

RFI Update

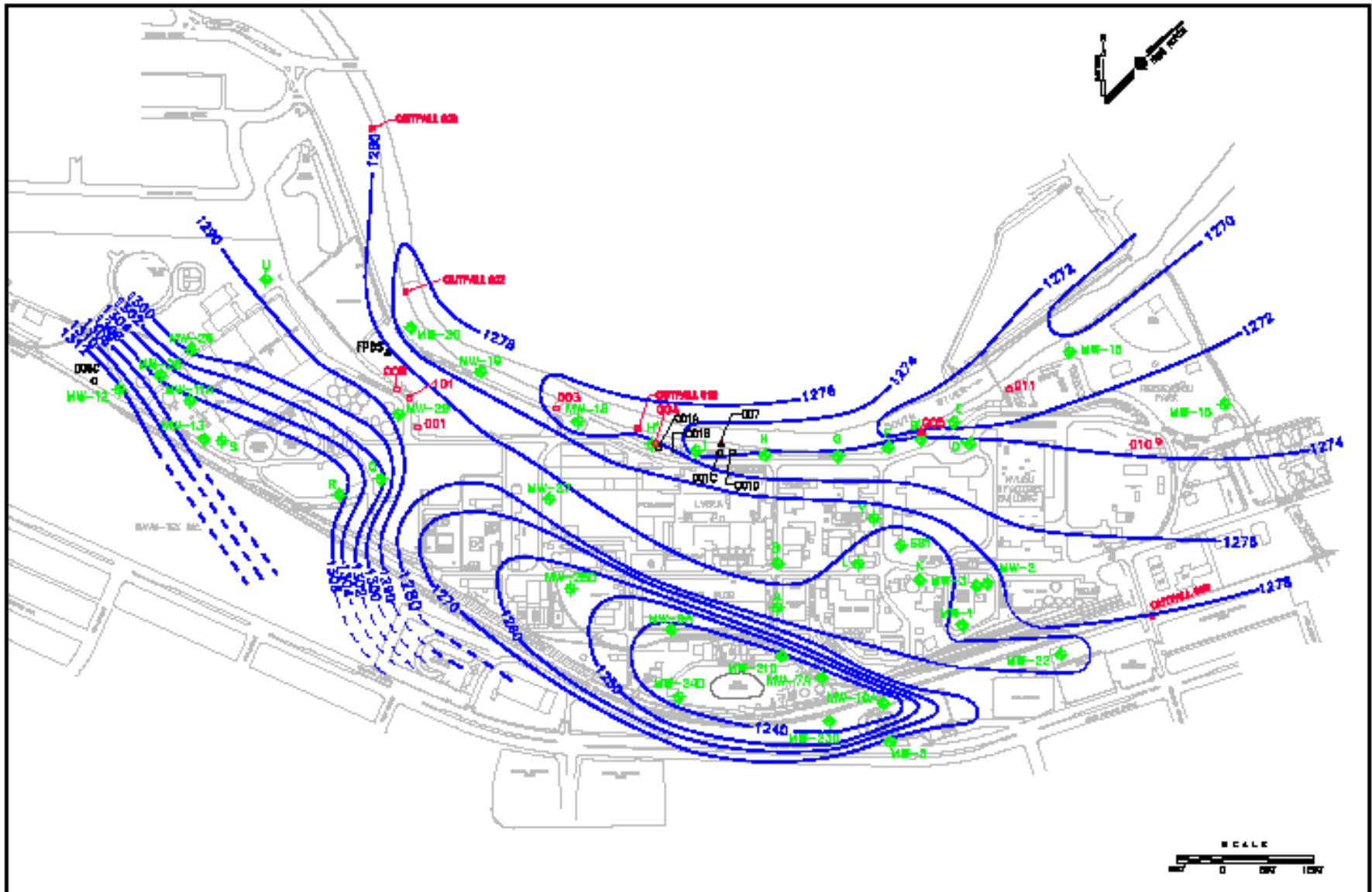
Waynesboro Invista Plant

SRST Meeting
January 30, 2007

Ron Wesley, URS Diamond

RFI Investigations

- Plant RCRA Facility Investigation (RFI)
- Semiannual Groundwater Monitoring Program
- Stormwater Monitoring
- Storm Sewer Investigation



Corporate Remediation Group
 An ADKORC Division
 DuPont and O&E Division
 Bailey Hill Plaza, Building 10
 Wilmington, Delaware 19805



TITLE:
 Wells, Outfalls, and Water Levels
 Waynesboro Invista Plant
 Waynesboro, Virginia

DWN:
 GLS
CHKD:
 RBW
DATE:
 2/22/2006

DES:

APPD:

REV:

FILE NUMBER:
 4680A001
FIGURE NO.:

Plant RFI

- Phase I (2000 – 2001)
 - Soils impacted by Hg at SWMU 1 and SWMU 4
 - Hg in Groundwater at these SWMUs in ppb range
 - Groundwater depression in northeast area of plant
- Phase II (2004 – 2005)
 - Further defined the hydrogeology of northeast area
 - Deep Water Table impacted by Hg, but plant wells clean
 - Elevated Hg vapor readings in soil gas at SWMU-1
 - Further delineation of Hg and dioxins at SWMU-4
 - Well installed at SWMU 6/7 impacted by Hg and Benzene

Plant RFI (cont'd.)

- Phase III (began in January 2007)
 - SWMU -1 (Mercury Recovery Area)
 - Collect soil samples where previous Hg in soil gas was high
 - Sample former process ditches in Chemical Bldg area for Hg
 - SWMU – 4 (Incineration Area)
 - Additional delineation of Hg in soil
 - SWMU 6/7 (WWTP / Sludge Pond)
 - Geoprobe soil sampling to determine source of constituents at well MW-29
 - Drill 2 wells to determine if constituents are migrating from this SWMU

Plant RFI (cont'd.)

- Phase III (cont'd.)
 - Northeast Area Investigation
 - Well #1 access and geophysical logging
 - Plant well sampling
 - Water level study to evaluate effect of plant well pumping on overburden wells

Groundwater Monitoring Program

- Semiannual monitoring program recommended after the Phase I RFI
- Monitoring Plan submitted in 2004 (38 wells, 55 water levels)
- Three years (six events) of sampling completed to date
- Findings
 - Hg concentrations localized at SWMU-1, SWMU-4 and SWMU 6/7
 - Deep Water Table Zone water levels (Northeast Area) fluctuate seasonally
 - Downgradient perimeter wells are below VGS criteria

Stormwater Monitoring

- Phase I (2003)
 - Sampled 8 plant outfalls and 10 upstream locations
 - One baseflow and one stormflow event in 2003
 - No significant Hg detected in baseflow or first flush storm samples
 - Hg was detected in flow weighted composites (up to 1.7 $\mu\text{g/l}$) during storm event
 - Estimated loading rates were low relative to mass observed in the South River.

Stormwater Monitoring (cont'd.)

- Phase II (2004-2005)
 - Sampled 8 plant outfalls and 2 other locations, 3 baseflow events and 1 stormflow event
 - Utilized low level Hg detection method (1631) allowing a more accurate assessment of loading
 - Conservative estimate of bioavailable Hg under baseflow conditions was 20-29% of the total observed Hg loading (assumes dissolved fraction is bioavailable)
 - Bioavailable Hg for the storm event was estimated to be 32% for the first flush and 33% for the composite.
 - The highest concentrations of Hg in sewer sediments and water occur upstream of 001D near the Chemical Building and SWMU-1

Stormwater Monitoring (cont'd.)

- Phase III (2005 – present)
 - Sampling of 10 outfall locations
 - 18 month program supporting TMDL ends Mar 07
 - 14 baseflow, 5 storm events sampled to date
 - Highest loading is at outfall 011, but water is in diversion to the WWTP
 - Highest loading of outfalls discharging to the river is at 001

Sewer Investigation

- Sewer Strategy Plan submitted in August 2006
- Focus is to characterize presence of Hg and determine sources
- Three Phase Program
 - Phase I: Review existing information, conduct field survey, and prepare GIS database (began in Jan 2007)
 - Phase II: Physical testing and inspection to verify condition of sewer system and identify potential sources of Hg
 - Phase III: Develop strategy for Hg removal and analysis of sewer rehabilitation alternatives

Looking Ahead

- Phase III RFI under way – Scheduled completion in June 07
- Semiannual Groundwater Monitoring Program - On-going semiannual sampling
- Stormwater Monitoring – Phase scheduled completion in Mar 07
- Storm Sewer Investigation – Phase I near completion

Questions?