

Plumstead Fire HSCA Site

Plumstead Township
Bucks County

Public Hearing – December 14, 2010

Meeting Objectives

- ❖ Site Background and Investigation
- ❖ Response alternatives and associated costs
- ❖ Responses actions taken
- ❖ Additional response activities at the site
- ❖ Solicit comments from the public

Site Background & Investigation


Site Background

Businesses previously located at 5189 Stump Road:

- ❖ Custom Particle Reduction, Inc. (CPR)
 - ❖ Stored and processed various food grade chemicals onsite, including large amounts of Sodium Benzoate
- ❖ Hawk Mold & Die, Inc.
- ❖ Bucks County Trading Post
- ❖ Nutri-Pet Research, Inc.

Fire occurred June 29, 2010

Site Layout



Initial Investigation

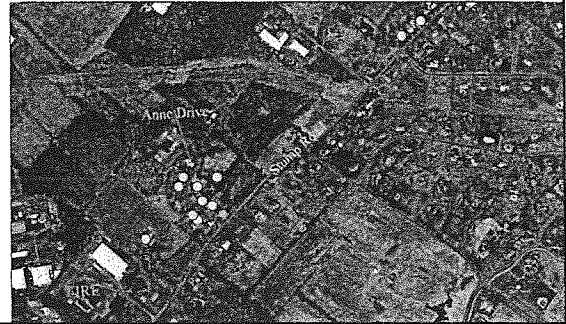
June 29	DEP Emergency Response Team member responded to the fire
July 8	Bucks County Health Department (BCHD) sampled the 1 st residential property
July 21-August 11	BCHD & DEP's Water Management (Water) section sampled 43 properties
July 30 & August 9	Both ponds were sampled
September 1 & 2	BCHD collected additional samples to be analyzed for Sodium Benzoate

Initial Response

- August 5 DEP's Water section issued an Order to the owners of 5189 Stump Road and CPR
- August 10 DEP's HSCA section began connecting homes to the potable water tanker trucks

DEP's Water & HSCA section attended a public meeting at the township building
- August 25 DEP's HSCA section initiated the Prompt Interim Response Action

Homes connected to the Tanker Trucks



Chemicals of Concern

- ☒ Benzene
 - ☒ maximum contaminant level (MCL) - 5 micrograms per liter (µg/l)
- ☒ Antimony
 - ☒ Occasionally stored on site.
 - ☒ MCL - 6 µg/l

Chemicals of Concern

- ☒ Benzoic Acid
 - ☒ breakdown product of Sodium Benzoate, a food preservative
 - ☒ replacement water supplies recommended by PA Department of Health (PA DOH) for homes with levels greater than 40,000 µg/l for homes with children, and 140,000 µg/l for homes with adults
- ☒ Manganese
 - ☒ Secondary MCL - 50 µg/l
 - ☒ EPA drinking water lifetime health advisory (LTHA) - 300 µg/l

HSCA Sampling

- August 25 -water from 6 properties and both ponds
- August 26 -soil from around the ponds
- September 8 -sediment samples from the base of the pond
-soil samples from around the former building at 5189 Stump Road
- October 5 & 6 -water from 28 properties including the wells of homes that are connected to the tanker trucks
- October 21 -well water from homes connected to the tanker trucks

Sediment/Soil Sampling

Range of Results (mg/kg)

	Antimony	Benzoic Acid
Act 2 Standards	27	15,000
Pond Edges	0.553 -149	NE
CPR Pond	17.2 -50.6	NE
EMS Pond	19.1-203	12,300 -14,300
Building Pad	1.64 - 55.6	ND -27,200

NE = No exceedances

Locations with the highest levels of soil/sediment contamination



Water Sampling Summary
July, August, and September Results

	Antimony µg/l	Benzoic Acid µg/l	Benzene µg/l	Manganese µg/l	Sodium mg/l
MCL/LTHA	6	40,000*	5	300	20*
CPR Pond	436-597	ND - 4352.12	ND (25 µg/l)	1,290-1,691	609-634
EMS Pond	237-252	526,660- 6,300,000	42-1260	881-1,570	845-1660
Homes (highest detects)	25.9	731,000	229	21,100	270

ND = Nondetect
*not MCLs or LTHA

Residential Water Sampling Summary
July, August, and September Results (µg/l)

- ※ Manganese
 - ⊖ 8 homes exceeded LTHA of 300
- ※ Benzoic Acid
 - ⊖ 5 of those 8 homes exceeded 40,000
- ※ Benzene
 - ⊖ 4 of those 8 homes exceeded the MCL of 5
- ※ Antimony
 - ⊖ 2 of 8 those homes exceeded the MCL of 6

Residential Water Sampling Summary
October Results (µg/l)

	Antimony µg/l	Benzoic Acid µg/l	Benzene µg/l	Manganese µg/l
MCL or LTHA	6	40,000*	5	300*
October 5 & 6 th Highest detections	3.3	1,000	8.2	10,800
October 25 th Highest detections	1.8	230	0.8	6,610

**Response Alternatives
and
Associated Costs**

Evaluation Factors

- ※ Overall protection of human health and the environment
- ※ Compliance with applicable or relevant and appropriate requirements (ARARs)
- ※ Long-term effectiveness and permanence
- ※ Reduction of toxicity, mobility, or volume through treatment
- ※ Implementability
- ※ Cost

Alternatives
With regard to -
Contamination in the ponds
Contamination in private supply wells

Alternatives Contamination in the ponds
1. No Action (Baseline)
2. Draining, Excavating, and Relining of the Ponds

Alternative 1: No Action (Baseline Alternative)	
PROS	CONS
<ul style="list-style-type: none"> ☒ Implementable ☒ Cost effective 	<ul style="list-style-type: none"> ☒ Not protective of human health and safety ☒ Not protective of the waters of the Commonwealth ☒ Not a permanent solution

Alternative 2: Draining, Excavating, and Relining of the Ponds	
PROS	CONS
<ul style="list-style-type: none"> ☒ Protective of human health and safety ☒ Protective of the waters of the Commonwealth ☒ Permanent solution for the threat to the environment ☒ Implementable 	<ul style="list-style-type: none"> ☒ Truck traffic ☒ Weather conditions

Cost Summary Pond Remediation		
	Alternative 1 No Action (Baseline)	Alternative 2 Draining, Excavating, & Relining of the Ponds
Cost	\$0.00	\$480,000.00

Alternatives Contamination in private supply wells
1. No Action (Baseline)
2. Continued Connection to the Tanker Trucks
3. Installation of Water Treatment Systems
4. Installation of New Deeper Wells
5. Connection to a Public Water Supply System

Alternative 1: No Action
(Baseline Alternative)

PROS	CONS
<ul style="list-style-type: none"> ▣ Implementable ▣ Cost effective 	<ul style="list-style-type: none"> ▣ Not protective of human health ▣ Not a permanent solution

Alternative 2: Continued Connection to the Tanker Trucks

PROS	CONS
<ul style="list-style-type: none"> ▣ Protective of human health ▣ Supplier has mandated monitoring requirements 	<ul style="list-style-type: none"> ▣ Use of the water restricted indoor purposes only ▣ Weather conditions ▣ Not cost effective ▣ Not a permanent solution ▣ Sampling and analysis is required

Alternative 3: Installation & Maintenance of Water Treatment Systems

PROS	CONS
<ul style="list-style-type: none"> ▣ Cost effective ▣ Implementable ▣ Permanent solution 	<ul style="list-style-type: none"> ▣ Not protective of human health if Benzoic Acid is present ▣ Sampling and analysis is required ▣ Routine maintenance is required

Alternative 4: Installation of New Deeper Wells

PROS	CONS
<ul style="list-style-type: none"> ▣ Protective of human health ▣ Cost effective ▣ Implementable ▣ Permanent solution 	<ul style="list-style-type: none"> ▣ Sampling and analysis is required ▣ Additional treatment may be required ▣ Restoration of the property may be required

Alternative 5: Connection to a Public Water Supply System

PROS	CONS
<ul style="list-style-type: none"> ▣ Protective of human health ▣ Supplier has mandated monitoring requirements ▣ Permanent solution ▣ No further residential sampling 	<ul style="list-style-type: none"> ▣ Longer implementation time. ▣ Delay due to permitting requirements. ▣ Residents would need to pay a water bill. ▣ Excessive capital costs ▣ Use restricted during drought conditions ▣ Inconvenience during construction. <ul style="list-style-type: none"> ▣ Main ▣ Laterals

Cost Summary Residential Water Supplies

	Alternative 1 No Action (Baseline)	Alternative 2 Tanker Trucks	Alternative 3 Water Treatment Systems	Alternative 4 New Deeper Wells	Alternative 5 Public Water Supply System
Total Costs	\$0.00	\$50,000 + Winterization	\$250,000	\$400,000	>\$2 million
		-Winterization costs can vary -1 year	-installation -maintenance for 1 year		

Initiated Responses

With regard to the ponds:

Draining, Excavating, & Relining of the Ponds

With regard to the private supply wells:

Combination of Alternatives

-Installation of Water Treatment Systems and/or

-Installation of Deeper Wells

Next Steps

Private well sampling – next round scheduled for
March 2011

Maintenance of Treatment Systems – 1 year

Soil and Groundwater Characterization***

Submit Questions or Comments to:

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Deadline for comments: **FEBRUARY 14, 2011**