This is the Q Creek coming down here and Delaware River, joining the Delaware River, and this corner, this northwest corner of the site is where we found concentrations of volatile organic compounds in soil and in water and also PCBs in the soil.

Okay. I want to also point out -- where's Michael? That here we have Building 54 and then off the top of the screen is Building 57, and I'll show some pictures of those in a few slides, but I just wanted to point them out now. They are grayed out as are the other buildings because they're no longer there.

Okay. What we found in groundwater was that we had in that northwest corner the groundwater contamination that I mentioned, volatile organic compounds, benzene and toluene, and then we also -- and fairly significant levels. Then we also had a few isolated areas where there were low levels of a different volatile organic compound called tetrachlorethylene or PERC. So -- or PCE. So we had 16 groundwater monitoring wells monitoring groundwater in multiple rounds across the site, and that's what we found with respect to groundwater.

While we were doing the

investigation, we did find the contamination that I mentioned, and we also took the opportunity to do a number of different early response actions or projects at the site, and for each of these as well, we reported out to the CAG group about what the plan was, when it was accomplished, what we had done and then did community notification for nearby residents.

So one of the first ones that we did is the aeration basin removal and then we also did, and this took a couple of years, the pre-demolition environmental removal. So within each of the buildings and in and around the buildings we removed -- we, by which I mean Georgia Pacific & International Paper with EPA's oversight, removed the hazardous materials within the buildings.

We also had abandoned -- properly abandoned the production wells. These are very large wells on-site not used

for monitoring. As I mentioned, the Building 54, Building 57 area, the coatings facility buildings were demolished, and in that area, that northwest corner by Q Creek, there was a -- and I know everybody in the room is familiar with this, severe storms that came through and collapsed the bank, the Milford dam collapsed, and so there was very extensive mitigation to restore those slopes and to restore the plantings in that area.

We did some additional work in the coal pile and aeration basin area. A few small buildings came -- came down as well, and then the most recent one that we reported out in 2014 was the eastern load out and vehicle access set up area. That is closer to Frenchtown Road and kind of behind where the trailer is right now.

Okay. So this shows the slope area mitigation. We've shown this slide before at the CAG meetings, Building 57 area, and you can see the

collapse of the bank and then it was built back up and then vegetation restored, and the same thing the Building 54, coatings buildings as well where the bank areas had been restored. So now when we -- and that slope area mitigation was, you know, more than 10,000 cubic yards of contaminated soil being removed. So, as I say, it was an extensive project.

The baseline human health risk assessment. We evaluated potential exposures to human health for cancer risks and noncancer health hazards associated with exposure to contaminants. We use the acronym COPCs, constituents of potential concern, but contaminants in soil, sediment, water, air and fish.

So we evaluated on-site workers, groundskeepers, construction workers, recreators in the area, hikers or swimmers, anglers, people fishing as well as an on-site resident, and so all of the data that was still meaningful

for the project meaning that the soil was still there, not dated that represented the 10,000 cubic yards of soil that was already taken off and properly disposed of, but what was remaining there at site, on the site was used in the human health risk assessment. So -- and we've come and presented on the human health risk assessment.

The majority of exposures were within or below EPA's levels of concern, and what was not acceptable was exposure to the benzene and the toluene in groundwater in the coatings facility area. So that northwest corner I showed with the groundwater plume, that was not acceptable.

With respect to ecological receptors, we evaluated short-tailed shrew, American robin, red fox, red-tailed hawk, mink, tree swallow, different trophic levels, different kinds of ecological receptors that would be exposed in different ways, and

of all of those, there was no unacceptable risk to any ecological receptor.

So this is moving on to the feasibility study into the proposed plan. These are parts of the Superfund process that we have not presented before. They've very recently been finalized. So I'll walk you through the work we did there.

One of the first things we did was identify what our objectives were. So what are -- what -- what were the problems at the site that we wanted to take care of by our cleanup options.

The first one is to prevent ingestion of contaminated groundwater above the Safe Drinking Water Act maximum contaminant levels.

The second one was to reduce the cancer risks and the noncancer health hazards related to the exposures to toluene and benzene in the groundwater. We wanted to reduce those exposures to less than or within EPA's acceptable

levels, and then the third one is to restore the groundwater to unrestricted use by reducing the concentrations of contaminants in groundwater.

Okay. So then we developed preliminary remediation goals. These are preliminary only in that the -- we're at the proposed plan stage now. So once a record of decision is issued for the final cleanup, then they will become the remediation goals, but at this point, they're preliminary because they were in the proposed plan stage.

We have the three different constituents benzene, toluene and PCE, and you can see the remediation goals there. They're in micrograms per liter or parts per billion. So those are the more stringent of the federal or state standards for those constituents in groundwater.

Okay. I've presented this -- I think I presented this at the last CAG meeting, but I wanted to make sure that

I cover the nine evaluation criteria that EPA uses for Superfund cleanup decisions. So this is for all Superfund sites across the country, but there are two threshold criteria, overall protection of human health and the environment and compliance with environmental laws applicable or relevant and appropriate environmental laws which, of course, EPA has an acronym, ARARS.

Okay. We have five balancing criteria that are listed here, the long-term effectiveness and permanence, reduction of toxicity, mobility or volume through treatment, short-term effectiveness, implementability and cost. So I just want to say that this is the part -- a part of the process where cost comes into play.

We also have two modifying criteria of state acceptance and community acceptance, and it's through this public comment period that EPA receives public comment and has an

opportunity in the record of decision to respond to it in a responsiveness summary. So community acceptance is gauged by the public comment period, and we very much appreciate people coming out today and commenting.

Okay. We have four alternatives. The first one is required by EPA as a baseline. It's used to compare against the other alternatives. It means that nothing changes. So no action at all, and that alternative is not protective of human health and the environment. So it doesn't meet the threshold -- that threshold criterion, and it's only used going forward as a comparative against the other alternatives.

There are four alternatives that are considered in the proposed plan. I just want to say that we did look at some other ideas, but some of the other ideas were screened out because they were not as -- not as effective. So just on a general screening they were eliminated.

An example of that might be groundwater pump and treat which people might be familiar with and turns out to be in many cases not very effective. It's expensive and not energy efficient at all, and then it really is not very effective in reducing groundwater concentrations. So that's one that we screened out early on.

The four alternatives we have represent a range of alternatives but are ones that can be implemented and are -- are feasible. We also -- I guess maybe I'll just say this now. We didn't look at demolition. I know that this is such an important issue for the community, but the demolition is not part of the alternatives that we considered because the hazardous substances have been removed from the building.

So the hazardous substances that remain to be addressed at the site are in the groundwater. So the four alternatives here are groundwater

alternatives. Again, the remedial action objectives all tied back to the groundwater.

I just want to say so you know my prop that even though demolition isn't part of our alternative that it's on the way to be happening. This is a permanent equivalency for beneficial reuse of material at the site. So this is in conjunction with the planning for demolition. So it's definitely -- it's definitely happening. As I go through the alternatives, I don't want people to be kind of wondering what about demolition.

Okay. All right. This second alternative that we have is institutional controls. This would be a mechanism to prevent people from coming into contact with contaminated groundwater. It would be a classification exception area and well restriction area.

Under New Jersey law, this can be placed on locations that have

groundwater contamination and restrict future use. It would protect human health and the environment because it would cut off that exposure pathway, but it doesn't restore the groundwater. So it doesn't help accomplish that third remedial action objective.

So then we have alternatives three and four and alternatives three and four are similar in that they both include the institutional controls and they're protective of human health and the environment and would meet all three remedial action objectives.

Alternative three relies on physical and chemical treatment. So that is an air sparging technique. It adds -- introduces water -- sorry, air into the groundwater and transfers the contaminants into a vapor phase, then that gets collected and treated. This is an above-ground process. I mean the -- the air injection is into the ground, but then it comes up and the treatment is above ground.

So just to contrast that with alternative four which is in-situ or in the ground biological treatment, it also removes the volatile organic compounds from the groundwater. It's sort of an off-the-shelf technology easily implemented. It's protective of human health and the environment, and it meets all three of the remedial action objectives.

It would also have five-year reviews. So every five years the data from the site would be formally reviewed. Of course, it's always examined as the data become available. So that would happen until -- the five-year reviews would happen until you meet all of the remedial action objectives and the groundwater cleanup standards have been obtained. If we did find something else at any point during five-year reviews, then that also would become investigated or at any other part in the project.

Taking a look at the remedial

alternatives and their costs, listed here on this slide, alternative four is slightly preferred in that it's a little bit cheaper. It's mostly preferred in that it's faster. It would achieve the remedial action objectives more quickly.

So, in the proposed plan, EPA identified alternative four. It's effective and easily implementable. It's a bioremediation technique that is below ground. So it doesn't require a lot of above ground infrastructure to be built and it accomplishes the remedial action objectives in the shortest time and it's -- it would be implemented in that small northwest corner of the site near -- in the coatings facility area near where Q Creek discharges and empties out into the Delaware River.

Okay. Our public comment period is through June 29. The original printing of the proposed plan said June 19, but it's actually June 29. We

added on a few more days. The written comments come to me. You can give written comments, hand them in at this meeting or any time through June 29, and then we'll also take verbal comments here at the meeting as well, and I just kind of for consistency with all the CAG meetings where we show the site wanted to -- this graphic wanted to just point out that we have three new checks for Curtis Specialty Paper.

The feasibility study report has been completed. The proposed plan has been released and the teacher's guide brochure and booklet have been approved, and so those are being printed up. We'll have the public comment period and then EPA will respond to all the comments in the responsiveness summary portion of the ROD, and so the next time -- the next time we gather, in all likelihood, EPA will have issued the record of decision and the current timing on that is by

the end of September. So that's just a general time frame on that. Okay.

MS. SEPPI: Yes. I apologize for my oversight in the beginning because we have all of the people and the part of our team here and I always ask them to please introduce themselves. So before we start the comments, I'd like them to do that so you'll have an idea who is here who may be able to address some of the comments this evening.

We have Alison Hess from EPA. Pat Seppi from EPA. Why don't we do EPA first? Michael.

MR. SIVAK: I'm Michael Sivak. I'm the acting branch chief of the special projects branch at EPA.

MR. NACE: Hello. My name is Chuck Nace. I'm an environmental toxicologist with EPA and I worked on the human health risk assessment.

MS. FLANAGAN: My name is Sarah Flanagan. I'm an attorney in the Office of Regional Counsel assigned to the site.

MS. SEPPI: Thank you, Sarah.

MR. MONTNEY: Hi. I'm Paul Montney. I'm the Georgia Pacific project manager on the project.

MR. JONES: I'm Brian Jones with International Paper, project manager on the project.

MS. SEPPI: And somewhere is Gail.

MS. SMITH: Gail Smith with Georgia Pacific.

MS. ZERVAS: And I'm Gwen Zervas with the New Jersey DEP.

MS. SEPPI: Okay. One other thing. Please do not forget to sign in at the back of the table and I just have one quick comment. We really appreciate all work that this CAG has done. There's a lot of sites, believe me, that have a lot of CAGs. This is our favorite one without a doubt.

You have been so dedicated and so engaged, and it makes our job so much easier to know your feelings, and I know we don't always agree on everything, but I think being able to

talk to each other and communicate makes a big difference. I thank everybody for their attendance, and we'll have more CAG meetings in the future. I feel like we've reached a point now where we're moving quickly.

You want to take a short break?

(Discussion off the record.)

MS. SEPPI: What I'd like you to do is stand up and please, if you would, give your name and spell it please. Right, Diane? So she'll have that for the record and give us your comments. I know you were going to be first.

MR. WHITE: Bob White, W-H-I-T-E. I'm on the Milford Borough Council.

Question about the -- you were talking about biological in-situ, biological anaerobic, and, yet, what you're talking about is injecting sulfates, but it sounds more like it's a chemical, not a biological.

Perhaps somebody could explain the process a little bit. I know I've done

some reading, but I'm not sure everybody really understands exactly what that means in terms of how that's going to impact the BOCs, particularly, benzene and toluene.

MS. HESS: So there are microbes, bugs in the ground. So some of them are aerobic and some of them are anaerobic. So in the process of the contamination being in the groundwater, the oxygen gets used up. So by injecting the sulfate, there's an opportunity for the anaerobic process needs to take place, and they also continue that work of reducing the -- reducing the contamination. So it's a biological process even though you're injecting the sulfate.

MS. SEPPI: And again, Bob, that would be responded to in the responsive summary also.

MR. WHITE: Okay.

MS. SEPPI: Any? Yes, Henry.

MR. GORE: Hi. I'm Henry Gore. Today I'm representing the Holland

Township Environmental Commission. G-O-R-E. I am a Holland Township resident.

Okay. On February 24, a Professor Tullis Onstatt of the Department of Geoscience in Princeton University sent a letter to FERC which is Federal Energy Regulation Commission on objects or analysis of some problems with the PennEast pipeline. One of the items he identified was the high concentration of arsenic in this area. We have a hot spot of arsenic, and I have a map here, and you can put this in the record. That is from his letter showing the hot spots and within I guess a half a mile of the mill site there is a tremendous hot spot.

Okay. And this -- and he also hypothesized that construction of the pipeline would disturb the soil so much that it would influence the environment and cause an environmental problem. He also hypothesized that anaerobic or reductive actions from the pipeline

operation would cause a worse problem because of reductive actions on the arsenic and solubilization.

Now, if we're going to be doing well work and disturbing the soil, this arsenic might be reintroduced into the environment and it might make the problem worse. Granted, I don't recall any problems with arsenic in mill production water and the geology of the flood plain might be a little different. It is still worthwhile to be concerned about this high arsenic level in the area and its potential influence on what you're doing, and that's essentially my comment.

MS. SEPPI: Thank you. Thank you, Henry. You have your homework now.

MS. HESS: Yes.

MS. SEPPI: Another comment please. Come on. There's got to be lots of comments.

MR. WHITE: I've got more if nobody else has.

MS. SEPPI: You were trying to be

nice and do one at a time. Go ahead, Bob.

MR. WHITE: Did you consider actually adding additional microbes -- did you actually consider adding additional microbes because some of the readings I've done there are additional microbes out there. I apologize if I'm butchering the name on this. Dech -- get the name here. Dechloromonas aromatica strain RCB which is actually specifically attached both benzene and toluene as opposed to just running with the sulfates. Actually adding microbes to speed up the process, injecting microbes to speed up the process.

MS. SEPPI: Do you want to wait for the responsive summary?

MS. HESS: I would just say that once the record of decision is issued which is a -- the final cleanup decision, and if it identifies the alternative four biological treatment, then the next step after the record of

decision is remedial design. So, at that point, the specifics of the biological treatment would be determined. So it's not ruled out under that alternative of biological treatment.

MR. WHITE: So this is really more of a concept as opposed to an actual detailed plan of what's to happen.

MS. HESS: Absolutely. Absolutely.

MS. SEPPI: And based on comments we get, you know, there's always the possibility that that plan could be changed. You know, that happens too. So yeah. Another comment.

MR. CASTAGNA: Rob Castagna, C-A-S-T-A-G-N-A, and Pat, I just want to say, as part of the community, we appreciate the work that the EPA has put into having the CAG meetings, an opportunity for the community to present their voice. I have several comments. Some of them may seem insignificant pertaining to your

report, and I won't read them all. I'll just give you a couple to give you an idea and then I had some serious comments.

On page 3 of your report, you mentioned that the railroad sections to the north and south of the site have become part of a Rails to Trails program, and that's not so. The railroad tracks north of this site are still there and we, in Milford, feel they can be a very important part of an asset to the future reuse of that property. So that it's not a Rails to Trails yet north of the mill site.

There's references on page 4 about the properties on Frenchtown Road using the public which is the Milford water supply and you talk about residents and commercial uses. I think you're talking to the mill houses in Alexandria Township, and to the best of my knowledge, there's no commercial establishments in Alexandria Township using Milford water.

There's an item on page 9 about the exposure scenarios, about inhalation by showering. Any future use there will be using Milford water. I don't believe there's any plan for future use using the groundwater that's on-site. It would be Milford water.

You mention -- Alison, I was a little confused about your comments on tearing down the buildings. That is a serious concern in Milford about what's going to happen with the buildings, and on page 5 of your report you said you demolished the above grade portion of four of the building and associated structures to improve the site security and reduce the health and safety risk associated with abandoned structures.

When Hurricane Irene came through, that portion by Q Creek did a lot of damage not only to the creek bed but to the buildings and that forced the paper mill to go in there and tear those buildings down. My feeling is we need to use that same logic now to tear down

some of the buildings that are so dangerous. They're so dangerous that the firemen aren't able to go into those buildings.

So we keep putting off and putting off and putting off. Some of those buildings need to be torn down. I don't know what you were referencing there about the book. Are you saying they do have plans now to go in and tear those buildings down?

MS. HESS: Yes. This is the -- a step in the demolition process. This is a permanent equivalency to use the -- some of the clean material that's been stockpiled at the site as a beneficial use at the site for filling in some of the basement areas and such.

MR. CASTAGNA: I'm really pleased by the way the state DEP is here, and I don't know that the state DEP has been at some of the other CAG meetings, and I'll get to that in a minute.

One of the comments you had was on page 3. It says the local community is

interested in future use of this site. To me, that was the biggest understatement in the report. This town has to reuse that site. This town -- you know, the survival of this town is highly dependent on reusing that site, and the importance of that site, you know, we have a bed and breakfast in town, and we get guests from around the world, and people just can't believe how beautiful it is to be on the Delaware River.

The Delaware River is one of the best environmental success stories in the world, and when we look out and we see a paper mill, everybody sees how horrible it is. The potential that that site has, though, and the future of Milford is dependent on that site.

It's on one of the best environmental success stories in the world, the Delaware River. It's in Hunterdon County, one of the best counties in America. Every square foot of footprint of those buildings there

is important for our town. We're going to be able to reuse that facility and the footprint is important to us and we plan to reuse that facility.

I know that IP and GP are major corporations in America. Their combined revenue is something like 50 billion dollars a year. To them, Milford is nothing. It's a drop in the ocean. To Milford, that site is very important. It's 10 percent of our property and at one point close to 40 percent of our tax base.

Nowhere in your four scenarios did you point out how long that's going to take. We can't sit by month after month, year after year and have them play around down there. I want to see a scenario that says let's go in full bore. Let's go in and spend a lot of money. A million dollars is nothing. They need to go in there and do as much as they can as fast as they can with as much money as they can to get that site cleaned up so we can reuse the site.

We're not going to sit around here and wait 15 years. There won't be a town of Milford left. I'm encouraging you to put another scenario up there, step five. What can they do?

If this was something happening at Washington, DC, at the White House or anywhere in Washington, they wouldn't wait around 20 years. I want the paper mill to realize how important that site is to our future in Milford. We can't wait for 20 years or five.

MS. SEPPI: Thank you for that comment. Anybody else? Yes, sir.

MR. MILLER: Wayne Miller, Milford resident.

Just following up on what Rob had to say, can we ask a direct question? The remediation we're talking about here, will that stop say the demolition that -- is that going to put us in another five-year or 10-year period of waiting? It's a direct question.

MS. HESS: No. I mean the remediation that's necessary is only

for the small northwest corner of this site. The remainder of the site is essentially unaffected by that. The demolition can proceed. Reuse can proceed.

This is just in that one small corner. We'll need to do the cleanup of the groundwater that's contaminated there, but that area over by Q Creek and the Delaware River, that corner is not an area I would say that is likely to be developed in that it's in the hundred year flood plain. It's in the riparian setback from Q Creek.

So that's not an area that's going to be part of any major reuse plans for the site.

MR. MILLER: Okay. Once the ROD is published, when -- when do you guys disappear?

MS. HESS: We don't disappear unless everything is all cleaned up and it's done.

MR. MILLER: Okay. So once the remediation -- so we have remediation

for groundwater.

MS. HESS: Right.

MR. MILLER: You guys will be around for that, but for the rest of the site, will you have any oversight or be involved at all?

MS. HESS: Knowing what we know now, I would say that we would have, you know, just continued work on the groundwater portion.

If, theoretically speaking, during demolition something is uncovered that we have no idea of right now, it's part of the Superfund site. So we are around for something that we don't know about now. So we could definitely be around for something else should there be new information that we don't have at this moment.

MR. MILLER: So at this point, GP and IP would be really the only players, especially with us, Milford. In the other part of the -- other than the remediation here, they would be really in charge of what happens next

and without DEP or EPA input.

MS. HESS: Georgia Pacific and International Paper are responsible parties under the Superfund law. Yes.

MR. MILLER: I think you answered the question.

MS. HESS: Well, I mean I don't want to say necessarily that they would be the only ones, but they are -- they are two. Yes.

MR. MILLER: Can we have GP and IP -- you guys address this a little bit tonight about the remaining properties and demolition?

AUDIENCE MEMBER: The demo.

MS. SEPPI: That's kind of difficult. Go ahead, Michael.

MR. SIVAK: I don't think that's necessarily appropriate for our public meeting right now. We're her tonight to talk about -- and, again, I'm the acting branch chief of the special projects branch and the Superfund project of Region II.

So we're here tonight to talk

about our preferred remedy and the other alternatives to clean up the site. What you've asked is something that goes outside of the scope of that, and you're welcome to have that conversation with these guys after the meeting, but we'd really like to stay focused on our part of the remedy itself.

We understand the importance of the redevelopment and we understand keeping the momentum going and keeping the progress going, but we really need to stay focused on our part of the meeting which is evaluating the alternatives for cleaning up the site and any comments that you have on EPA's preferred remedy.

Thank you. I appreciate that.

MS. SEPPI: Before I get back to you, Bob, anybody else? Yes.

MS. ZIMMERMAN: My name is Lilly Zimmerman. I live in Milford. I walk along the river, and there's walking paths along the river, and I think

there's some 300 or more --

AUDIENCE MEMBER: We can't hear you.

MS. ZIMMERMAN: I think there's some 300 or more year old trees along the river. When you get over towards the trestle that goes across the creek, would the remediation ever allow the path to continue across that area and continue down to Frenchtown if the soil -- the water were remediated?

I was wondering if that will never be a possibility.

MS. HESS: Okay. I think that -- it's a very good question. I think it's one that we wouldn't be able to answer until we've done the engineering design of the cleanup remedy, because they're very -- it's in very close proximity to that area, but that's something that we can certainly look at, and we know there's an interest in connecting the Rails to Trails.

MS. ZIMMERMAN: A big interest.

MS. SEPPI: Linda, you had a

comment.

MS. CASTAGNA: My name is Linda Castagna. I'm grateful for everyone here tonight. I think you heard them say that your voice counts over the weeks ahead.

Please write your letters. Please speak up because it can't be left to a few people. This is so critical, so important. We need every single person here, and you're just important to the process, whether you're a leader in town or you're even renting. It doesn't matter. We need your word.

So please speak up. This has been a great group to work with. I hope in the end we don't say anything different. We need -- we need these companies. Go ahead and chuckle, Michael.

MR. SIVAK: My goodness.

MS. CASTAGNA: But you said that in the very first CAG meeting we had. Please don't lie to us and I say that tonight. I don't expect you to. We've

learned to really care for you and you've thrown that back at us, but in the long running, we need that cleaned up for residential.

If you put the little picture back up there, you'd see health clinic. You'd see a row of houses. There are actual people lives living there, and, yes, cancer has come out of that site.

So please don't let us down. Speak up, and thank you again, and I hope in the end we can praise you highly.

MS. SEPPI: Thank you, Linda. Yes, sir, in the back.

MR. KELLER: I'm probably going to reiterate. My name is John Keller, K-E-L-L-E-R, and I'm probably going to reiterate on some of the things already said already, but I want to thank the Superfund, the EPA for doing this for us.

The other thing I'd like to say is that me and my partner Barbara have said for years now that place looked

like a nightmare down there, and what we think now is that, you know, this thing is going to go on and on and on, and we're going to be passed away before we even see this thing cleaned up.

I understand what he was going to say. You're going to get this cleaned up as far as the groundwater. We'd like to have it cleaned up completely. So whoever is going to do this demolition, we would hope that they get at it too because we need like that ground too, and we'd like to see it before we all die.

MS. SEPPI: Thank you. Bob.

MR. WHITE: I'm back.

MS. SEPPI: I guess you have his name already.

MR. WHITE: Back to what Wayne was saying, if the focus in this area is that small area with the coatings factory, what's the possibility of delisting the rest of the site, even putting, you know, a certain area

around that and actually making that other area then available for redevelopment?

MS. SEPPI: Is that something you want to address now? Do you need to do research and address that?

MS. HESS: That's something that has occurred to us as well, and we're sort of thinking about whether we can do that, what the threshold requirements are.

I mean I think, as people in the room may know, we have taken that approach with the Crown Vantage landfill and issued in the Federal Register a notice of intent to delete because we could. We recognize that has value for the community where we're able to delete Superfund sites from the national priorities list.

It doesn't mean that we go away. If any new contamination is found, we're right back as if the deletion didn't happen, but where we can, as an agency, we like to recognize getting to

that step. So, you know, I can't say right now that we can do it, but we certainly are aware of the interest and have that ourselves, the interest in deleting wherever we can.

MR. WHITE: That would be huge because that certainly would speed up the opportunities for redevelopment. It wouldn't scare people away when you tell them, oh, yeah, it's a Superfund site.

MS. SEPPI: Good comment. Thank you. Anybody else is?

MR. LODOWSKI: I have a question instead of a comment.

MS. SEPPI: Sure. If you can give Diane your name? Thank you.

MR. LODOWSKI: Ron Lodowski, L-O-D-O-W-S-K-I. Forgive me. I didn't read any of the information pertaining to this stuff. So some of this question might be ignorant. I'm sorry. I didn't mean to waste your time if it is.

You mentioned a sampling after

five years after you do your remediation process. Is there currently any core sampling that takes place in the wells at this point in time and is there going to be more periodic sampling of existing monitoring wells or did I hear you wrong and you said five-year period, and if there has been core sampling of the wells, is there any natural attenuation of the materials that are there now?

MS. HESS: That is a great question. Thank you.

The sampling that's been conducted in the groundwater already has been the 16 groundwater monitoring wells in multiple rounds and that gave us the information that we needed to develop the feasibility study and for EPA to select its preferred alternative. The five-year reviews that I mentioned are a -- it's a review consistent with EPA policy. Every five years we're going to issue a report that says what the

results of the groundwater data tell us. Now, that's only issuing the report.

The report is based on groundwater data. This is continued to be collected, and it will be as part of the engineering design and then also as part of the remedial action cleanup that we do. So there will be additional groundwater sampling at a greater frequency than every five years.

It's not going to be groundwater sampling only once every five years, but the reporting in a formal five-year review is once every five years. There will likely be -- although this hasn't been specified yet, there will likely be quarterly, semi-annual, annual reports and frequent monitoring of the groundwater.

At this point, we have not focused on attenuation parameters for what might be naturally occurring in the groundwater to reduce the ground -- the

concentrations of the contaminants, because in our view, an active remediation is necessary.

So our focus is on the active in-situ biological treatment, and so we haven't been focusing on natural attenuation, but that's something that, you know, is ongoing even without our active remediation. I mean to the extent that it's taking place, it's taking place.

MS. SEPPI: Rob.

MR. CASTAGNA: Rob Castagna again. Couple comments and questions.

I think something that's been overlooked in all the discussion, the pollution at the mill site was not as bad as we thought it would be and most of it was localized to the Q Creek section, and good or bad news, a lot of that got washed away with Hurricane Irene.

So we're not looking at a highly contaminated site as I think we anticipated when they first started

working down there, and that kind of gets to Bob's comments about that one section there.

As I'm sure you know, our town has recently received a letter from somebody that's interested in a brownfield site in New Jersey that has railroad access. Is there any potential that that could happen within the next year?

If you take that one site away by Q Creek and open up 20 or 30 acres like they're looking for, is that something that you guys are working with, that kind of proposal?

Getting back to what I said earlier, we need that site reused as quickly as possible. So we do have somebody sending a letter. They could have sent a thousand letters like that out. We don't know, but from what they're asking for, it looks like the Milford site might help them.

So I don't know if that's something you could answer or they

could answer, but you guys are aware of that letter, right, and is that something that's a possibility within a year?

MS. HESS: I haven't seen the letter. So I don't know about that in particular. I'm certainly willing, you know, to have that in consideration as we complete our process.

EPA is not going to be determining what the ultimate reuse of the property is. Under the Superfund program, we're responsible for doing the cleanup and that's that small portion that's necessary.

MR. CASTAGNA: Well, on the four proposals that you had, Alison, I don't think you answered the question I had already earlier is what kind of time frame are you looking for if you pick, what was it, step four was the one?

MS. SEPPI: That's the one, yes.

MR. CASTAGNA: What kind of time frame are you looking for when it will all be done? Is that a five-year deal?

MS. HESS: Our estimate right now is that one portion would be about a 10-year cleanup operation.

MR. CASTAGNA: I'll just emphasize again. The Town of Milford can't wait 10 years. It won't be here.

MS. HESS: Right, but as I mentioned, that doesn't -- to EPA's point of view, that doesn't preclude other work in other areas of the site including site redevelopment because I don't -- I don't believe that that small portion in the northwest corner is an area that would be of interest for future development given its location and site constraints in the riparian zone.

MR. CASTAGNA: So that gets the future use and this letter, the current one that we have, there is a chance that we can use the rest of the facility and keep this one section by Q Creek under development under work.

On the four proposals that you had, is that like cast in concrete, or

based on meetings like this, is there a chance you can add another one that talks to a more aggressive approach?

MS. HESS: We will evaluate all the public comment that we receive. So there's nothing that's off the table at this point. I mean we -- we need to sort of look at the public comment that we receive and then we would make that decision at that point.

MR. CASTAGNA: Okay. And then one last comment is, you know, we've asked for at least the sign up down there saying we, the EPA, IP, Georgia Pacific, care about what's going on here and we're working on it. There's still no sign and we heard all the stories last time. You can't put a sign up for safety reasons and all that.

We want a sign up down there. We want something so that people that come into our town know that there is something going on there, because when you drive by, you can't see anything

going on there. We would like to see a sign up that says we care, we're working on it and we plan to reuse this facility.

MS. SEPPI: Sir, in the back.

MR. COCHRAN: Yes. Jim Cochran, C-O-C-H-R-A-N. This is a great meeting. These are wonderful people.

I'm just wondering if it's not time to take Georgia Pacific and International Paper -- maybe take this to the public. They're publicly traded companies. They have annual stockholder meetings. Maybe we should find out where those annual stockholder meetings are and attend it. Maybe we can get some other environmental groups to put some pressure on them.

You know, these guys have been working on this for a long time. I'm sure it's job security for them. Maybe we have to go to somebody higher up in the company that says, gee, you know, this doesn't look good on our books. When the stockholders look at this and

they still see this hanging out there, it's an expense we're going to have some day.

Let's do it now. Let's get it over with. These are nice people. I'm not such a nice person. I don't mind going over their heads.

MS. SEPPI: Thank you. Somebody else had their hand up here.

MS. LA FEVRE: I did. Noralie La Fevre, N-O-R-A-L-I-E L-A capital F-E-V-R-E.

I just wanted to ask if the EPA and the DEP had gotten together to figure out when we could get our wells on line. We had -- have wells that we're still waiting to put on line, and I think they are waiting for your okay.

MS. HESS: New Jersey DEP is not waiting for EPA's okay. We are managing the Superfund site which is separate. We have shared all of the data with New Jersey as well as with the Borough of Milford.

So, you know, we're presently willing to share all the information that we've obtained from the various groundwater sampling rounds that we've conducted.

So we're happy to help in any other way. It is not my understanding at all that New Jersey would be looking to EPA for any input on its permitting process.

MS. SEPPI: Yes, sir.

MR. KROTH: My name is Rich Kroth, K-R-O-T-H.

Sort of pulling together two bits that I've heard tonight to a more formal question, I get the sense that the remediation of the area that you're looking at is somewhere in the 10-year range, and there's also a question about the trail and the engineering involved to be able to use the trail following the cleanup.

Does that possibility not exist until the end of that 10-year time period or would the possibility exist

that the substantive part of the remediation could potentially happen in the first five years and allow for access earlier?

Maybe too early to ask that question, but I thought I'd put it out there since this is an important link to our community.

MS. HESS: I think -- I mean it's premature to say because the design hasn't been completed. We have to actually have the record of decision. We have to close out the public comment period and respond to comments.

So there are a few steps in there, but we do recognize the interest in having the Rails to Trails, and that was one of the reasons that we looked at the in-situ in the ground remediation rather than a remediation that would be aerobic above ground with a lot of infrastructure that might not be compatible with using a Rails to Trails approach.

MR. KROTH: Great. Thank you.

MR. FLECK: I'm Nathan Fleck, F-L-E-C-K. I'm the fire chief in town here.

MS. SEPPI: Thank you for letting us use your facility.

MR. FLECK: You're welcome, you're welcome, everybody.

A couple of questions. The paper mill had its own fire protection system that included a pump house along the river. I was wondering if -- what condition it was in, and if that's a possibility it could be restored at some point?

That fire protection system and all the hydrants that the paper mill ran was very important to the southern end of Milford Borough for fire protection and the western portion of Alexandria Township along with the paper mill site.

The second question I had was there was also a ramp that went from behind the water treatment facility down to the river that we also used to

use to draft down the river. That's the only point in Milford we can actually use the river water for fire protection. I wanted to see if that could also be restored amongst your plans.

MS. SEPPI: Thank you for that comment. Henry, did you have another?

MR. GORE: I just have sort of a general question about, when you have projects going forward, you usually have a source of funding, and we haven't talked about that. Who's paying for all of this and, you know, is the taxpayer paying for it or is Milford paying for it? Am I paying for it?

MS. SEPPI: No. We have International Paper and Georgia Pacific who are the responsible parties.

MR. GORE: Okay. How much have they spent on it because that's a significant amount of money?

MS. SEPPI: I have no idea.

MR. WHITE: It's a significant

amount of money.

MS. SEPPI: Wayne. Was it Wayne?

MR. MILLER: Yeah. Wayne again. Maybe I read this wrong, but what I seem to get out of the letter and was that you only -- with this kind of remediation, the only warning, if you would, that I saw was just you cannot use this groundwater for potable water and it's a deed restriction and that's it. That's all I saw.

Can't this be opened up? We're not going to use the water. Can it be -- I don't know. Why is it restricted if that's the only restriction? I mean if you could take care of the restriction just by putting a deed restriction on the deed for that section.

MR. WHITE: That's number two as opposed to number four.

MR. MILLER: That's number two.

MS. HESS: Alternative two is an institutional controls remedy. That's only putting the groundwater

restriction on the property to prevent use as a potable water source.

MR. MILLER: You can't do that while the remediation is going on?

MS. HESS: That would be -- that institutional control is also a part of EPA's preferred alternative. So while the active remediation is going on, until we meet the groundwater cleanup standards, there would be that restriction in place to protect.

MR. MILLER: That was my point. So, technically, that's the only restriction, and so it should be opened up for either development or whatever.

As long as we have that restriction and obey it, why does it have to be separated from the rest of the property? I just see it all as one property.

MR. SIVAK: Why does the land need to be separated?

MR. MILLER: You're saying that possibly only that corner which is where the remediation is going on I

guess can't be developed. You can't go in and -- I don't know. We separated it.

MS. HESS: In our view of that corner of the property, it would not lend itself to future development. It's on the bank.

So that the rest of this site is not precluded at all from future reuse, but for that one portion which wouldn't really be developed anyway because it's in the flood plain and within the riparian zone setback from Q Creek is the area that we need to do the groundwater cleanup.

MR. MILLER: Right. And with that restriction and that portion of it, there shouldn't be any separation I wouldn't think. Does it get complex trying to separate these out if we want to go in and start doing demolition in the main part of the -- you know, and it's going to hold us up for five years?

MS. HESS: No. Demolition can

proceed.

MR. MILLER: Okay.

MS. HESS: Demolition, reuse, right.

MS. SEPPI: Henry.

MR. GORE: Yes. I understand he's saying alternate one. Why don't we go to alternate one?

If the property isn't going to be used for nothing else and nobody is going to use the potable water, why do you need to do anything? Why don't you just open up the property?

MR. SIVAK: Well, because the national contingency plan which is the regulation that has created the Superfund program requires us to return groundwater to its most beneficial use. That is the statutory obligation.

The State of New Jersey has classified the groundwater in this area as a potable resource. Therefore, as part of our feasibility study, when we're looking at these remedial action objectives that Alison was talking

about, one of our remedial action objectives is to restore that groundwater to its most beneficial use which is, as the state has determined by regulation, is a drinking water source.

So we have to look at alternatives that allow us to restore that groundwater. Just putting institutional controls on the property, as Alison explained, doesn't get us there. So we need to do something active.

So we looked at the alternatives that allowed us to do that quickly and efficiently and using the least amount of area, and that's where we came up with alternatives three and four, and as she explained, going through that process and looking at all of the various components of alternatives three and four, EPA believes that alternative four -- because it doesn't require a lot of land space. It's in the ground. We're doing a lot of the

work in the ground. It doesn't require a lot of external infrastructure.

Although, there probably will be some work, some access that we need to the property, it's relatively quick. I know 10 years doesn't seem like a long time. Trust me, it's relatively quick. We have some very high levels in there. Ten years of groundwater treatment is relatively quick and it's very cost effective. So that's why we chose that.

MS. SEPPI: Thank you, Michael. Remember, if you think of something else, please email Alison with your comments, and June 29 is our last date to accept those close of business.

That's it. I thank everybody for coming. We have some really good comments tonight, and I think some work we need to do, and one last thing, I'd like to thank Karen for helping us put all of this together.

She was like my best friend forever these past couple days. I kept

calling her and calling. She got everything set up for us. So thank you very much. I appreciate it.

Thank you for coming, everybody.

(Time noted: 8:27 p.m.)

CERTIFICATE OF OFFICER

I CERTIFY that the foregoing is a true and accurate transcript of the testimony and proceedings as reported stenographically by me at the time, place and on the date as hereinbefore set forth.

I DO FURTHER CERTIFY that I am neither a relative nor employee nor attorney or counsel of any of the parties to this action, and that I am neither a relative nor employee of such attorney or counsel, and that I am not financially interested in the action.

DIANE M. HOLMES, C.C.R.
Certificate No. XI01660

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 5-D

SIGN-IN SHEETS

Curtis Specialty Papers Superfund Site
Proposed Plan Public Meeting
May 28, 2015 Milford Firehouse – 7 p.m.

*The EPA will make every effort to maintain the confidentiality of your contact information.

PLEASE PRINT CLEARLY

NAME	ADDRESS (with Zip Code)	E-mail
HENRY GORE		
Ron Rehl		
Tony Rizzello		
DIANE DOTSKO		
Jim Gallos		
Henri Schepens		
Rick Epstein		
Joe Hubert		
Carla A. Heller		

Curtis Specialty Papers Superfund Site
Proposed Plan Public Meeting
May 28, 2015 Milford Firehouse – 7 p.m.

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NAME	ADDRESS (with Zip Code)	E-mail
Carol Hoffmann		
Kate Wiese		
Carol Bastow		
Daria Kolodij		
Frank Shoudt		
John Jmeyer		
Bob STALgAitis		
TOM FISHER		

Curtis Specialty Papers Superfund Site
Proposed Plan Public Meeting

May 28, 2015 Milford Firehouse – 7 p.m.

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NAME	ADDRESS (with Zip Code)	E-mail
Noralie LaFevre		
Elisa Yager		
R.W. Keller		
Charlie White		
Bob White		
Mike Witman		
CAROLE SIGRIST		
TOM & DEA WRIGHT		
NATHAN FLECK		

Curtis Specialty Papers Superfund Site
Proposed Plan Public Meeting
May 28, 2015 Milford Firehouse – 7 p.m.

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NAME	ADDRESS (with Zip Code)	E-mail
Lily Zimmerman		
Wayne Miller		
Kathy Pippio Hunt		
Bob Hunt		
Rob & Linda Castagna		
Melissa Harrison		
Dennis Daikeler		
Rick Kroth		
Edna & Jim Cochran		

CURTIS SPECIALTY PAPERS SITE
RECORD OF DECISION

APPENDIX 5-E

WRITTEN COMMENTS

PUBLIC COMMENT FROM BOROUGH OF MILFORD,

COUNTY OF HUNTERDON, STATE OF NEW JERSEY

REGARDING CURTIS SPECIALTY PAPERS

NEW JERSEY EPA ID#: NJD057143984
EPA REGION 2
CONGRESSIONAL DISTRICT: 07 HUNTERDON
404 FRENCHTOWN ROAD, MILFORD BOROUGH, HUNTERDON COUNTY, NEW JERSEY 08848

I. Brief History of the Curtis Specialty Papers Site:

The EPA proposed the Curtis Specialty Papers Site (the "Site) in the Borough of Milford and the Township of Alexandria, County of Hunterdon, State of New Jersey, for inclusion on the Superfund National Priorities List on September 3, 2008 as a result of detected polychlorinated biphenyls (PCBs) in soil within the facility and in sediment of the Quequacommisacong Creek, where fishing for human consumption commonly occurred.

The Site, located at 404 Frenchtown Road in Hunterdon County, is a former paper mill, which occupies approximately 105 acres, 70 acres located in the Borough of Milford, and the remaining 35 acres located in the Township of Alexandria. The Site included a number of buildings, including the main mill building, the former coatings facility, a cogeneration power plant (since removed), and a wastewater treatment plant. Among other paper-related uses, the mill was used to convert paper pulp to finished food-grade paper. The area surrounding the Site is predominantly residential, with the nearest residents approximately 528 feet to the north and southeast.

The paper mill operated on the property for approximately 90 years. The facility held air permits and New Jersey Pollutant Discharge Elimination System permits, operated a wastewater treatment plant, and utilized numerous underground storage tanks or "USTs".

During mill's operation, the mill's operators reported several spills on the property, and the New Jersey Department of Environmental Protection ("NJDEP") issued several notices of violation to the facility, including unpermitted discharges and improper containers, training and record keeping. In 1995, the mill was bought by Crown Vantage, which operated it until 2001. In 2001, the mill was bought and operated by Curtis Papers, Inc. During the time the mill was in operation, the facility reported several spills on the property. The NJDEP issued several notices of violation to the facility. In July 2003, the mill was shut down and, in November 2004, Curtis Paper, Inc. declared bankruptcy.

The presence of PCBs in areas known to have been used for the storage of PCBs, in the banks of the Quequacommisacong Creek, in the sediment (sludge) of a discharge pipe from the facility, and in the sediment downstream of the facility outfalls, indicated that the Curtis Specialty Papers Site released those contaminants into the area and creek.

PUBLIC COMMENT FROM BOROUGH OF MILFORD,
COUNTY OF HUNTERDON, STATE OF NEW JERSEY
REGARDING CURTIS SPECIALTY PAPERS

On June 4, 2009, EPA issued a Settlement Agreement and Administrative Order on Consent with Georgia-Pacific Consumer Products and International Paper (the "Responsible Parties") for the creation of a Remedial Investigation/Feasibility Study (the "RI/FS") Site which entails the investigation and evaluation of cleanup options. The Site was proposed for inclusion on the National Priorities List on September 3, 2008, and was ultimately listed as final on September 23, 2009.

The RI/FS Work Plan was approved in July of 2010, and an addendum was approved in January of 2013. The EPA approved the Remedial Investigation Report on September 16, 2014. The potentially Responsible Parties are completing the feasibility study of cleanup options. The EPA will identify cleanup alternatives including its preferred alternative to the public and solicit public comment. The final cleanup decision will be documented in a Record of Decision to be issued by the Agency.

II. Zoning Status of the Site:

The portion of the Site situated within the Borough of Milford's has two distinct zone schemes: The first consists of an industrial zone which has existed for decades. The second is a mixed residential, professional, commercial, and "light" industrial zone which was created pursuant to New Jersey's Redevelopment laws in 2004.

This second zone is an "overlay" zone in that it neither supplants nor is subordinate to the industrial zone. Rather, the practical effect of this "dual" zoning is that either scheme is permitted, provided that all laws, ordinances and zoning requirements are met.

III. Error(s) Noted Within the EPA's May 2015 Superfund Proposed Plan:

A. EPA's statement that "Railroad sections to the north and south of the site have become part of a rails-to-trails program..." is inaccurate as no railroad sections to the north of the Curtis Paper site have become part of a rails-to-trails program whereas only railroad sections to the south of the Curtis Paper site have become trails. Error at Page 3 of May 2015 EPA Proposed Plan.

IV. Borough of Milford's Official Comment & Recommendations for inclusion in the Final Record of Decision regarding the EPA's Proposed Plan:

First Issue and Official Position of the Borough: Contained within the EPA's May 2015 Superfund Proposed Plan, at page 7, is the statement by the EPA, that, "(f)or the portion of the site within the Borough of Milford, the reasonably anticipated future use is industrial (i.e., the permitted and conditional industrial uses that are specified in the Code of the Borough

of Milford for its Industrial Zones) ***or as specified in the redevelopment overlay in the Borough of Milford 2004 Redevelopment Plan.***" (Emphasis supplied).

The official position of the Borough of Milford with respect to the ultimate cleanup of the Site, has been, and steadfastly remains that the EPA must insist that the Responsible Parties mitigate all environmental concerns on the Site to the highest and most stringent residential remediation standards, and not the less stringent industrial remediation standards. The Borough's official position is predicated upon the fact that because the Site has two viable zoning schemes of equal priority and viability, that the Curtis Paper Site be remediated to the higher residential standards as this would enable the highest possible use permitted in the zone for the Site.

Second Issue and Official Position of the Borough: The Borough is cognizant of the Federal and State regulations mandating the return of ground water at the Curtis Paper site to conditions and levels which will ultimately "restore groundwater to unrestricted use" and "reduce the cancer risk and non-cancer health hazards" resulting from exposure to toluene and benzene as currently detected by the EPA in the Site's groundwater.

The official position of the Borough of Milford is the acceptance of the EPA's proposed "Remedial Alternative No. 4" which employs both In-situ Biological Treatment (Anaerobic Biological Oxidation) and Institutional Controls to restore groundwater contaminants to acceptable levels, however, the Borough's acceptance of the said Alternative No. 4 is subject to the ultimate methods decided upon by the EPA for the specific biological treatment(s) to be utilized at the Site.

Third Issue and Official Position of the Borough: The EPA states in its May 2015 proposed plan that "(b)ecause Alternative 4 would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, a review of site conditions would be conducted at least once every five years…."

The official position of the Borough of Milford is that the five year periodic review of the Site's conditions is excessively long and detrimental to the Borough's redevelopment of the Site in the event that the methods employed under Remedial Alternative No. 4 result in accelerated attenuation of the VOCs at the site. The Borough posits that the reporting should be done every two (2) years in the event that conditions at the Site are improved. The Borough believes that because the monitoring data is collected on a monthly basis that a review of the Site's conditions with the attendant creation of a formal report of said conditions could easily be performed every two years as opposed to every five years.

Fourth Issue and Official Position of the Borough: The Borough asks the EPA to provide to the Borough any formalized letter, waiver or the like addressing the suitability and safety of various Borough wells which are awaiting permitting and / or approval by the New Jersey Department of Environmental Protection as the wells are critical the Borough's future, uninterrupted water supply.

PUBLIC COMMENT FROM BOROUGH OF MILFORD,
COUNTY OF HUNTERDON, STATE OF NEW JERSEY
REGARDING CURTIS SPECIALTY PAPERS

Fifth Issue and Official Position of the Borough: The Borough requests the EPA, to the greatest permissible extent, to "de-list" any portion(s) of the Curtis Paper site so as to enable the development of the Site.

The Borough of Milford respectfully requests that this Position be thoughtfully considered by the EPA during the EPA's construct of the Record of Decision in this matter.

June 1, 2015

James A. Gallos, Mayor

Carol Heller, Council President

Noralie LaFevre, Council Member

Ron Rehl, Council Member

Henry Schepens, Council Member

George Sniffin, Council Member

Robert White, Council Member

Hess, Alison

From: Carol Bastow [redacted]
Sent: Wednesday, June 24, 2015 10:56 AM
To: Hess, Alison
Subject: Curtiss Specialty Papers

Dear Ms. Hess,
Thank you for your part in the Curtis Specialty Papers Superfund Process. I attended most of the CAG meetings over the past several years.
I attended the meeting where the Proposed Plan was discussed on Thursday, May 28, 2015 at the Milford Fire house
I am in agreement with the suggested preferred remedy. However, I hope that the other land at the site can be released for reuse as quickly as possible.
Thank you.
Sincerely,
Carol A Bastow
Milford Borough Resident
[redacted]
Milford, NJ 08848

Hess, Alison

From: [redacted]
Sent: Monday, June 29, 2015 6:31 PM
To: Hess, Alison
Subject: The Milford Superfund SITE

Greetings, Alison, Pat, and all of you who are involved with Georgia-Pacific and International Paper. We have been so pleased with the time spent working within the Community "Action" Group meetings over the past few years. If it were not such a serious issue to us, we would count it a success. Success will be felt BIG TIME when we see the buildings torn down and cleaned to residential standards. As bed and breakfast owners with guests from all over the world, it has become a deep embarrassment to us since it is a main entrance into Milford. We work so hard to present our inn and town in the best light possible, but even with the best Photoshop package, I couldn't begin to make something nice out of the property. IT IS WHAT IT IS! Now our town is barely sustaining business due to the huge loss of tax revenue once almost half of the tax money. Businesses just cannot deal with what we have lost. Never in our 33 years here have we seen more businesses closed than open in town.

As you know, we were allowed to present the architectural rendering of our dream for the Superfund site once it is cleaned up, hopefully to residential quality. Hundreds saw the plan over the years. Countless people really thought it was possible and a great idea. It fulfills a huge need in Hunterdon County. Five or six lovely family homes that are not age restricted, three pocket communities for over 50 in age, assisted living, rehab unit, hospice care, affordable housing with a day care with the idea that would house at least one worker for assisted living, a park, a chapel, a walking path, a trolley to bring people a mile north to town, a nature station, etc. Minimal housing which follows the town re-development plan. All designed to keep a small number of cars on the road.

Please, as you weigh the options, be merciful to a humble town. You can literally make or break us by your decision. Years have passed by, and now we are clearly seeing the toll it has taken on every aspect of Milford. We need your help not only with clean-up but the decision to what follows. It just cannot take years, it must move as rapidly as possible so the acreage can be purchased and a viable use to follow which will once again give us what we so desperately need for this wonderful little town to flourish. Even five years would be too late to save our town. This is a frightening time in the life of Milford.

Please, please don't let us down. Linda rae Castagna

Linda rae castagna
[redacted]

"Be kinder than necessary because everyone you meet is fighting some kind of battle."

Hess, Alison

From: Rob Castagna [redacted]
Sent: Monday, June 29, 2015 6:16 PM
To: Hess, Alison
Subject: Milford

Hi Alison, I think my comments during the last CAG meeting should suffice as a reply but I just wanted to make sure. As I have been saying for several years, the paper mill site is the largest property in our town and, at one time, over 45% of our tax base. That loss alone has had a crippling effect on our town. What has been worse is the complete ruin that the mill site presents to all who enter. The site looks like Chernobyl, continues to be an embarrassment to the town, and scares off all who enter. Please drive through our main street and note all the vacancies, we are watching our town die. Waiting another 10 or 15 years, or even 5, for testing and clean up is just unacceptable. Considering the approximate $50 billion a year gross revenue of IP & GP the plan to spend $1m to clean up the Milford site is a joke. One of the clean up options should be a massive expenditure to get that site cleaned up as quickly as possible. Should that option not be considered than you should consider separating the small north west portion of the site that is still contaminated so that it can be cleaned up and let IP & GP go into the rest of the site and tear the buildings down so that a sale of the property can be negotiated as quickly as possible.

The main message, our town desperately needs to get that site cleaned, cleared, sold, reused and back on the tax roles as quickly as possible. We are grateful for IP & GP and all the work they have done. As owners, however, they are responsible for that site and the contaminants located there. As such, they are responsible for the death of our town as we are all now witnessing. Let's actively move to get this site cleaned up.

Rob Castagna
[redacted]
Milford, NJ

Hess, Alison

From: Lynn Doria [redacted]
Sent: Friday, June 05, 2015 10:41 AM
To: Hess, Alison
Subject: Milford NJ Mill site

Hello,

I am a resident and business owner in Milford, NJ. Whatever can be done to clean up the superfund site AND allow for development in this decade would be most welcomed. Our tax base has taken such a hit because there are no ratables here. We may need to close our school because taxpayers are having such a difficulty paying for it. Many in our town have had to cut and run, selling their homes because taxes are so high. It really is a shame as this is such a great little town.

Please, anything you can do to allow for remediation AND progress would be most welcomed.

Thank you for your time.

Dr. Lynn D'Oria D.C.
[redacted]
Milford, NJ 08848-0276
[redacted]

Hess, Alison

From: Lynn Doria[redacted]
Sent: Thursday, June 25, 2015 2:12 PM
To: Hess, Alison
Subject: Superfund site in Milford, NJ

Good day to you,

Please please-we need these buildings gone at the Superfund site. Otherwise dozens of acres of land will be of zero use and value along with the contaminated areas. Anything at all that can be done to see this happen is imperative. As a person who owns a business and lives in Milford, the future of my business and this town depend on having a viable use for this land.

I do not know what needs to be done to make this happen but the structures that stand there now are not only an eyesore but a public danger.

Any help is appreciated.

Sincerely,

Dr. Lynn D'Oria D.C.
[redacted]
Milford, NJ 08848-0276
[redacted]

Hess, Alison

From: Melissa Harrison [redacted]
Sent: Monday, June 29, 2015 9:50 PM
To: Hess, Alison
Subject: Milford

Alison,
Thanks for your hard work on the Milford NJ site.
I own a salon in Milford & I am also the president of the Milford Merchants Association.
I would like to see the site cleaned up to residential standards.
I don't think the area is close enough to major highways for much in the way of industry.
It would be nice to see some area for a park, access to the river also.
We need some rateables in town so the taxes could be lower.
I pray that the buildings get torn down, they are an eyesore.
My dad worked at the mill and unfortunately has health issues related to that. Did they remove the tanks under the coating dept foundation? I know that info is probably in the reports, but there is so much to go through to find the answer.
Thanks very much.

Melissa Harrison
[redacted]
Milford NJ 08848
[redacted]

Hess, Alison

From: Emily Hess [redacted]
Sent: Saturday, June 27, 2015 7:12 PM
To: Hess, Alison
Subject: Milford, NJ Superfund site

Hi Alison,

I just wanted to voice my opinion (from one Hess to another..LOL) on the superfund site in Milford, NJ.

We live in nearby Holland Township, NJ and this site really is an eyesore. The location could be such a beautiful site, right there on the Delaware River. It would be the perfect spot for condos, a park, anything other than what it is. And, it's concerning that it is so contaminated yet so close to the Delaware River.

Hunterdon County is the healthiest county in the state and we really need to remove this black eye from our county. We really would appreciate ANY help you can provide in cleaning this up and demolishing these old buildings. I think we really owe it to future generations to improve things they will inherit.

Thank you so much for your consideration in this. Please do not hesitate to contact me with any questions.

Emily Hess
[redacted]
Milford, NJ 08848

Hess, Alison

From: Richard A. Kroth[redacted]
Sent: Thursday, June 25, 2015 10:43 AM
To: Hess, Alison
Subject: Public Comment: Curtis Specialty Papers Superfund Site

Dear Alison,

Thanks for taking the time to speak to the residents, business owners, and concerned citizens of Milford in May regarding the Curtis Superfund site in Milford.

I firmly support making as much of the site available for reuse as possible as quickly as possible. If all but the area that still needs work can be removed from the superfund designation, plans can be made to begin redevelopment.

I would also strongly support any initiative that could isolate, protect and preserve open use of the rail trail area even while remediation alternative 4 is in progress. Linking Milford to the site and beyond via the trail system is critical to the success of development and of Milford's future. I don't think we can afford to wait 10 years for this.

Many thanks,

Rich

Hess, Alison

From: Walter Miller [redacted]
Sent: Tuesday, June 16, 2015 7:07 PM
To: hess.alison@epe.gov
Subject: region02 /superfund/npl/curtisspeciality papers

I 'm following up on the May 28 in Milford NJ public meeting on proposed plans . I did not see any part of the report dealing with Building structures that currently exist on the site. What is the plan to address those safety hazards? I request that needs to be addressed.

Walt

Alison Hess, Remedial Project Manager
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, NY 10007
hess.alison@epa.gov

May 22, 2015

Re: Curtis Specialty Papers Superfund Site in Milford and Alexandria Township, N.J.
Proposed Groundwater Contamination Plan

Dear Ms. Hess:

I write to comment on the EPA's proposed plan to remediate contaminated groundwater at the Curtis Specialty Papers Superfund Site.

I have a few questions about the proposed remediation of the groundwater under the site:

1) Has bioremediation effectively remediated volatile organic compounds (VOCs) in groundwater in sites similar to the Curtis Specialty Papers site?

2) If so, how long will it take to bioremediate the VOCs to levels below their ARARs? The entire site is located along the Delaware River and its tributary creeks, and VOCs will continue to dissolve and penetrate through the soil and groundwater and into the river. Many people fish and wade and paddle in the river, and river water is used for potable water. Since I understand that VOCs break down very slowly, it may be a very long time before this site no longer threatens water quality and public health in the area.

3) Has EPA considered any type of remediation to reduce the residual levels of PCBs remaining on the site? I am particularly concerned about the Aroclor 1260 found at 15.5 mg/kg in floodplain/riverbank soil. Although the Slope Area Mitigation covered this area with several feet of topsoil and rock, the Delaware River has a long history of very high and violent floods and there is a risk that the residual PCBs could be exposed by erosion in a future storm. Is it possible to inject chemical(s) or microbe(s) into the soil at a depth where it could break down the PCBs more quickly than waiting for many years for them to break down naturally into harmless compounds?

4) Did EPA find any perfluorooctanoic acid (PFOA) or related chemical on the site? As you know, PFOA has been used as coatings on food contact paper, and it is a persistent pollutant with long-lasting environmental and human health concerns. The EPA documents for this site do not state whether PFOA was used in any operations on the site. If they were, I suggest sampling and developing a remediation plan to ensure that this harmful chemical does not remain on the site.

In general, I urge the EPA to ensure that the site is cleaned up enough to allow beneficial reuse of the property. It is in a beautiful location on the east bank of the Delaware River. However, this site and the Crown Landing Landfill Superfund Site to the south are eyesores that obstruct beneficial use of the riverbank and the Delaware River itself, and threaten public health and the

environment. These sites block the route of the Bel-Del ("Belvidere and Delaware River") rail trail, and prevent beneficial re-use of the riverfront properties either for natural restoration or economic redevelopment.

My family and I often hike, bike and kayak in the area, and we would like the natural resources to be restored and to be accessible for free public use. A large area of each site could be used for residential, commercial or light industrial activity, while leaving the river bank itself and the rail trail open to the public. I see that Milford and Alexandria have such ideas in mind as well. Without adequate cleanup, these sites will be fenced off for the long term, allowing neither recreational use nor economically beneficial reuse.

The photos of the Slope Are Mitigation look like a good start on restoring the surface of the site, and I urge the EPA to ensure the entire perimeter of the site along the river and creeks is restored to its natural state so it no longer contributes pollution to the Delaware River.

Thank you for working to clean up the site and for considering our comments.

Very truly yours,

Brian Weeks

Brian Weeks
[redacted]
Metuchen, N.J. 08840

Hess, Alison

From: Tony Rizzello [redacted]
Sent: Tuesday, June 02, 2015 9:34 AM
To: Hess, Alison
Subject: Scoping Comment regarding the Milford Paper Mill Proposal
Attachments: AmericanPetroInstitute-AttenuationOfArsenicAtHCSites.pdf

Dear Ms. Hess,
I attended the Milford Firehouse meeting where you presented the EPA proposal regarding remediation of the benzene and toluene in the ground water at the defunct Milford Paper Mill owned by GP and IP. While I had the opportunity to speak at that meeting I did not as I was not sure of my facts at that time. Since then I have been sent a couple documents (attached) that mention an issue that I would like you to be aware of. Since you mentioned that you plan to use an anaerobic remediation in the water to redox the benzene and toluene, have you given any thought to the issue of arsenic in the water? The Milford Paper Mill sits on the Piedmont Province that is a known sediment for arsenic. I have attached the two documents for your review. After reading these two documents you may become as concerned as I am about the possibility that if arsenic is present in the paper mill water the anaerobic injection into the water will convert the immobile arsenic into a highly toxic and highly mobile arsenite. Arsenite will cause a disaster for the people who come in contact with this toxic water. Of concern should be the people in Milford and in Frenchtown. You can't drink the water with Arsenite, wash yourself or your clothes with it, cook with it, or come in contact with it in any way. The only good this water will be is for watering your lawn and plants but not your food stock. There is no known effective way to eliminate Arsenite from water except as stated in the PDF document, eliminate the anaerobic injection and the arsenite converts back to arsenic. But as your proposal states you may be injecting an anaerobic material for 10 plus years. I don't know if anyone will still be alive in Milford and Frenchtown by then - if you convert arsenic into arsenite.

Please be aware that you may be trading one chemical disaster for another.

http://www.usgs.gov/newsroom/article.asp?ID=4110#.VW0mHc9VhBf

Regards,
Tony Rizzello
[redacted]
Milford, NJ 08848

908 797 5255

G-069, in K.A. Fields and G.B. Wickramanayake (Chairs), *Remediation of Chlorinated and Recalcitrant Compounds—2010.* Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds (Monterey, CA; May 2010). ISBN 978-0-9819730-2-9, Battelle Memorial Institute, Columbus, OH, **www.battelle.org/chlorcon**.

Attenuation of Naturally Occurring Arsenic at Petroleum Hydrocarbon–Impacted Sites

Richard A. Brown (dick.brown@erm.com) and Katrina E. Patterson (katrina.patterson@erm.com) (ERM, Ewing, New Jersey, USA)
Mitchell D. Zimmerman (ERM, Austin, Texas, USA)
G. Todd Ririe (BP, La Palma, California, USA)

ABSTRACT: In January 2006, the United States Environmental Protection Agency (USEPA) lowered the maximum contaminant level (MCL) for dissolved arsenic in groundwater from 0.050 mg/L to 0.010 mg/L due to long-term chronic health effects of low concentrations of arsenic in drinking water. This has heightened public and regulatory awareness of dissolved arsenic in groundwater.

Arsenic occurrence at petroleum-impacted sites can be summarized by five basic principles that govern the fate and transport of arsenic in shallow aquifers impacted by petroleum hydrocarbons. These are:

1. If arsenic is not present in the site mineralogy, or if arsenic has not been emplaced due to human activity, petroleum impacts will not cause arsenic impacts to groundwater. Arsenic is not a major contaminant in petroleum hydrocarbons;
2. For sites that have naturally occurring arsenic-bearing minerals, sorbed arsenic phases, or aged anthropogenic arsenic sources, there is a stable arsenic geochemistry present that determines the ambient (background) level of dissolved arsenic in groundwater. If the background level of arsenic naturally exceeds the new MCL, then the MCL is unachievable as an attenuation or remediation goal;
3. The introduction of petroleum hydrocarbons (or other degradable organics) may cause a perturbation to the existing geochemistry, resulting in the mobilization of existing naturally occurring arsenic at concentrations above the ambient level;
4. The perturbation of the ambient arsenic geochemistry (and related arsenic mobilization) will persist until the soluble hydrocarbons are attenuated; and
5. Once the hydrocarbons are attenuated, the arsenic will revert to its pre-existing stable geochemistry, which may be above or below the arsenic drinking water MCL of 0.010 mg/L, it depends on the background geochemistry and background arsenic concentrations.

Proper management of a petroleum-impacted site at which arsenic has become mobilized requires an understanding of the site-specific ambient conditions and how petroleum impacts affect arsenic chemistry and mobility in the subsurface. This understanding can be refined by developing a site-specific conceptual model incorporating background and site data to guide further investigation and remedial actions concerning arsenic.

INTRODUCTION

In January 2006, the United States Environmental Protection Agency (USEPA) lowered the maximum contaminant level (MCL) for dissolved arsenic in groundwater from 0.050 mg/L to 0.010 mg/L due to long-term chronic health effects of low concentrations

of arsenic in drinking water. This has heightened public and regulatory awareness of dissolved arsenic in groundwater.

While petroleum hydrocarbons, themselves, are not a source of arsenic, naturally-occurring arsenic may be mobilized into shallow groundwater by inputs of biodegradable organic carbon, including petroleum hydrocarbons. "Naturally-occurring arsenic" refers to arsenic that is present in the solid phase prior to impacts by degradable organic carbon, including petroleum hydrocarbons. Arsenic may be present as specific minerals, as an amorphous phase, or adsorbed onto iron oxyhydroxides and other soil constituents, either as a natural trace metal in native rocks and soils or from human activity such as agriculture or waste disposal. Hydrocarbons can mobilize arsenic by creating reduced conditions.

When a petroleum release occurs, the more soluble hydrocarbon fractions can dissolve into groundwater, stimulating biological activity. Bacteria degrade the dissolved hydrocarbons and consume the available terminal electron acceptors (TEAs), creating reduced groundwater environments. The redox level attained is a function of the TEA availability and the amount of hydrocarbon released. Once the redox conditions are at or below the Eh for iron reduction, ferric oxides in the soils are reduced to the more soluble ferrous form. Because most soil arsenic is associated with ferric oxides, arsenic will also be released and mobilized into groundwater. Dissolution of ferric oxides not only releases arsenic to the groundwater, but also decreases the future adsorption sites for arsenic. Arsenic is also reduced from As^{+5} to the more soluble As^{+3}, which is present as the arsenite anion (AsO_3^{-3}), and further increases mobility.

When the petroleum hydrocarbons are attenuated, the natural attenuation of arsenic will occur as the aquifer is restored to its original aerobic conditions. Arsenite is re-oxidized to the less soluble arsenate. Reduced iron is reoxidized and re-precipitates on the soil particles as an oxyhydroxide. These iron oxyhydroxides adsorb and bind arsenate. Over time, the adsorbed arsenate can mineralize and become even more stable. The natural attenuation of arsenic is coupled to the attenuation of hydrocarbon plumes.

NATURALLY OCCURRING ARSENIC

One of the fundamental principles of arsenic mobilization and attenuation at hydrocarbon-impacted sites is that arsenic has to be present in the soil prior to the release of the hydrocarbons.

As shown in Table 1, crude oils and therefore, petroleum products, are not a source of arsenic. Arsenic can, however, be present at a site due to either natural site mineralogy or geochemistry, or due to anthropogenic activity.

TABLE 1. Summary of arsenic concentration in 26 crude oils.

Arsenic Concentrations in 26 Crude Oils (Data are in mg/kg oil, unless otherwise noted.)	
Mean	0.06
Minimum	Not Detected
Maximum	0.57
Detection freq	7
Method Detection Level	0.08
EPA reporting limit	0.5
Mean US Soil Conc (USGS)	5.2 mg/Kg soil

Source: Magaw, et al., 2001.

Arsenic is naturally found in many soils. It may be present as specific minerals or it may be present as an adsorbed phase on metal (primarily iron) oxyhydroxides and other clay minerals. There are over 500 naturally occurring arsenic minerals. Naturally occurring arsenic is frequently associated with volcanic deposits and sulfidic minerals (e.g., pyrite [FeS2]). Over time, arsenic minerals may weather, redistributing arsenic in the soil matrix as a stable, adsorbed phase on ubiquitous metal (iron) oxyhydroxides. Geochemical processes such as oxidation and reduction, pH shifts, precipitation, and adsorption result in arsenic redistribution in soils.

There are broad areas of the United States where arsenic in groundwater already exceeds the old MCL (50 µg/L) due to the naturally occurring mineralogy. The southwestern and the upper midwest US have natural dissolved arsenic concentrations greater than either the current or previous MCL due to naturally occurring arsenic minerals.

Arsenic also has many industrial uses. It is used in agricultural applications for animals and crops, and in lawn care. Arsenic is also used for wood treating, as a flame retardant in plastics, in semiconductors, and as a rat poison. Arsenic can be found as an impurity in mining and mineral processing sites. It is also found as a constituent of municipal landfills and leachate.

Industrial and agricultural uses of arsenic can result in both point source and non-point source contamination. Of greatest interest are non-point sources of arsenic. Typically, these uses involve application of industrial chemicals (e.g., pesticides) over wide areas resulting in diffuse, low-level arsenic contamination. Nonpoint source arsenic has the greatest potential to overlap with areas of petroleum impact.

PRINCIPLES OF ARSENIC MOBILITY

The mobility of arsenic is controlled by redox conditions (Eh), by the pH and by the presence of metal oxyhydroxides that can adsorb and bind arsenic. With petroleum impacted sites, the aquifers most commonly encountered will, for the most part, be shallow and in contact with the atmosphere. Therefore, the most common background redox condition will be an aerobic environment in which arsenic will be present as the oxidized, less mobile, As^{+5}. The ambient groundwater concentration of the arsenic will be controlled by pH and the soil mineral content (i.e. iron oxyhydroxides). As^{+5}, present as the arsenate anion (AsO_4^{-3}), is more soluble at low pH (< 4) and high pH (>8). This is in contrast to natural groundwater pH values typically ranging between 4 and 8. Arsenate is also strongly adsorbed to iron oxyhydroxides, which are fairly ubiquitous.

An important part of understanding the mobility of naturally-occurring arsenic at petroleum impacted sites is having a good characterization of the ambient arsenic geochemistry and of the hydrogeology of the site. Site characterization should determine the ambient, background level of dissolved arsenic. The dissolved arsenic level at petroleum impacted sites, even after attenuation, cannot be lower than background. If the background level of arsenic naturally exceeds the new MCL, then the MCL is unachievable as an attenuation or remediation goal. The ambient dissolved arsenic concentrations are a function of the site mineralogy, hydrogeology and redox conditions.

Figure 1 (Boulding and Ginn, 2004) superimposes the redox conditions of groundwater on an Eh-pH diagram of arsenic. The diagram identifies the thermodynamically stable arsenic species for a given range of Eh and pH. Under oxidizing conditions (high Eh), arsenates are more stable. As shown in Figure 1, aquifers that are in contact with the

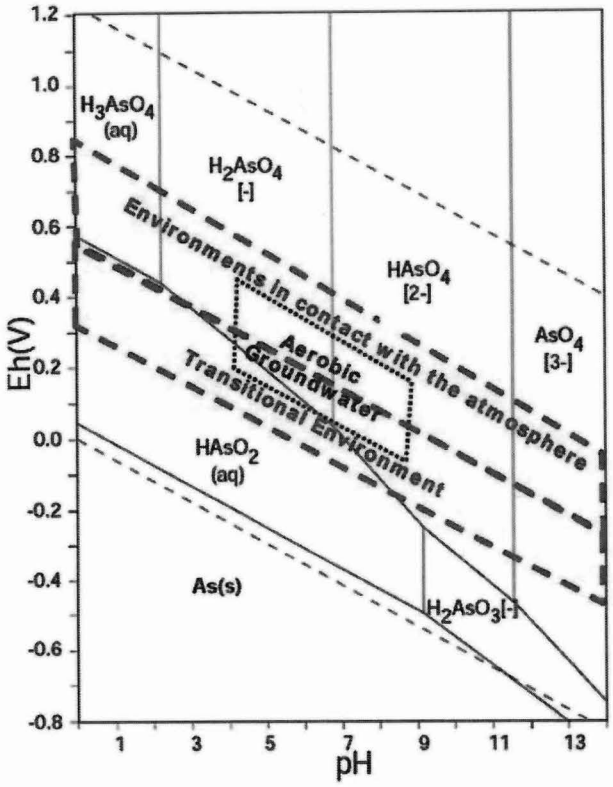

FIGURE 1. Arsenic speciation in groundwater regimes.

atmosphere (unconfined conditions) will be mostly aerobic, and arsenic will be predominately in the pentavalent (As+5; arsenate) valence state. The solubility of arsenic under aerobic conditions is determined by the pH and mineralogy, particularly the presence of iron oxy hydroxides (FeO(OH)).

The primary forms of inorganic arsenic in both oxidizing and reducing groundwater are oxyanions. Oxyanions of arsenic readily sorb to solid phase metal oxyhydroxides such as goethite. (Wilkin, 2003) Adsorption of arsenic at mineral surfaces occurs as a result of a set of chemical reactions generally referred to as sorption.

The most important reactive surface phases for arsenic attenuation in many soils and subsurface systems are cationic metal surfaces, including iron, aluminum, and calcium mineral phases. Arsenic sorption has been demonstrated for a wide range of minerals common to soils and sediments with iron oxides and sulfides playing a dominant role in oxidizing and reducing environments

IMPACT OF PETROLEUM HYDROCARBONS ON ARSENIC MOBILITY

When petroleum hydrocarbons are released to groundwater, there is a progression from aerobic to anaerobic conditions with an associated reduction in the redox conditions of the groundwater system. The progression is, in decreasing order of redox potential, aerobic respiration, followed in sequence by nitrate reduction, manganese reduction, iron reduction, sulfate reduction, and finally, methanogenesis. Typically, the most reducing conditions are in the source area and the least reducing conditions (i.e., aerobic conditions) are at the plume boundary. The relative reaction rates and levels of microbial

activity under each of these different metabolic environments are controlled by the availability of the TEAs, the types and concentrations of organic substrate(s) that can be utilized by the bacteria, and specific type and population of the microbial community. This redox progression results in a loss of organic carbon and depletion of various electron acceptors from the aquifer system as well as a progression in the types and metabolic activity of the indigenous bacteria. Figure 2 shows that the relative areas of metabolic activity vary in the direction of groundwater flow. The most reduced conditions are found in the source area. The aquifer conditions become less reducing in the direction of groundwater flow. Aerobic conditions generally bound the plume in both directions.

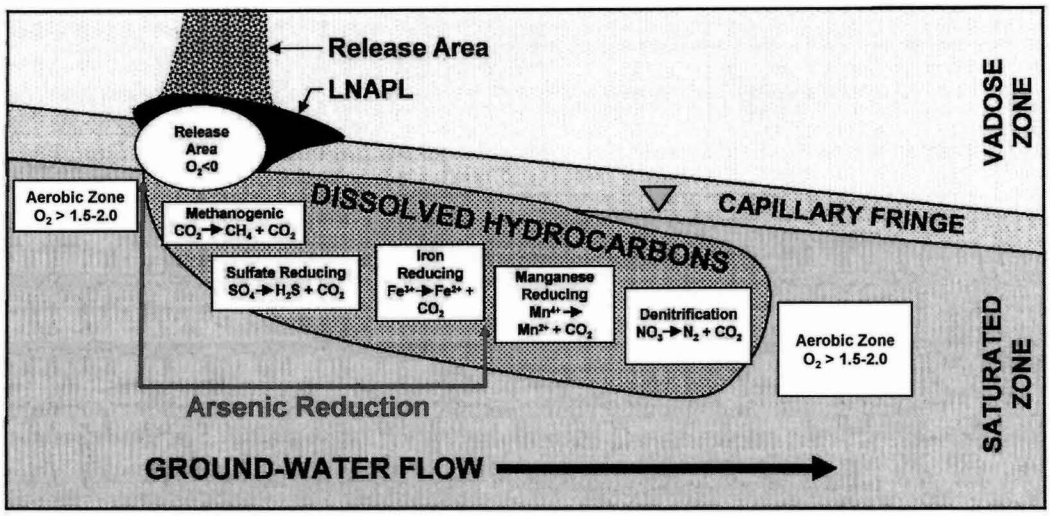

FIGURE 2. Conceptual model of biodegradation of a petroleum-hydrocarbon plume.

If microbial activity is high and there is sufficient dissolved hydrocarbon, the aquifer environment will progress rapidly through these different anaerobic metabolic conditions. Once the microbial conditions reach iron reduction or below, arsenic will be reduced and mobilized.

ATTENUATION OF HYDROCARBONS AND ARSENIC

Migration of the dissolved hydrocarbons and the resulting microbial activity creates overlapping hydrocarbon and arsenic plumes. As pictured in Figure 3, the hydrocarbon impact reduced the redox. Arsenic is initially mobilized by the change in redox. The hydrocarbons attenuate due to biological activity. The arsenic plume commonly extends beyond the hydrocarbon plume, with arsenic remaining above background concentrations until aquifer redox conditions return to aerobic. This downgradient portion of the plume is a transition zone where dissolved arsenic concentrations decrease as the aquifer becomes more oxidizing, the arsenic is readsorbed and immobilized.

The combined plume goes through three stages over time —an initial phase of plume expansion, a period of plume stability where the footprint is static, and a final stage in which the plume retreats toward the petroleum source area. Plume expansion occurs until

the dissolution of hydrocarbons is balanced by their degradation and removal. When there are no longer sufficient hydrocarbons present to maintain the plume, the plume begins to retreat. As the plume retreats, redox conditions gradually revert to ambient conditions. Once the hydrocarbons are attenuated, the aquifer becomes aerobic, and the arsenic reverts back to the existing ambient (background) conditions

When the petroleum hydrocarbons are attenuated, natural attenuation of arsenic will occur as the aquifer is restored to aerobic conditions. Arsenite is reoxidized to the less soluble arsenate. Reduced iron is reoxidized and re-precipitates on the soil particles as an oxyhydroxide. These iron oxyhydroxides adsorb and bind arsenate. Over time, the adsorbed arsenate can mineralize and become even more stable.

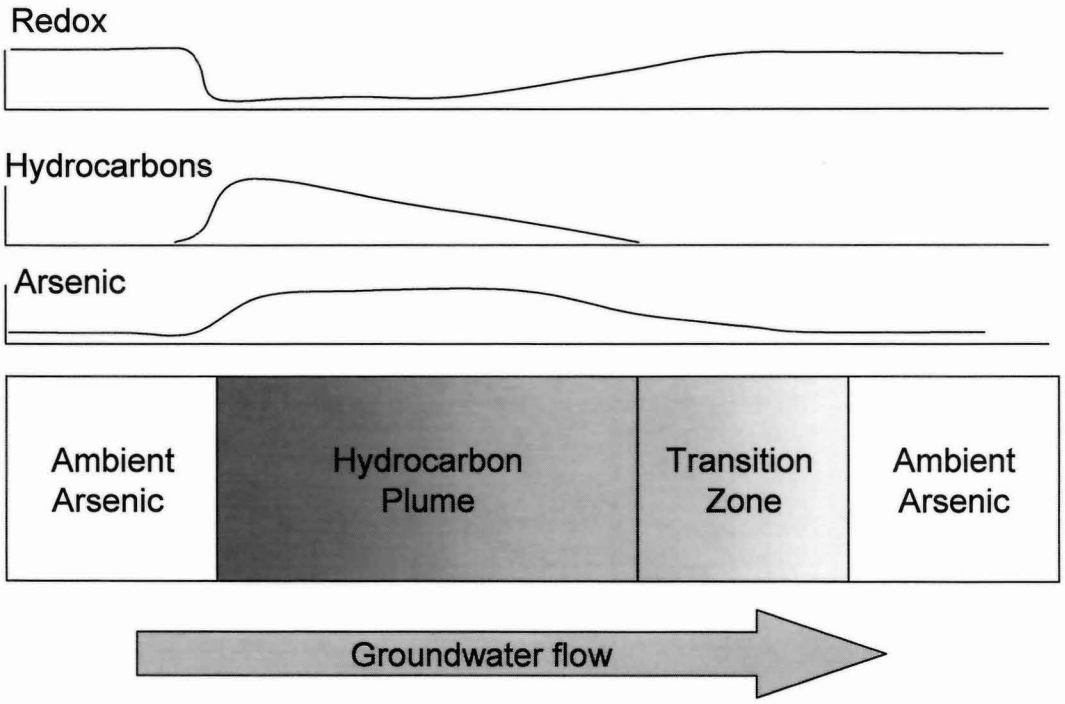

FIGURE 3. Change in hydrocarbons, arsenic, and redox with distance.

CASE STUDIES

Four case studies illustrate the basic principles of arsenic mobilization and attenuation discussed above.

1. **An Operating Refinery**—Arsenic mobilization associated with the presence of hydrocarbon LNAPL is present in an alluvial terrace sand aquifer. Correlations between iron and arsenic in both soil and groundwater indicate arsenic mobilization occurs with the loss of iron oxyhydroxide sorption sites due to changes in redox conditions. Concentrations of arsenic in groundwater downgradient of hydrocarbon impacts indicate that arsenic is not mobile under the ambient aerobic

conditions at this site. Once the hydrocarbons are attenuated, as the hydrocarbon plume migrates down gradient, aerobic conditions are re-established and the arsenic is re-oxidized and re-adsorbed onto the soil matrix when DO is observed to be ~ 1.5 to 2 mg/L.

2. **A Former Refinery**—The water bearing unit in a bluff underlying a former tank farm is impacted with hydrocarbon LNAPL and arsenic. The presence of iron oxyhydroxides is visually evident as orange and red staining of quartz grains in cored sediment from outside the hydrocarbon plume, while within the plume reducing conditions are evident by grey to black sandstone. Arsenic mobilization appears to be a result of changing redox conditions, leading to elevated arsenic in seepage water from the bluff. The arsenic concentrations correlate to dissolved iron.
3. **A Former Exploration Reserve Pit** —A former drill site reserve pit and gravel pad in northern Alaska received drilling waste, followed by closure and corrective action activities. Samples of surface water surrounding the pit before corrective action revealed evidence of potential hydrocarbon impacts and elevated dissolved arsenic concentrations. Later samples showed decreases in dissolved arsenic concentrations as the geochemical parameters pH and dissolved iron returned to background aerobic conditions.
4. **A Former Fuel Terminal**—A former fuel terminal contains elevated hydrocarbon in soil and groundwater at various locations throughout the site. Ambient geochemical conditions are naturally reducing due to native organic carbon. Dissolved arsenic has been measured throughout and upgradient of the site where groundwater conditions are reducing. Removal of hydrocarbon impacts does not decrease arsenic concentrations due to the ambient naturally occurring reduced conditions that exist at the site.

CONCLUSIONS

Five basic principles govern the fate and transport of arsenic in shallow aquifers impacted by petroleum hydrocarbons. These are:

1. If arsenic is not present in the site mineralogy, or if arsenic has not been emplaced due to human activity (agriculture, wood treating, mining, etc.), petroleum impacts will not cause arsenic impacts to groundwater.
2. For sites that have naturally-occurring arsenic-bearing minerals, sorbed arsenic phases, or aged anthropogenic arsenic sources, there is a stable arsenic geochemistry present that determines the ambient (background) level of dissolved arsenic in groundwater. The ambient dissolved arsenic level is controlled by complex geochemical interactions among Eh, pH and minerals able to adsorb, complex, or precipitate arsenic.
3. The introduction of petroleum hydrocarbons (or other degradable organics) may cause a perturbation to the existing geochemistry, resulting in the mobilization of arsenic at concentrations above the ambient level. Petroleum and other degradable organics lower the redox state to more reduced conditions. The primary mechanism for lowering the Eh is anaerobic biological activity.

4. The perturbation of the ambient arsenic geochemistry (and related arsenic mobilization) will persist until the soluble hydrocarbons are attenuated.
5. Once the hydrocarbons are attenuated, the arsenic will revert to its pre-existing stable geochemistry, which may be above or below the drinking water MCL for arsenic of 0.010 mg/L depending on the background geochemistry.

NOTE

This work is a combined effort of the American Petroleum Institute (API), The Petroleum Environmental Research Forum (PERF) and ERM. The API will be publishing a document, "API Arsenic Manual: Attenuation of Naturally Occurring Arsenic at Petroleum Impacted Sites" in 2010.

RECOMMENDATIONS

Proper management of a petroleum impacted site at which arsenic has become mobilized requires development of a site specific conceptual model (SSCM). The SSCM should have four main elements:

1. The general site geology and hydrogeology of the groundwater bearing units (GWBU) that have been or can be impacted by a petroleum release;
2. The ambient arsenic geochemistry within the impacted GWBU;
3. The petroleum distribution and microbial conditions (redox zones); and
4. A survey of potential receptors and exposure pathways for arsenic that has been mobilized.

A well-constructed SSCM has a number of uses including:

- Determining the appropriate locations for long term monitoring;
- Determining the key parameters needed to monitor the effectiveness and status of natural attenuation at the site;
- Supporting the inclusion of a natural attenuation based approach in the remediation strategy;
- Illustrating the processes of mobilization and attenuation of arsenic at a petroleum impacted site for discussing with regulators and stakeholders; and
- Assessing whether efforts beyond natural attenuation are necessary.

REFERENCES

Boulding, Russell and Ginn. 2004. Practical Handbook of Soil, Vadose Zone, and Ground-Water Contamination: Assessment, Prevention, and Remediation. CRC Press, Figure 3.3, pp. 98.

Magaw, R.I., S.J. McMillen, W.R. Gala, J.H. Trefry, and R.P. Trocine. 2001. Chapter 12: Risk evaluation of metals in crude oils. In *Risk-Based Decision-Making for Assessing Petroleum Impacts at Exploration and Production Sites, ed.* McMillen, S.J. et al., Department of Energy and the Petroleum Environmental Research Fund.

Wilkin, R.T., D. Wallschlaeger, and R.G. Ford. 2003. Speciation of arsenic in sulfidic waters. Geochemical Transactions. Vol. 4, pp. 1-7.

Arsenic Occurrence at Petroleum Hydrocarbon Impacted Sites

Richard A. Brown (ERM, Ewing, New Jersey, US),
Katrina E. Patterson and Mitchell D. Zimmerman (ERM, Austin, Texas, US),
G. Todd Ririe (BP, La Palma, California, US)

Delivering sustainable solutions in a more competitive world

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Context for Talk

- **API Manual: "Attenuation of Naturally-occurring Arsenic at Petroleum Impacted Sites"**
  - Cooperative effort of ERM, API and PERF
- **Purposes of Manual**
  - 1) Identify potential sources of arsenic at petroleum impacted sites,
    - arsenic contained in native rock and soils, and
    - arsenic resulting from anthropogenic sources,
    - petroleum hydrocarbons are not a source of arsenic;
  - 3) Present the fundamentals of arsenic biogeochemistry; and
  - 4) Provide validated tools for the assessment of arsenic at petroleum impacted sites and its management through natural attenuation.

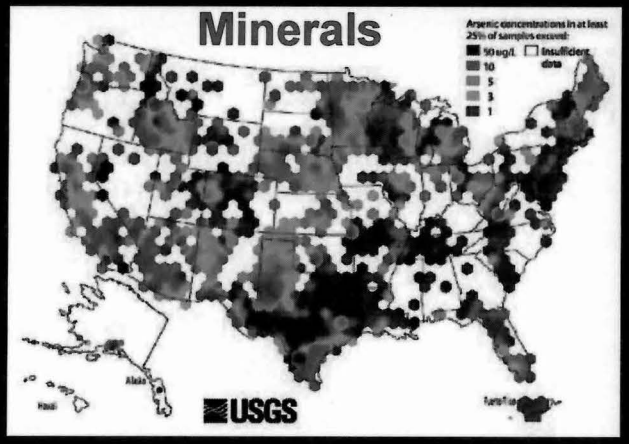
Problem Statement

- In January, 2006 the United States Environmental Protection Agency (USEPA) lowered the maximum contaminant level (MCL) for dissolved arsenic in groundwater from 50 µg/L to 10 µg/L due to long - term chronic health effects of low levels of arsenic in drinking water.
- Are petroleum hydrocarbon releases a source of arsenic in groundwater?

Five Principles of Arsenic Mobilization at Petroleum Impacted Sites

- Arsenic mobilization can only occur if arsenic is present as a soil mineral or from its use on site.
- Sites with sources of arsenic have a stable arsenic geochemistry controlled by Eh, pH and minerals able to adsorb, complex, or precipitate arsenic (e.g. Fe^{+3}).
- Petroleum hydrocarbons (or other degradable organics) perturb the existing geochemistry, mobilizing arsenic above the ambient level, by lowering the redox state through anaerobic biological activity.
- This perturbation of the ambient arsenic geochemistry persists until the soluble hydrocarbons are attenuated.
- Once the hydrocarbons are attenuated, the arsenic will revert to its pre-existing stable geochemistry, which may be above or below the drinking water MCL for arsenic depending on the background geochemistry.

Sources of Arsenic



Arsenic Concentrations in 26 Crude Oils (Data are in mg/kg oil, unless otherwise noted.)	
Mean	0.06
Minimum	Not Detected
Maximum	0.57
Detection freq	7
Method Detection Level	0.08
EPA reporting limit	0.5
Mean US Soil Conc (USGS)	5.2 mg/Kg soil

NOT Petroleum

Use/Application	Form of Arsenic Used
Fruit Trees, Nut Trees	Arsenates (AsO_4^{-3})
Golf Courses	Monosodium Methyl Arsenate (MSMA)
Animal Feed (Chickens)	Arsenates
Rat Poison Manufacturing	Arsenates
Flame Retarding Plastics Manufacturing	Arsenates
Phosphate Fertilizer Manufacturing	Arsenates
Wood Treating (Historic)	Arsenates
Animal Dips (Sheep and cows for lice and hoof diseases)	Arsenates
Pigments	Copper Arsenate, Arsenic Sulfides
Semiconductors	Arsenic Metal
Herbicide Application	Arsenate
Defoliant	Arsenic trioxide

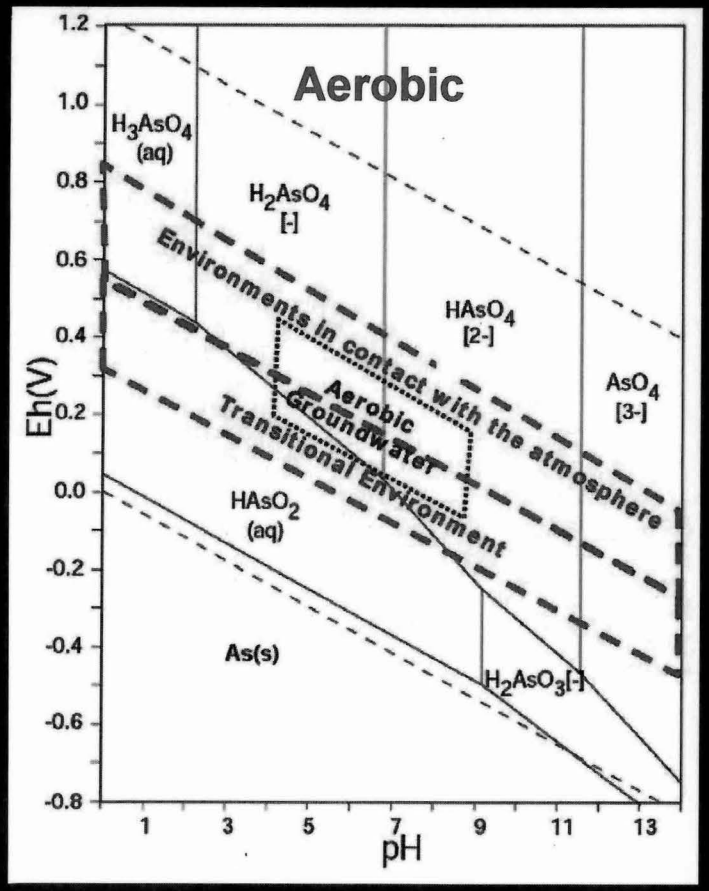
Products

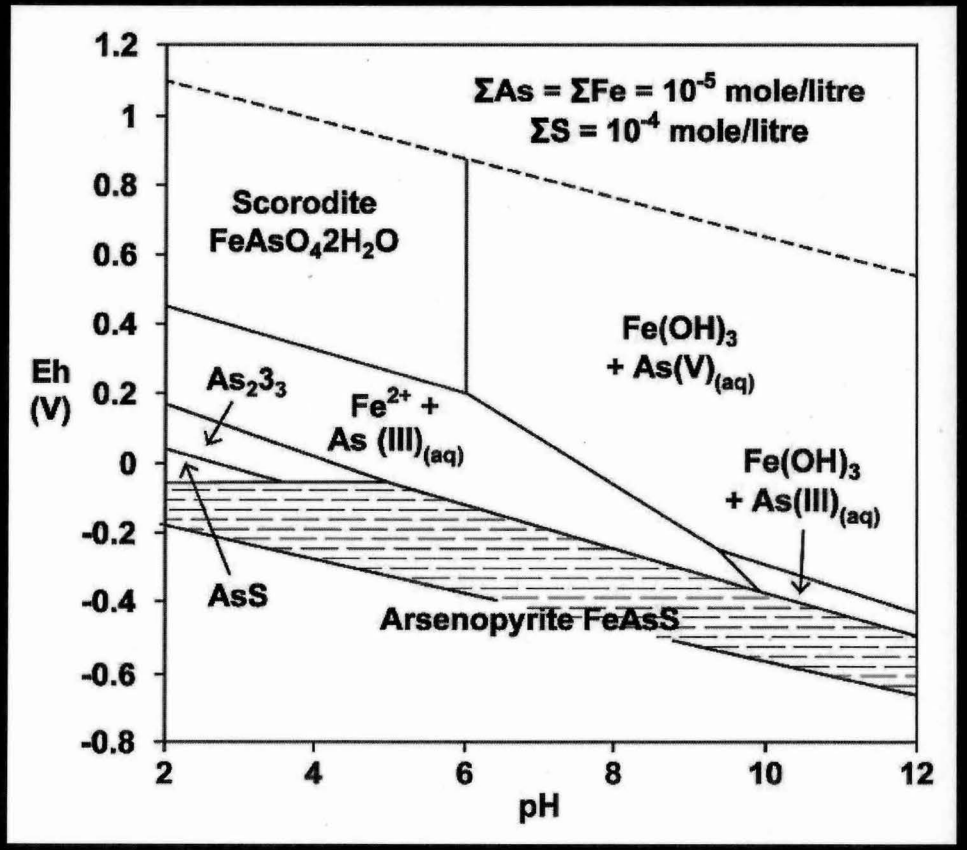
Source: www.wikipedia.com, 2009)

Mobilization

- **Mobilization of arsenic from natural or anthropogenic sources can occur in the presence of petroleum hydrocarbons**
- **Perturbation of the ambient conditions increases arsenic solubility as a result of changes to redox conditions and pH**

Arsenic in Groundwater





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Geochemical influences on arsenic solubility

- **Minerals and dissolved-phase constituents affect the solubility of arsenic**
  - Formation of complexes
  - Stability of metal-arsenic phases
  - Sorbtion of arsenic onto/into solid phases
- **Background or ambient conditions**
  - Are metal-arsenic phases present?
  - Are sorbtive phases present?

Arsenic Solubility vs. Valence

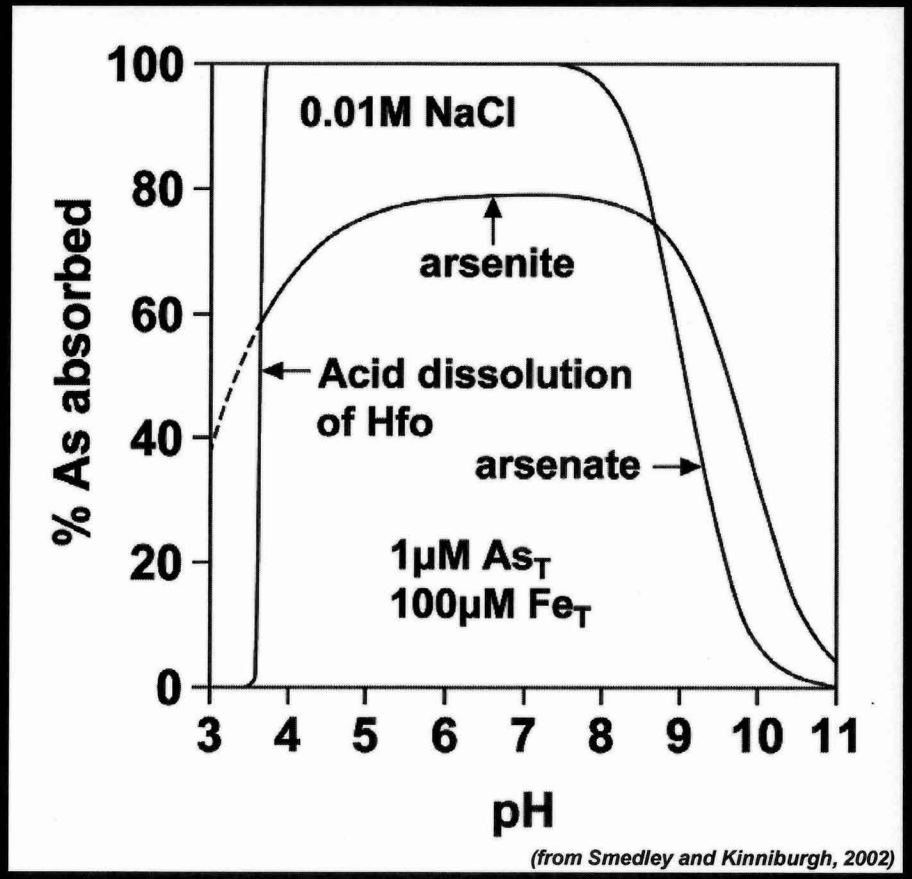
Table 2-1: Relative Solubilities of Arsenite and Arsenate

Cation Added	Initial As Conc.	Final Concentration	
		Arsenate	Arsenite
Ferric Iron	350 µg/L	6 µg/L	140 µg/L
Ferric Iron	300 µg/L	6 µg/L	138 µg/L
Aluminum (Alum)	350 µg/L	74 µg/L	263 µg/L
Aluminum (Alum)	300 µg/L	30 µg/L	249 µg/L
Aluminum (Alumina)	100 µg/L	4 µg/L	~100 µg/L
Calcium	2 mg/L	20 µg/L	160 µg/L

Table 2-3: Solubility of Metal Arsenates

Metal Cation	Compound	Log K_{SP}
Al	$AlAsO_4$	15.8
Mg	$Mg_3(AsO_4)_2$	19.7
Ca	$Ca_3(AsO_4)_2$	18.2
Ba	$Ba_3(AsO_4)_2$	13
Cr	$CrAsO_4$	20.1
Fe	$FeAsO_4$	20.2
Ni	$Ni_3(AsO_4)_2$	25.5
Cu	$Cu_3(AsO_4)_2$	35.12
Zn	$Zn_3(AsO_4)_2$	27
Pb	$Pb_3(AsO_4)_2$	35.39
Mn	$Mn_3(AsO_4)_2$	10.7

Absorption of Arsenate and Arsenite on Hydrous Ferric Oxide



(from Smedley and Kinniburgh, 2002)

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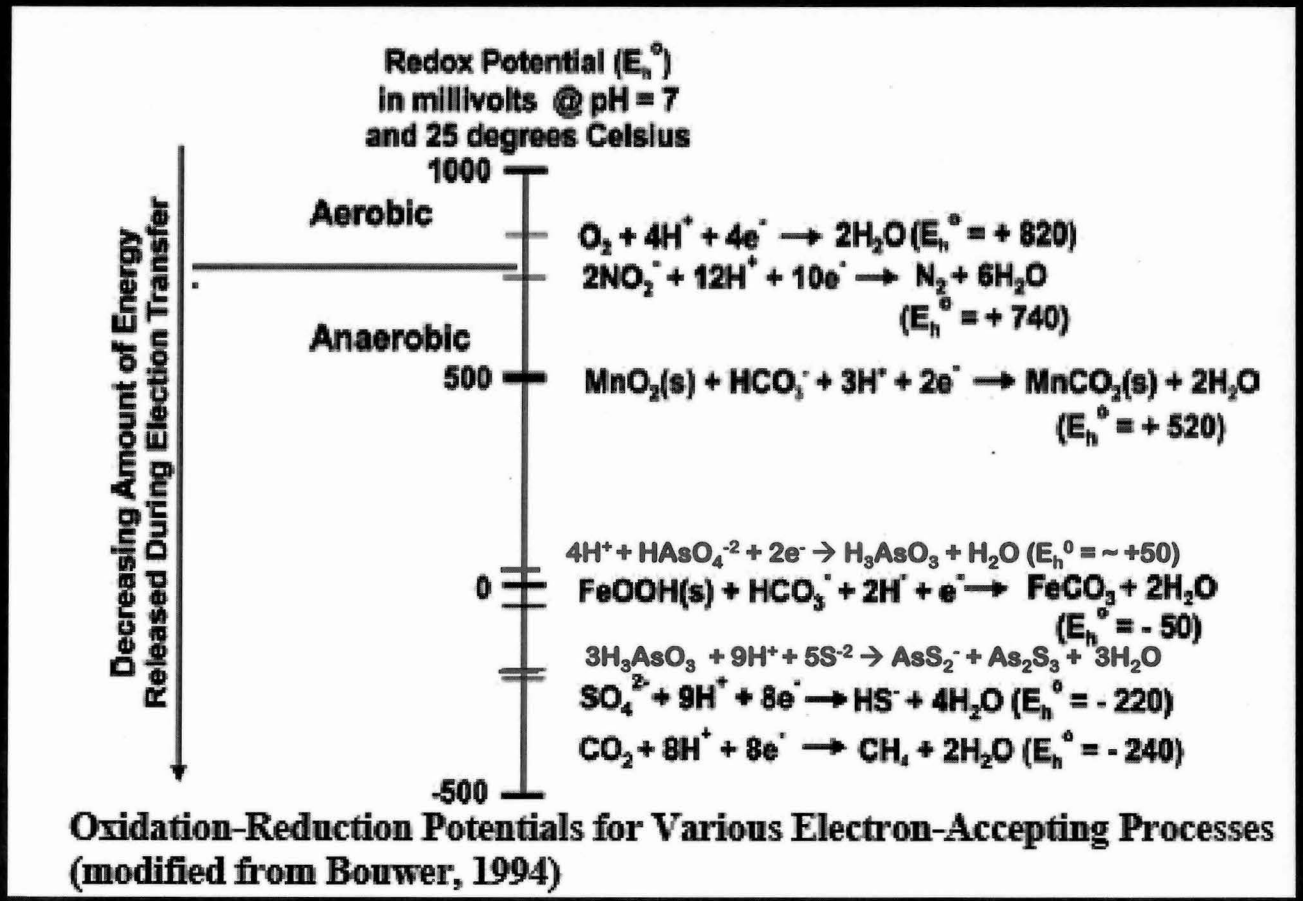
Natural Attenuation of Arsenic

- As conditions in groundwater become more reducing, arsenic is mobilized
- Attenuation of petroleum impacts by biodegradation allows ambient conditions to return
- As ambient conditions return, redox state of arsenic is reversible

Arsenic Redox versus Biodegradation



Oxidation-Reduction Potentials for Various Electron-Accepting Processes (modified from Bouwer, 1994)

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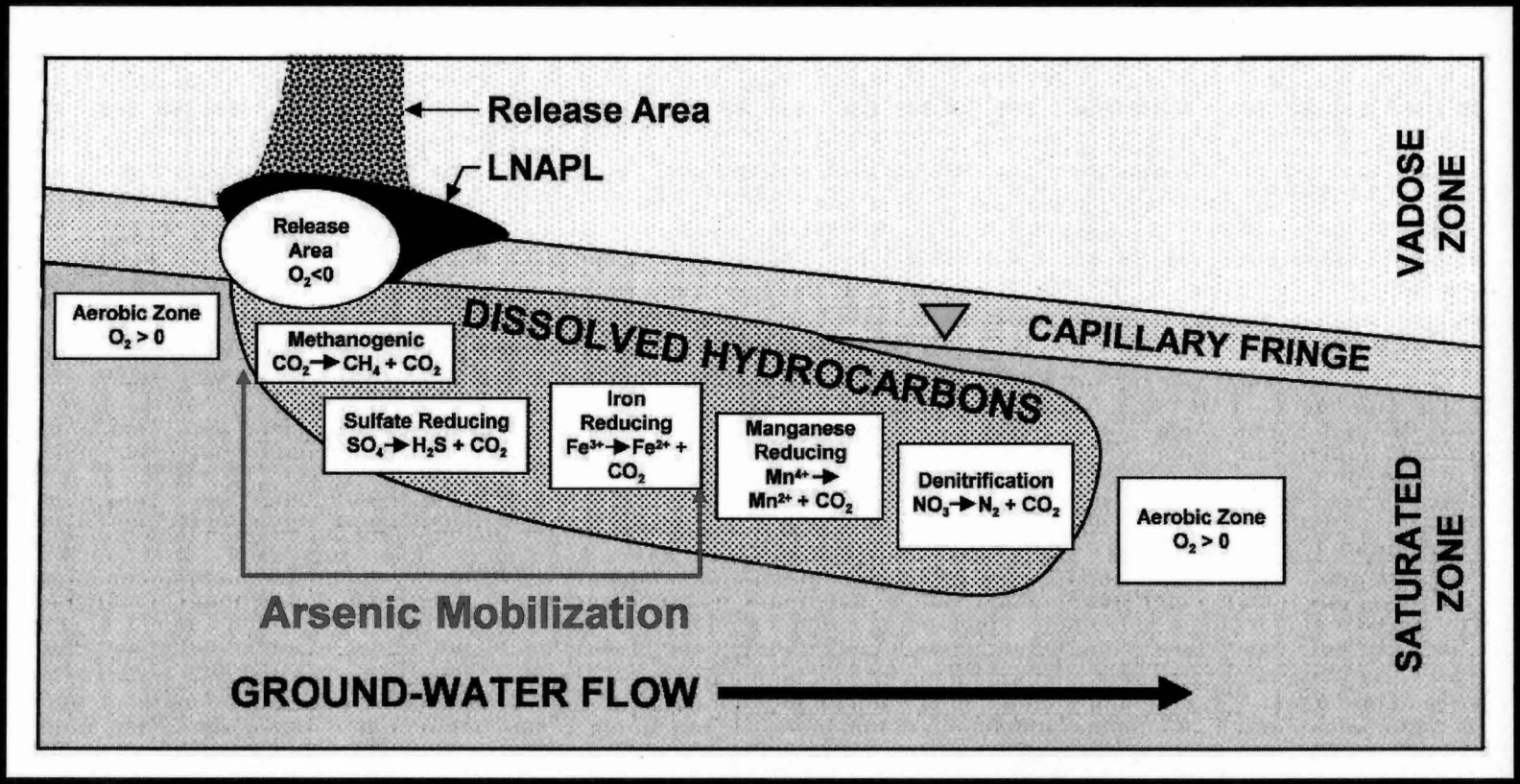
Petroleum Hydrocarbon Degradation

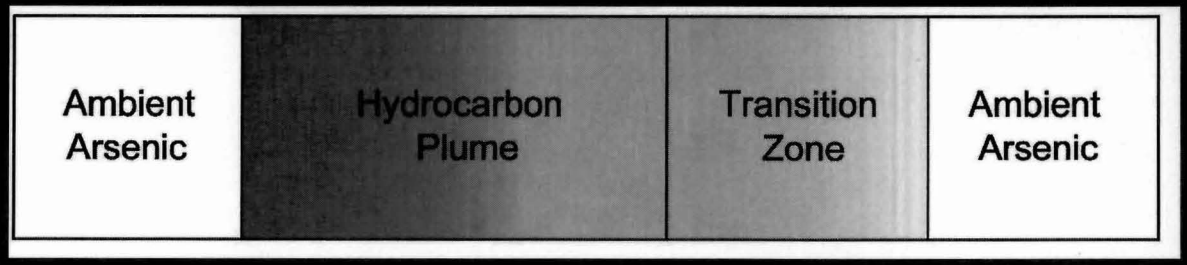


The Arsenic Plume Conceptual Model

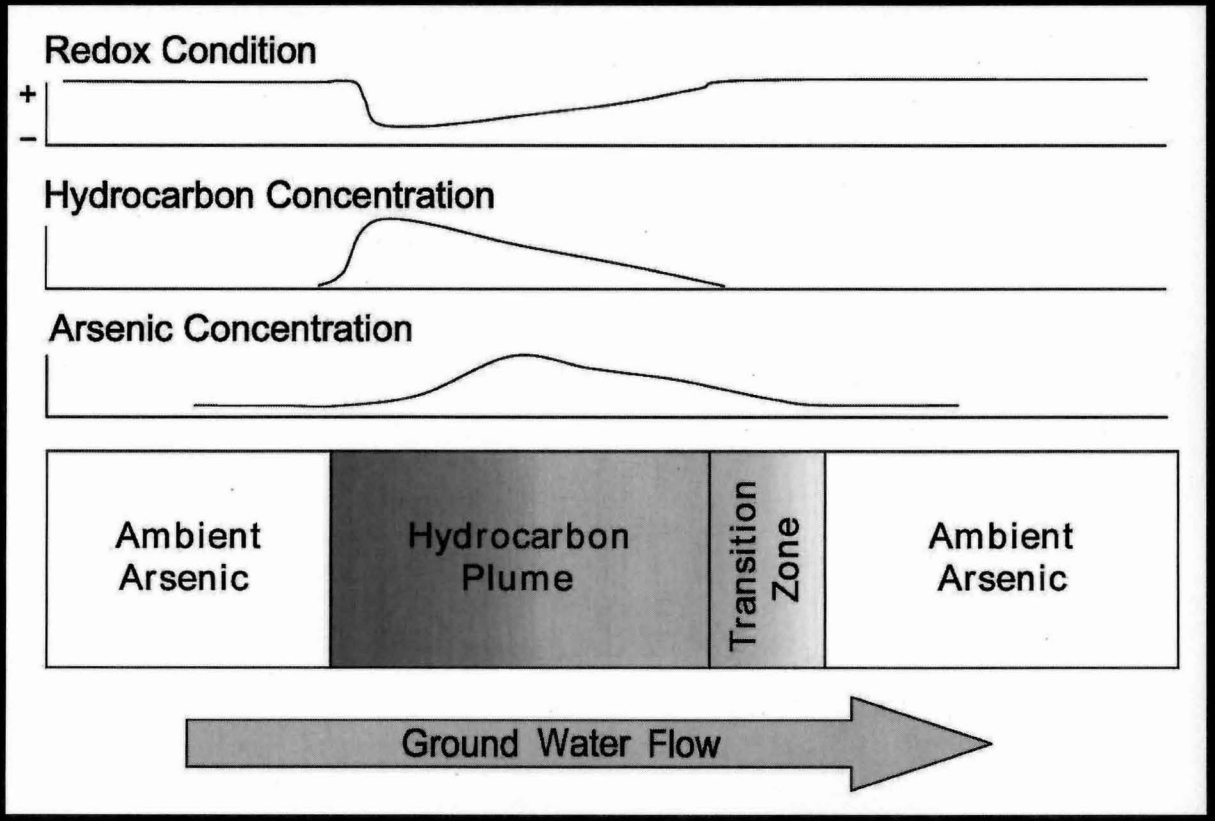
- A plume of arsenic mobilized by petroleum hydrocarbon impacts will mimic the hydrocarbon plume
- Stages of arsenic mobilization can be related to the hydrocarbon plume conditions (expanding, stable, or shrinking)

Stages of Arsenic Mobilization

- **Expanding plume**
  - Influx of HC >> Attenuation
- **Steady State**
  - Influx of HC = Attenuation
- **Shrinking plume**
  - Influx of HC << Attenuation



Expanding Plume



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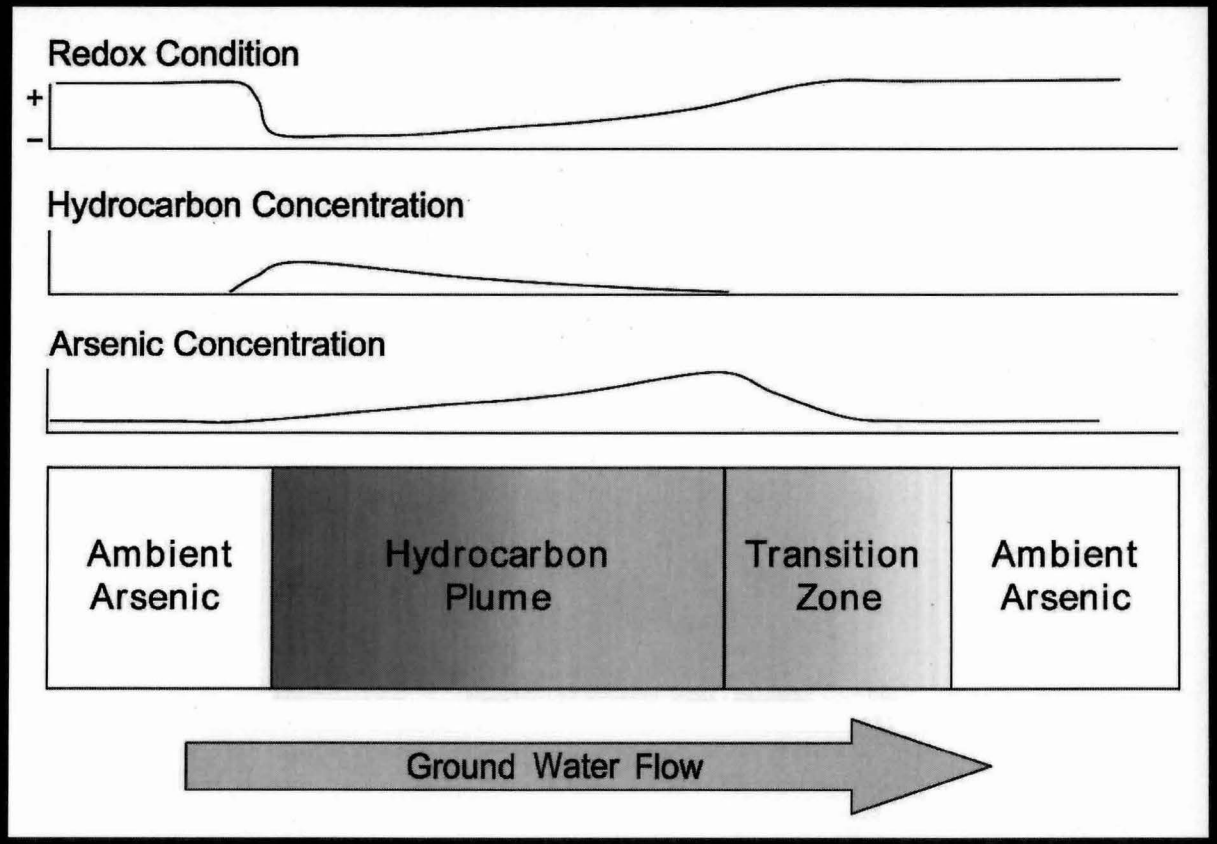
Steady State



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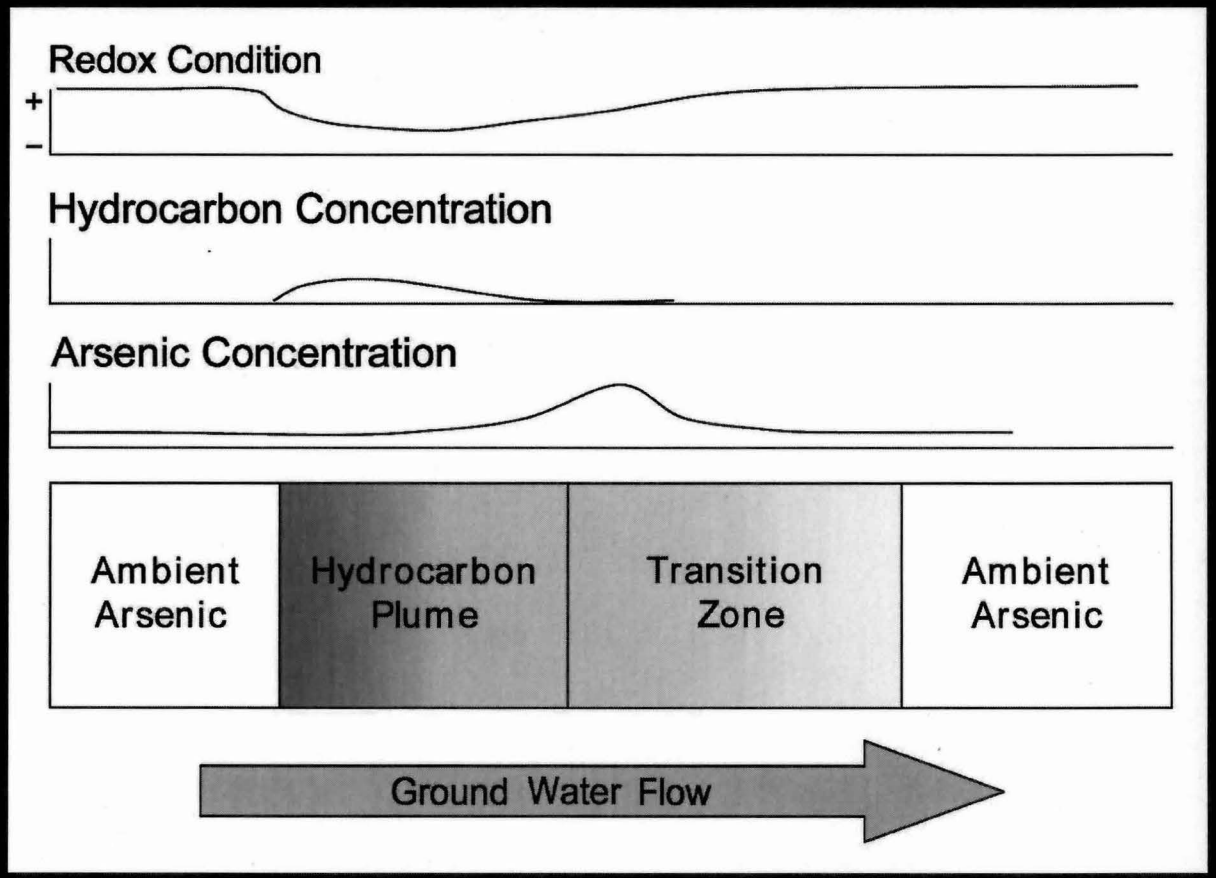
Shrinking Plume



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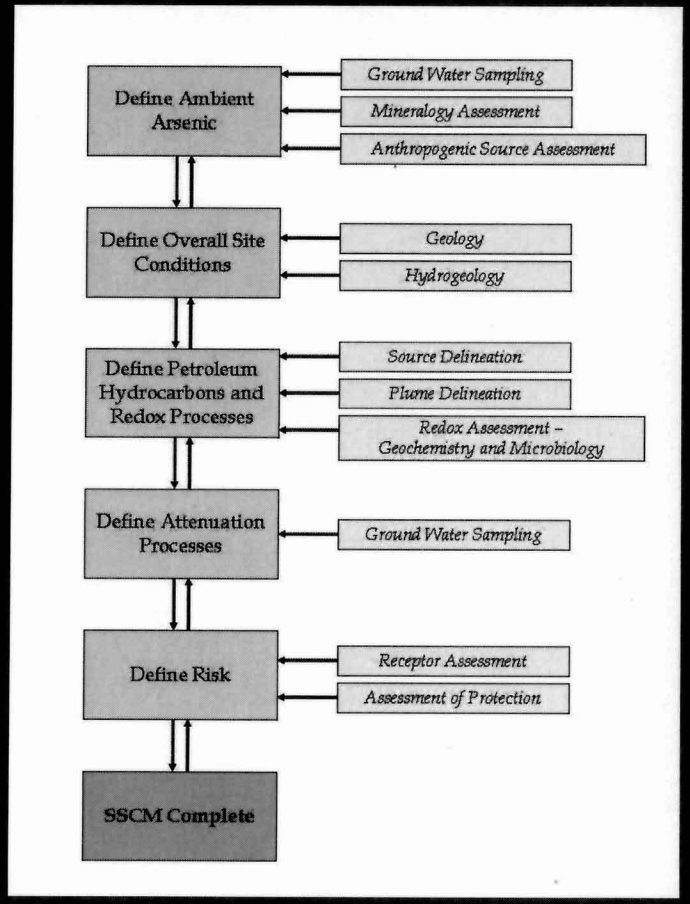
Creating a Site-Specific Model

- Apply general model of arsenic mobilization within a hydrocarbon plume
- Understand the ambient conditions (will be the limit of natural attenuation)
- Understand the plume stage
- Determine attenuation indicators
- Understand risk (mobility → receptors)

Site-Specific Conceptual Model



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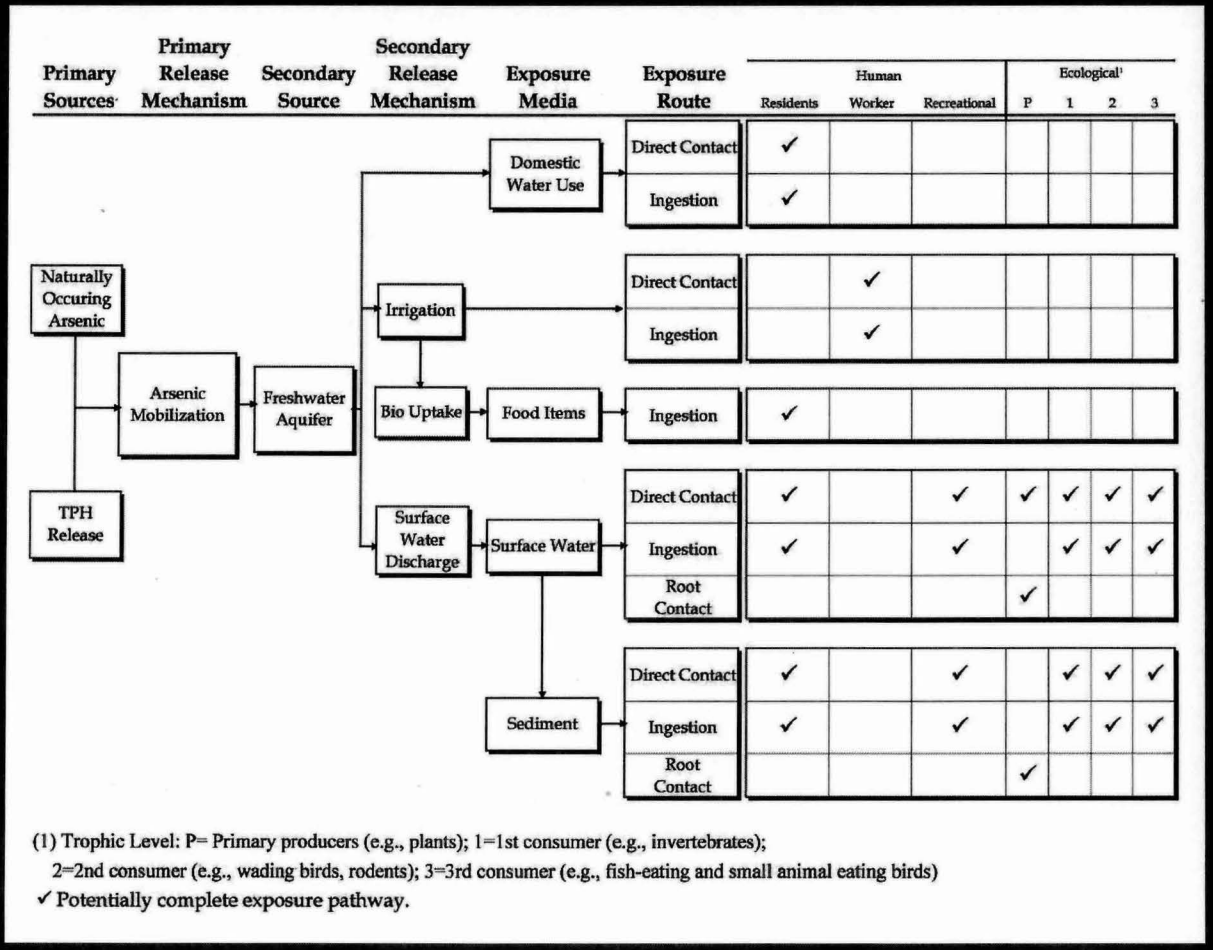
Exposure Pathway Analysis



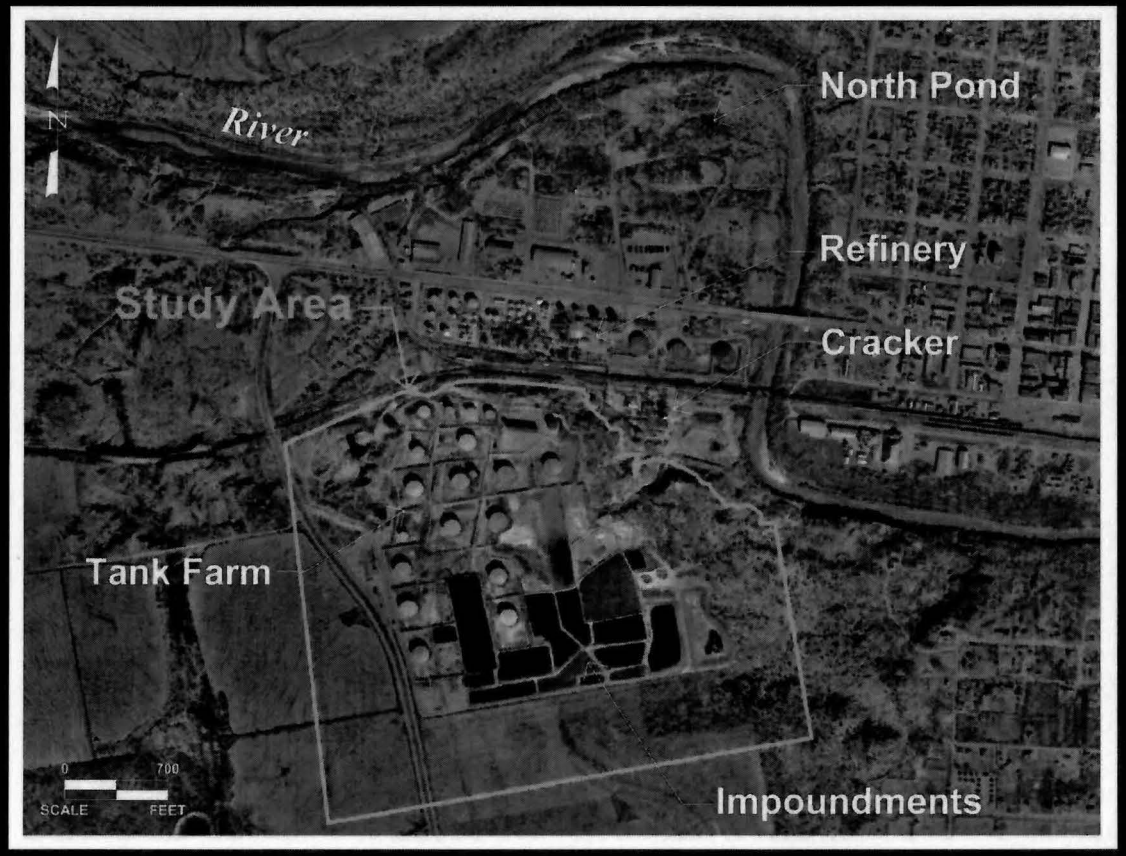
(1) Trophic Level: P= Primary producers (e.g., plants); 1=1st consumer (e.g., invertebrates);
2=2nd consumer (e.g., wading birds, rodents); 3=3rd consumer (e.g., fish-eating and small animal eating birds)

✓ Potentially complete exposure pathway.

Applying a Site-Specific Model

- Understand the ambient conditions (will be the limit of natural attenuation)
- Understand the plume stage
- Determine attenuation indicators
- Understand risk (mobility → receptors)

Case History



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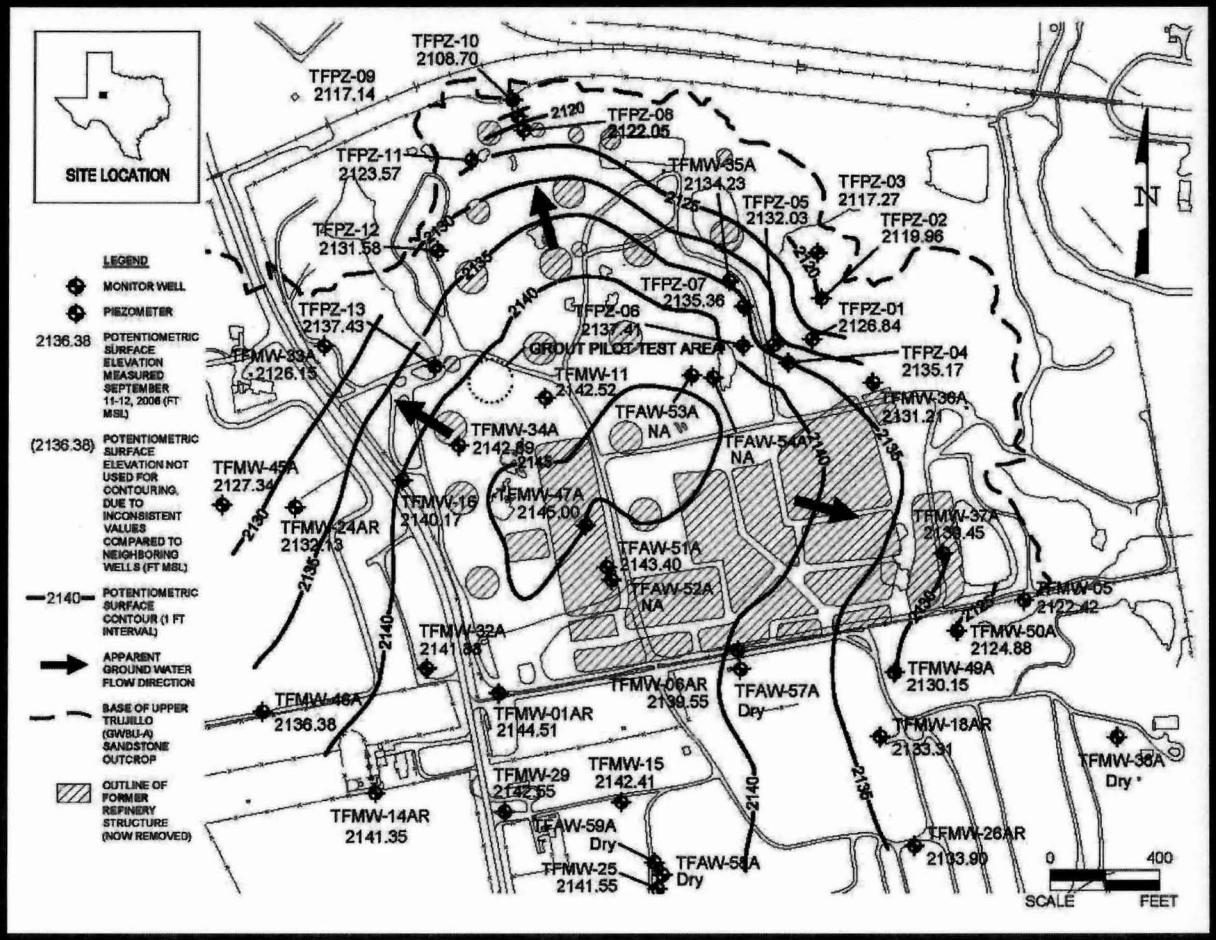
Potentiometric Surface



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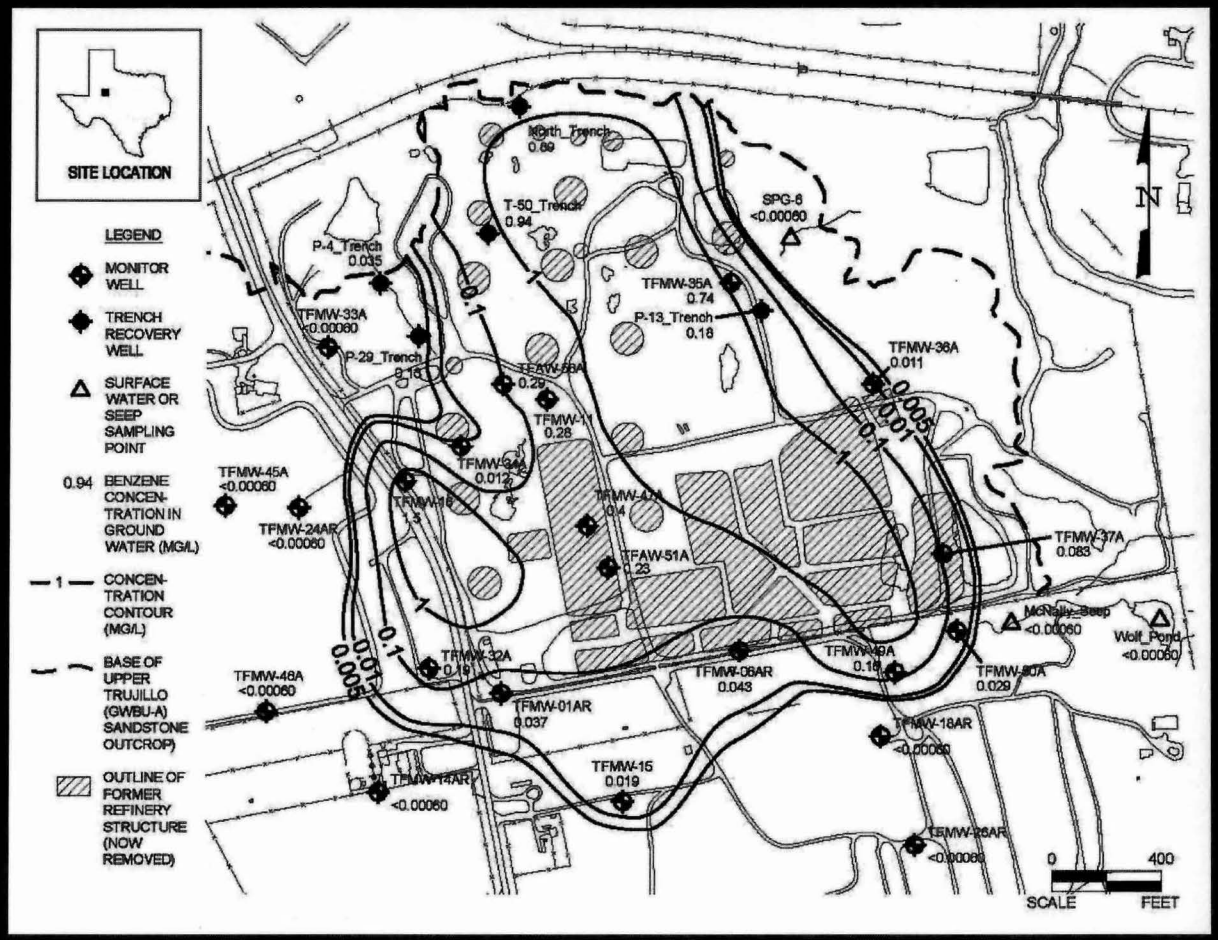
Benzene



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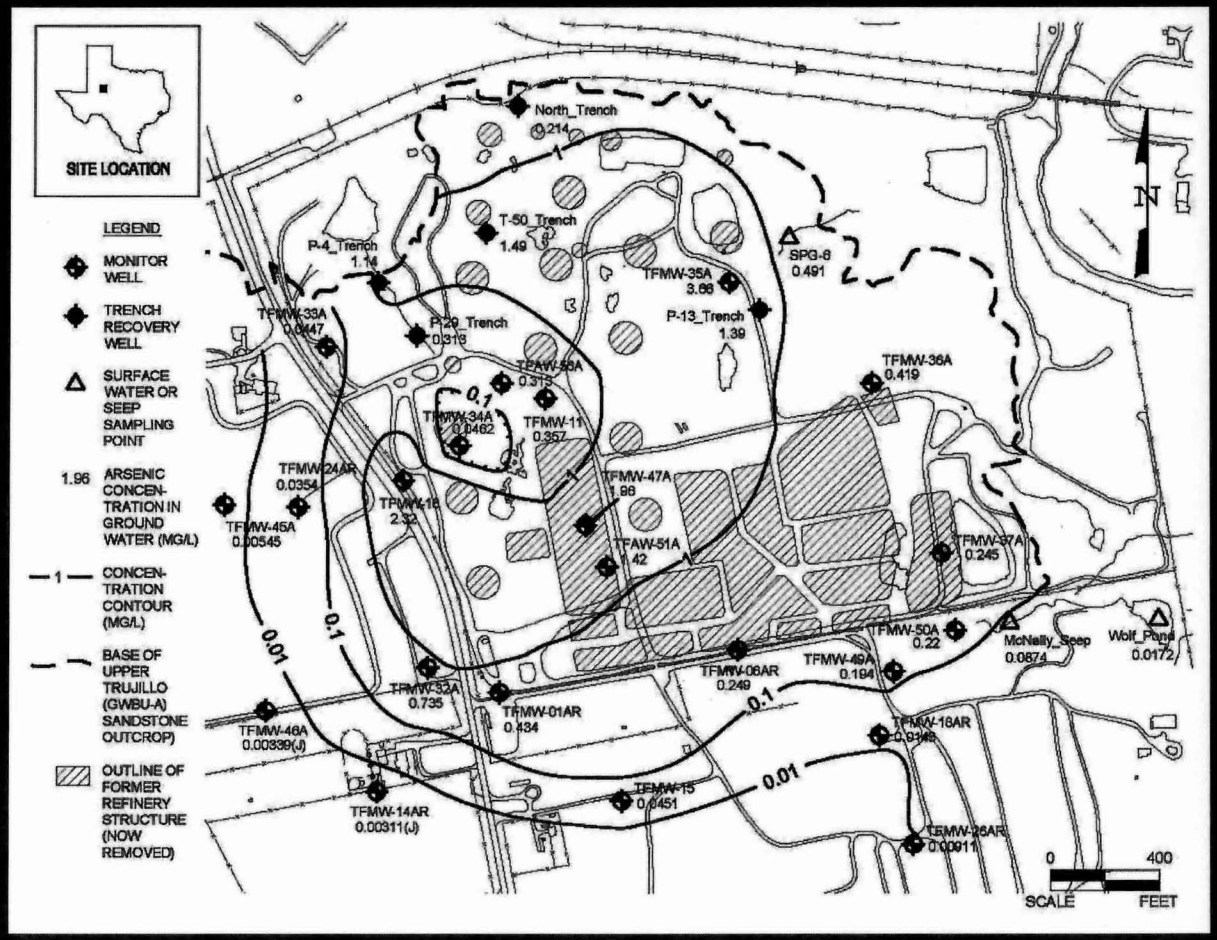
Arsenic



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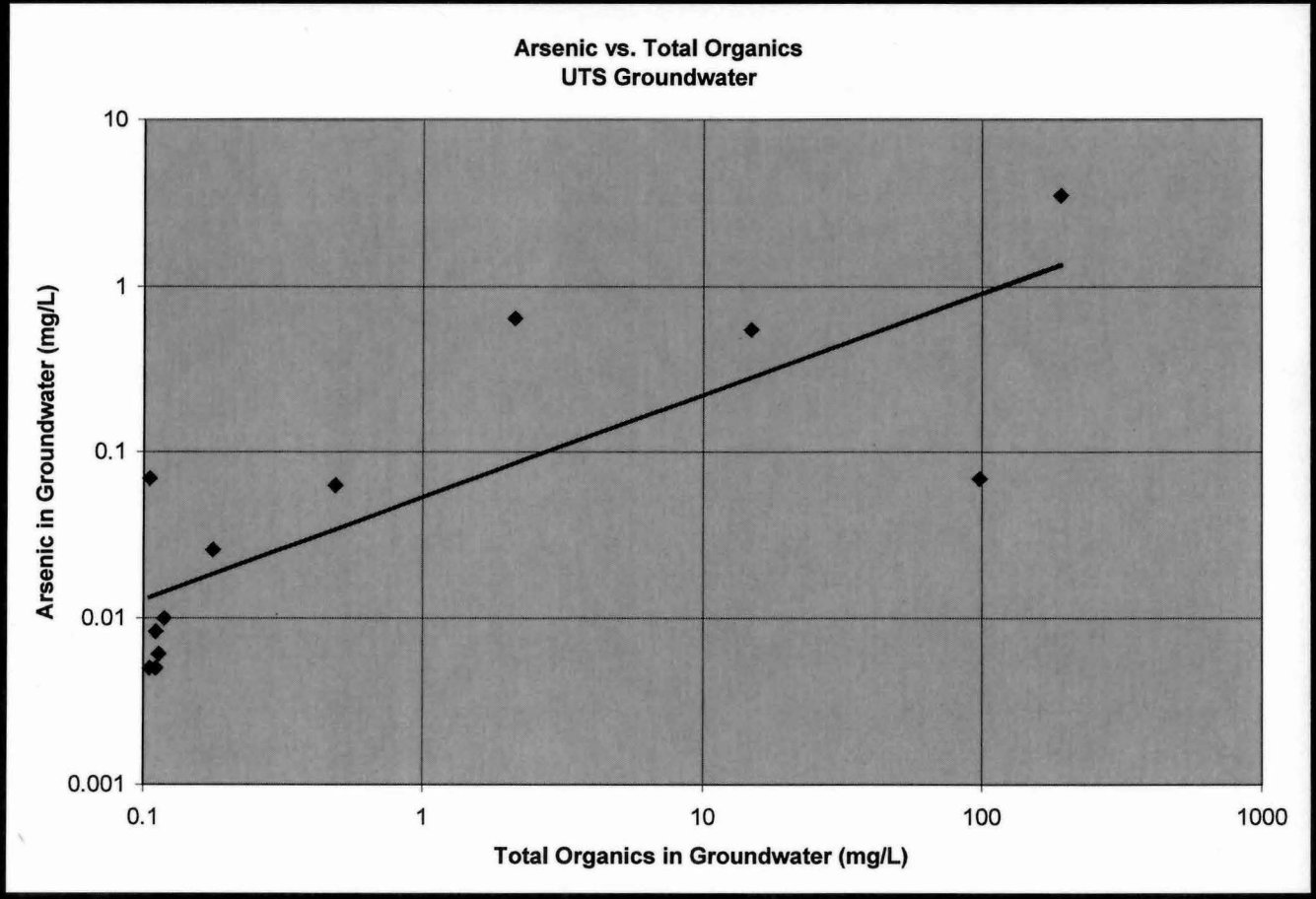
Arsenic Versus TOC



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Assessment Tools

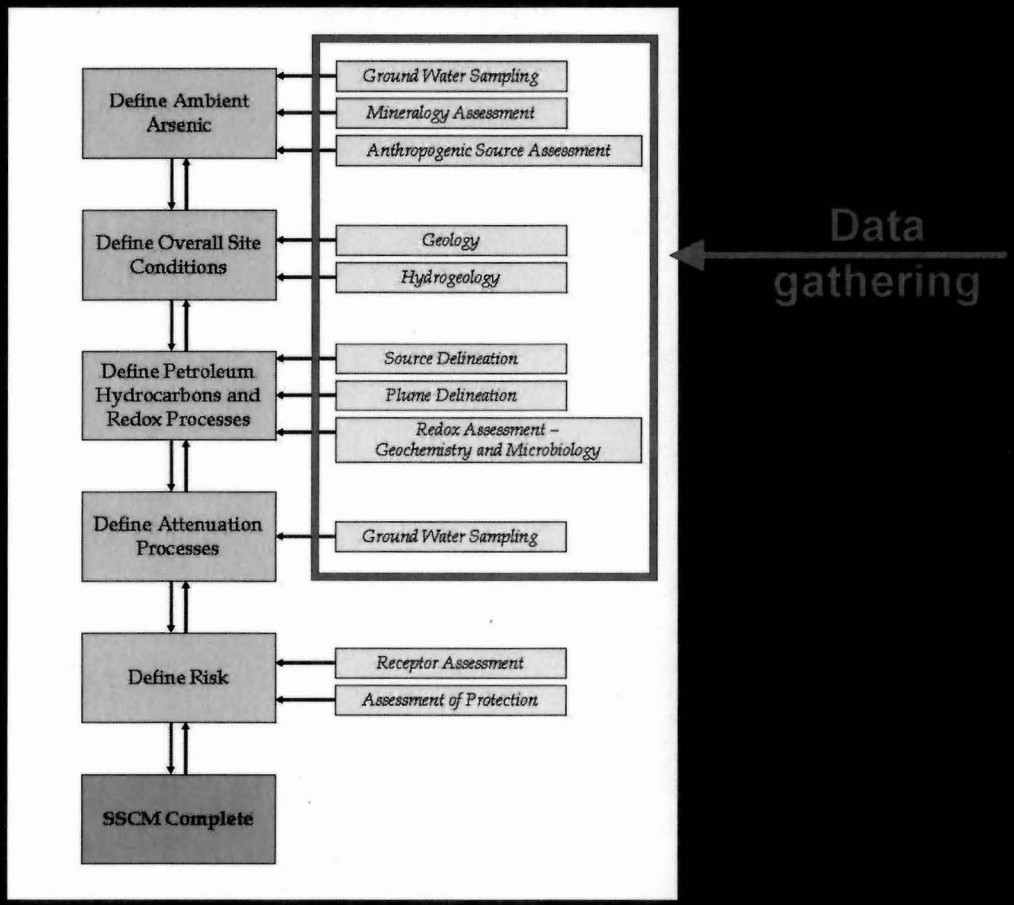

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Table 3-1: Key Ground Water Geochemical Parameters for Assessment of Natural Attenuation of Arsenic at Petroleum Hydrocarbon Sites

Parameter	Approach	Method Reference	Assessment
pH	Flow-through cell or down-hole measurement; pH probe	Follow the pH probe or multi-parameter probe manufacturer's instructions	Master variable – affects arsenic mobility, particularly in terms of surface reaction, sorption
Eh (ORP)	Flow-through cell or down-hole measurement; probe can measure ORP; measure redox pair concentrations for reaction-specific E^0	Standard Methods (APHA, 1992) 2580B	ORP provides relative data for assessing redox conditions and can calibrate dissolved oxygen values. If more reaction/mechanism specific redox information is necessary, redox pair concentrations should be assessed (see arsenic speciation or TEA)
Alkalinity	Field titration or colorimetric kit, such as Hach	Hach Alkalinity test kit; Chemetrics; field titration (digital or use Standard Methods (APHA, 1992))	Field alkalinity measurements aid in geochemical facies identification and measure buffering capacity
Dissolved Oxygen (DO)	Low-flow sampling or down-hole measurement; oxygen probes (preferably optical) can be used; field colorimetric kits can be more accurate; proper technique critical	Follow the DO probe/meter manufacturer's instructions; CHEMetrics DO test kit; refer to Standard Methods (APHA, 1992) 4500	Determines whether ground water conditions are aerobic or anaerobic, which indicates the potential abiotic and biological mechanisms for arsenic fate and transport
Competing Ions	Low-flow sampling: sampled and preserved in the field (reference methods) to analyze for PO4, SeO3, SiO4, HCO3	Standard Methods	Competing ions can desorb or displace arsenate and arsenite increasing their mobility. Bicarbonate can be produced bilogically

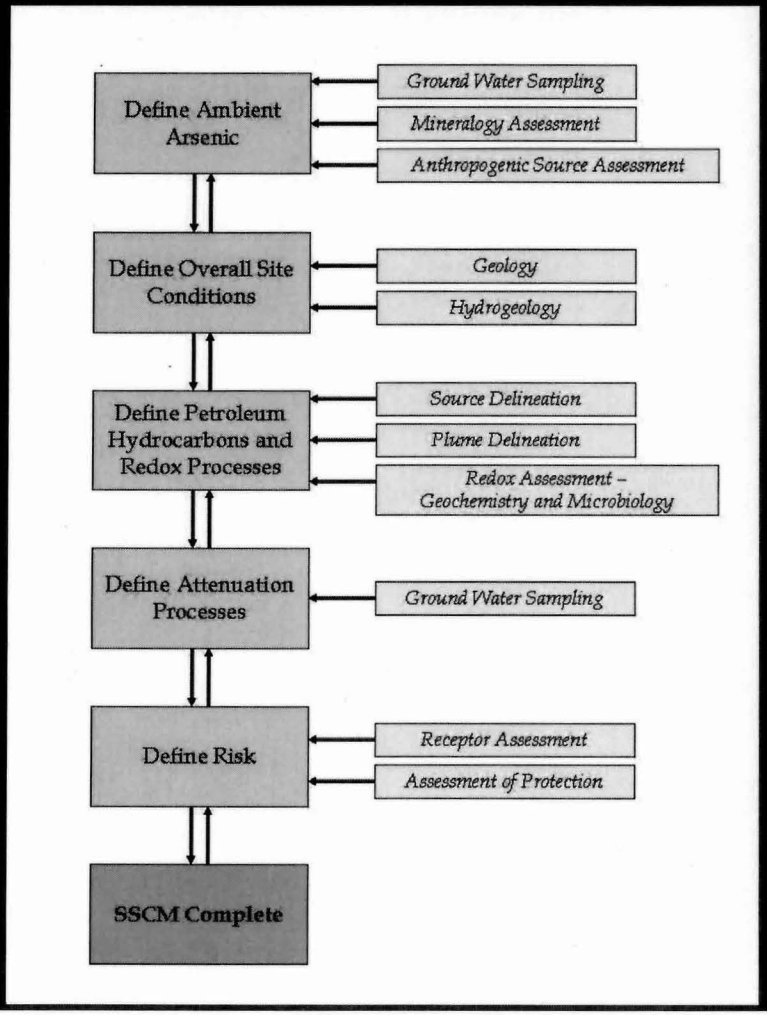
Table 3-1: Key Ground Water Geochemical Parameters for Assessment of Natural Attenuation of Arsenic at Petroleum Hydrocarbon Sites

Parameter	Approach	Method Reference	Assessment
Iron	Dissolved iron can be measured in the field with colorimetric kits; samples can be collected for Fe^{2+}/Fe^{3+} species or total dissolved iron (Fe_T can be used as an approximation of Fe^{2+} for many Eh/pH conditions)	Standard Methods (APHA, 1992) 3500-Fe B; ASTM D 1068-77, Iron in Water, Test Method A; CHEMetrics or HACH kits (8146)	Care must be taken with samples collected for Fe2+/Fe3+ to preserve speciation; the presence of iron (and its speciation) indicates current redox condition of GWBU, as well as attenuation capacity for sequestration of dissolved arsenic
Arsenic Speciation	Low-flow sampling; sampled and preserved in the field (reference methods) to analyze for total arsenic (As_T), As^{3+} and As^{5+}	EPA Method 1632A; Standard Method (APHA, 1992) 3500-As B or C (Hach Method 8013); total arsenic by SW-846 6020B; see further discussion of methods in USEPA, 2007b	Preservation of arsenic speciation requires special sampling method; various sampling and field preservation methods are available; arsenic speciation provides information specific to redox potential for arsenic as it relates to mobility

Table 3-2: Key Microbiological Parameters for Assessment of Natural Attenuation of Arsenic at Petroleum Hydrocarbon Sites

Parameter	Approach	Method Reference	Assessment
Alternate Terminal Electron Acceptors (TEA)	Low-flow sampling; alternate TEA include Fe^{3+}, SO_4^{2-}, NO_3^-, and CO_2, measured by collecting and preserving samples according to appropriate method; CO_2, or other gases, should be sampled by gas stripping method for laboratory analysis.	Methods depend on analyte – metals by SW-846 6020B, anions by EPA 300; nitrate by Standard Methods (APHA, 1992) 4500-NO_3 D (Hach Method 8324) or EPA 353.2/353.3; sulfate by Hach Method 8051; CO_2 by CHEMetrics Method 4500	Investigate alternate TEA as appropriate for aquifer mineralogy and ambient ground water conditions; TEA concentrations provide information on redox conditions, degradation of hydrocarbon, and attenuation capacity of the aquifer.
Total Organic Carbon	Low-flow sampling; collect sample for laboratory analysis.	SW-846 9060	Total organic carbon indicates presence of energy source for microbial processes.
Molecular Hydrogen, H_2	Low-flow sampling; headspace equilibrium by "bubble-stripping" method.	Chapelle, et al., 1995, 1997; Weidemeier, 1998	Although difficult to collect, useful in determining specific redox state and primary TEA.

Site-Specific Conceptual Model



Managing Arsenic at Petroleum-impacted Sites

- Petroleum hydrocarbons perturb the existing geochemistry, mobilizing arsenic if it is already present (as a soil mineral or from anthropogenic sources).
- This perturbation of the ambient arsenic geochemistry persists until the soluble hydrocarbons are attenuated and the ambient redox condition is restored.
- Once the hydrocarbons are attenuated and the redox condition is restored, the arsenic will revert to its pre-existing stable geochemistry, which may be above the MCL.
- A site-specific conceptual model includes assessment of the ambient conditions and state of arsenic to determine the effect of petroleum hydrocarbon and the potential for natural attenuation of mobile arsenic.