



DuPONT POMPTON LAKES WORKS PUBLIC AVAILABILITY SESSIONS

MARCH 19, 2014





AGENDA

- Introduction
- Permit Appeal/Dredging
- Bioremediation Pilot Study
- Off-site Groundwater Technology Evaluation
- Hydraulic Surcharging Pilot Study
- Vapor Intrusion (Lakeside Middle School/Board of Education Building & VI Program)
- On-site Soils (Corrective Measures Study)
- Community Involvement Update



STATUS OF PERMIT APPEALS

- Stay of the Permit Extended Until April 30, 2014 Based on Progress of EPA/DuPont Discussions
- DuPont Submitted Work Plan February 26, 2014 That Included Field Mapping of Riverbed/Proposed Sediment Sampling Downstream of Pompton Dam
- DuPont Submitted Draft Report on March 11, 2014 That Included Sediment Data, Hydrodynamic Modeling, and Bed Stability Analysis
- Interface with Passaic River Coalition (PRC)
 - Met with PRC in December 2013 Regarding Sediment Sampling/Eco Investigations & Community Engagement
 - Follow-up Meeting to be Scheduled in April 2014 Once Sediment Sampling Report is Fully Evaluated



BIOREMEDIATION PILOT STUDY

Pilot Study Results

- Performance Monitoring Sufficient to Evaluate Pilot System Effectiveness in Terms of:
 - Ability to Deliver Remediation Fluids
 - Low Hydraulic Conductivity Results in Slow Movement to Target Area Which Can Impact System Design
 - Effects on Contaminant Concentrations
 - PCE/TCE Decreasing and Breakdown Products Increasing
 - Further Evaluation Needed to Assess Decrease in Breakdown Products



BIOREMEDIATION PILOT STUDY

Pilot Study Results (Continued)

- Implementation Considerations
 - Required Spacing of Injection/Extraction Points Due to Low Hydraulic Conductivity and Slow Movement of Remedial Fluids
 - Biofouling in Extraction Well and Potentially the Aquifer During Full-Scale Implementation
 - Further Assessment of Ability to Address Breakdown Products Over Time



BIOREMEDIATION PILOT STUDY

Conclusions/Next Steps

- Appears Enhanced Bioremediation Technology Can Reduce Contaminant Concentrations
- Potential Significant Challenges for Full-Scale Implementation
 - Slow Movement of Remediation Fluids to Contact Contaminants
 - Biofouling
 - Sustaining Full-Scale System to Complete Remediation
- DuPont Preparing Draft Report for EPA/NJDEP Review That Will Include:
 - Pilot Results
 - Evaluation of Implementability
 - Conceptual Full-Scale Design



OFF-SITE GROUNDWATER TECHNOLOGY EVALUATION

- Technical Reps from EPA/CAGs/DuPont Met in May 2013 to Discuss Remedial Technologies to Address Off-site Groundwater Contamination
- Enhanced Anaerobic Bioremediation Pilot Performed June to December 2013
- General Agreement Hydraulic Surcharging of the Shallow Groundwater Zone Had Potential to be Effective



OFF-SITE GROUNDWATER TECHNOLOGY EVALUATION

- In-situ Chemical Oxidation (ISCO) Should be Considered
- DuPont Will Conduct On-site Pilot Study With ISCO
- Next Steps
 - Submit Data Collection Report for Well 13 Area Based on NJDEP/EPA Comments
 - Prepare Pilot Study Work Plan for NJDEP/EPA Approval
 - Meeting with Technical Representatives To Discuss Pilot Study Work Plan
 - DuPont Procures ISCO Vendor
 - Submit/Secure Permit-by-Rule (< 180 Days)
 - Implement NJDEP/EPA Approved Pilot Study Work Plan



HYDRAULIC SURCHARGING PILOT STUDY

- EPA/NJDEP Has Reviewed Draft Hydraulic Surcharging Implementation Work Plan
- DuPont Has a Provided Sequence of Activities:
 - Receive Approval From Railroad (RR) to Conduct Pre-Design Activities & Negotiate/Obtain Property Access Agreement
 - RR Reviewing Engineering Drawings/Provided Draft Access Agreements to DuPont
 - Agreed to Continue Engineering Review After Concerns About Flooding Received



HYDRAULIC SURCHARGING PILOT STUDY

- Conduct Pre-Design Activities to Complete Final Design (60 Days)
- Submit Final Design to RR/Final Implementation Work Plan to NJDEP/EPA (45 Days From Completion of Pre-Design Work)
- Submit Permit-by-Rule (PBR) to NJDEP (14 Days From Final Design Approval by RR and NJDEP/EPA Approval of Implementation Work Plan)
- NJDEP Public Notice
- Mobilization for Horizontal Well (30 Days From Approval of PBR)



HYDRAULIC SURCHARGING PILOT STUDY CONSIDERATIONS ABOUT FLOODING

- Surcharging With Treated Water On-going Under Original Remedy and Resulted in Decreases in Contaminant Concentrations
- Previous Modeling/Field Testing Showed That Even Under Maximum Design Flow Rates, Water Table Would Not Rise to Adversely Impact Basements
- Water Levels Monitored Since Inception of Groundwater Extraction/Treatment/Reinjection System (GWET) in 2000 Showed No Rise to a Level That Would Adversely Impact Basements
- Same Amount of Water Currently Re-injected as Part of Existing GWET Would be Discharged 20 Feet Below Ground Along a Greater Distance



HYDRAULIC SURCHARGING PILOT STUDY CONSIDERATIONS ABOUT FLOODING

- Monitoring Wells Along Horizontal Well to Measure Water Levels
- Pilot Study Can Be Immediately Terminated if Evidence of Rise in Water Levels Threatens Basements
- Existing Infiltration Beds Are Available if Water Needs to be Diverted From the Horizontal Well
- Comments Provided/Resident Concerns to be Addressed During Permit-by-Rule Process



STATUS UPDATE - VAPOR INTRUSION PROGRAM

Changes to Comparison Values - Trichloroethene (TCE)

SUB-SLAB SOIL GAS

Current (ug/m ³)	Revised (ug/m ³)
11	27

INDOOR AIR

Current (ug/m ³)	Revised (ug/m ³)
1	2



STATUS UPDATE - VAPOR INTRUSION PROGRAM

Changes to Comparison Values-Tetrachloroethene (PCE)

SUB-SLAB SOIL GAS (SSSG)

Current (ug/m ³)	Revised (ug/m ³)
16	470

INDOOR AIR (IA)

Current (ug/m ³)	Revised (ug/m ³)
1	9



LAKESIDE MIDDLE SCHOOL/BOARD OF EDUCATION SUB-SLAB SOIL & INDOOR AIR SAMPLING

- Originally Performed by NJDEP in 2009
- Sub-slab/Indoor Air/Ambient Air Tested for DuPont Contaminants of Concern (COCs)
- DuPont Associated COCs Not Detected
- Groundwater Plume is Side-Gradient And to the East of the School
- Based on Community Concern, Vapor Intrusion Sampling Repeated in December 2013 at Same Locations n 2009
- Report Transmitted to Superintendent February 2014



BOARD OF EDUCATION BUILDING INDOOR AIR SAMPLING RESULTS

- Samples Collected: Indoor Air Sample in Crawlspace (1)/Ambient Air (2)
- EPA-Approved Sampling Methodology/NJDEP-Certified Laboratory
- No DuPont Associated COCs Detected Above NJDEP Indoor Air Screening Levels (IASL)
- Carbon Tetrachloride, a DuPont COC Detected in Crawlspace and Ambient Air Below IASL
- Carbon Tetrachloride Detection in Crawlspace Likely a Result of its Presence in Ambient Air



LAKESIDE MIDDLE SCHOOL SUB-SLAB SOIL GAS SAMPLING RESULTS

- Samples Collected: Sub-slab Soil Samples at Six Locations Consistent with 2009 NJDEP Sampling
- EPA-Approved Sampling Methodology/NJDEP-Certified Laboratory
- No DuPont Associated COCs Detected Above NJDEP Residential Soil Gas Screening Levels (RSGSL)
- Trichloroethylene (TCE), a DuPont Associated COC Detected in Sub-slab of Art Room Storage Closet Below RSGSL
- TCE Detection Likely a Result of Background Indoor Air Source (e.g. Glue/Adhesive/Paint) in Art Room Storage Closet



LAKESIDE MIDDLE SCHOOL/BOARD OF EDUCATION VI SAMPLING RESULTS

- Results posted on Board of Education website
- Letter From Superintendent to School Parents Conveying Results
- Follow-up Sampling Beneath Sub-slab in Art Room Closet to Further Assess Presence of TCE
- Based on the Results, EPA Sees No Public Health Issues Related to Indoor Air Quality at Lakeside Middle School or Board of Education Building



STATUS UPDATE - VAPOR INTRUSION PROGRAM

- Vapor Mitigation Systems Installed
 - 248 (DuPont/O'Brien & Gere)
 - 78 (Third Party Contractor)

- Vapor Mitigation Systems "In Pipeline" For Installation
 - 1 (DuPont/O'Brien & Gere)
 - 5 (Third Party Contractor)



STATUS UPDATE - VAPOR INTRUSION PROGRAM

- Revisions to NJDEP Vapor Intrusion Comparison Levels Adopted in March 2013 In Response to Changes in EPA Toxicity Values/Equations
- DuPont Requested Modification of 2008 Vapor Interim Remedial Measure Work Plan (VIRM WP) to Utilize Revised VI Comparison Levels in April 2013
- NJDEP/EPA Requested a Revised Draft VIRM WP in November 2013
- DuPont Submitted Revised Draft VIRM WP in February 2014
- NJDEP/EPA Approved Use of Revised Comparison Levels, But Did Not Approve Draft Revised VIRM WP in February 2014
- Revised Draft VIRM WP Addressing NJDEP/EPA Comments in Final Review



STATUS UPDATE - VAPOR INTRUSION PROGRAM COMMUNICATION PLAN

- Brief Local Stakeholders
- Convey Elements of Revised VIRM WP Through Public Availability Session(s)
- DuPont Transmits Property-Specific Notification Packages to Property Owners
 - Notification Packages Reviewed by NJDEP/EPA Prior to Transmittal
 - Notification Via Mail/Telephone/Door-to-Door/Individual Meetings
- DuPont/NJDEP/EPA Hold Info Sessions for Individuals/Small Groups
- Info Will Be Available Via EPA/NJDEP Websites, EPA Newsletters, EPA Weekly Availability Sessions, Individual Appointments



CORRECTIVE MEASURES STUDY

- Covers Eastern/Western/Northern Manufacturing Area
On-site Soils
- Remedial Options Being Considered
 - Excavation/Off-site Disposal of Select Soil Above Remediation Standards
 - On-site Consolidation/Capping of Select Soil
 - Long-term Monitoring/Maintenance of Capped Areas
 - Institutional Controls



CORRECTIVE MEASURES STUDY

- NJDEP/EPA Comments to DuPont
 - Requires Details on Alternative Evaluation Process
 - Requires Details on Proposed Remedy
 - Technical Review of Proposed Alternative Remediation Standards
- Once Approved, Corrective Measures Study Subject to Permit Modification with Public Notice/Comment
- Target for Permit Modification: Fall 2014



COMMUNITY INVOLVEMENT UPDATE

- EPA Weekly Public Availability Since November 2013
- February 2014 Newsletter
- Meetings with Concerned Residents/Local Officials/CAGs/Local Civic Groups
- Outreach to Local Real Estate and Banking Communities in Spring/Summer 2014