

RFI Update

South River Science Team Meeting
February 8, 2005

M P Sherrier

Current Status

- Routine Groundwater Sampling - May and Nov. 2004
- Preparing 2004 Annual Report - submit March
- Phase II RCRA Facility Investigation (RFI) Complete
 - Hydro Investigation
 - Soil Investigation
- Preparing Phase II RFI Report - submit May

Phase II RFI Objectives

- Hydro Investigation
 - Further characterize geology and hydrogeology
 - NE plant area (down-gradient of former mercury retort area)
 - Central plant area
 - Down-gradient of Incineration Area
 - Further characterize groundwater quality
 - Former Mercury Retort
 - WWTP
 - Incineration Area

Phase II RFI Objectives

- Soil Investigation
 - Incineration Area
 - Delineate free Hg in soils
 - Determine if any further areas of free Hg in soil are present
 - Mercury Retort Area
 - Soil gas survey to determine if any areas of free Hg present in shallow soil
 - Mercury Retort
 - former Chemical Building
 - Other SWMUs - Determine if releases have occurred
 - Waste water treatment plant
 - Sludge Pond
 - Waste Loading Dock/Haz Waste Pad C
 - Oil/Water Separator System
 - Drum Storage Pads

Phase II RFI Scope

- Phase II RFI Completed Activities
 - Hydro Investigation
 - Completed 10 shallow soil borings to characterize geology in NE
 - Installed 11 monitoring wells (6 shallow, 5 deep)
 - Soil Investigation
 - Mercury soil vapor survey in and around SWMU 1 - Mercury Retort Area
 - 2 rounds of vapor readings
 - Covered all areas where mercury was historically used or has been observed in shallow soil
 - Approx. 30 shallow soil borings were installed, 60 soil samples collected
 - Geophysical survey in Incineration Area

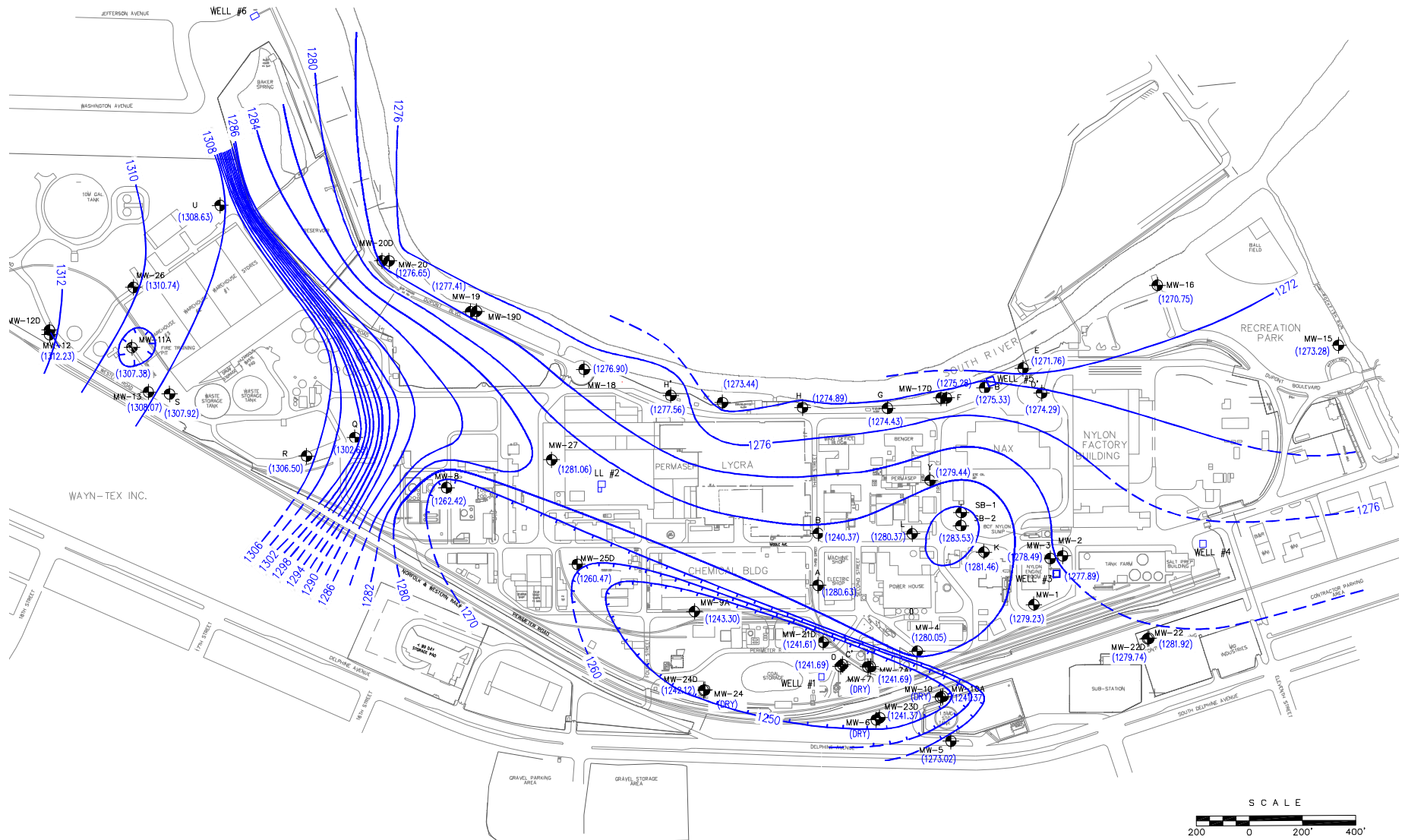
Phase II RFI Findings

- Soil Investigation
 - Hg vapor readings suggest 1 area of elevated Hg in shallow soil near retort area at location where free Hg was previously removed (NE corner of former Chemical Building)
 - No additional findings of free Hg in soils (inc. Incineration Area)
 - Area of free Hg in soils in Incineration Area (previously identified) found to be small (< 30x30 ft.)

Phase II RFI Findings

- Geology / Hydrogeology
 - NE area is mainly clay with gravel (highly degraded; basal fault zone?). Encountered loose, clayey sand and gravel beneath and around mercury retort area.
 - No limestone identified in sub-surface up to 100 ft bgs (no evidence of shallow karst geology) in NE plant area.
 - Groundwater elevations confirm groundwater depression in NE area of the plant in sand and gravel area - Captured by plant production wells?
 - Groundwater depression larger than anticipated.

Groundwater Elevations - May 2004



Phase II RFI Findings

- Groundwater Quality
 - 2004 Results - Consistent with previous findings
 - no significant off-site migration of Hg via groundwater

	South River Wells		SWMU 1 Wells - Down-gradient	
	<u>Diss Hg (ng/L)</u>	<u>Total Hg (ng/L)</u>	<u>Diss Hg (ng/L)</u>	<u>Total Hg (ng/L)</u>
<u>Mean</u>	1.75	5.13	3.71	397
<u>Min</u>	0.21	0.99	1.34	10.50
<u>Max</u>	10.90	61.0	8.24	44,373

- Hg in GW down-gradient of WWTP
 - Hg_t 10.9 ug/L; Hg_d 9.8 ug/L
 - May not be representative - sampled shortly after installation
- 3 Plant Production Wells - 1 to 16 ng/L Hg (total)
 - Hg_t 1.3 to 16 ng/L; Hg_d 1.3 to 8.4 ng/L
 - From Mercury Retort?

Next Steps

- Submit Annual GW Monitoring Report March
- Groundwater Sampling April
- Submit Phase II RFI Report May
- Generate Scope for Phase III RFI Summer
- Phase III RFI Site Investigation Fall / Winter