

# Floodplain Soil Sampling

June 2004

# Objectives

- For the most common floodplain characteristic types...
  - Sample top 18” for representative concentration
  - Sample Hg with depth to support conceptual model development
- Obtain sediment samples from Allied oxbow
- Characterize a typical “cut bank” (erosion)
- Obtain high resolution cores to 3+ft

# Matrix of Planned Samples

Site Along River	Approximate River Mile	Objective	No of Sample Locations	Specific Sites	Depth	No of Samples	Comments
Constitution Park	0						Leverage samples taken previously
DuPont Credit Union	0.25						Leverage samples taken previously
North Park	1.25	Representative	3	Berm & Playground	0-6'; 12- 18'	6	1 composite sample at each depth
Waynesboro Shops (Sewer)	1.75	Conceptual Model	8	Random	0-6"; 6-12"; 12-18"	24	Individual sample at each depth
Waynesboro Shops (Sewer)	1.75	Conceptual Model	3	Sandbars	0-6";	3	Individual sample at each depth
Allied Readymix (Ox Bow)	1.75	Representative	3	0, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth
Allied Readymix (Ox Bow)	1.75	Conceptual Model	6	Random	0-6"; 6-12"; 12-18"	18	Individual sample at each depth
Allied Readymix (Ox Bow)	1.75	Conceptual Model	3	Sediment	0-6";	3	Individual sample at each depth
Basic Park	2	Representative	3	0, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth
Waynesboro property by Hopeman	2.75	Representative	3	0, 20, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth
Waynesboro property by Hopeman	2.75	Conceptual Model	10	0, 20, 40, 60, 100	0-6"; 6-12"; 12-18"	30	2 Transects, individual sample at each depth
Waynesboro property by Hopeman	2.75	Conceptual Model	10	Bank near Sycamore tree	varies	10	Bank Profiling; Individual sample at each depth
Genicom Property	3						No samples proposed; Contiguous with Waynesboro City Property at Hopeman
Augusta Park at Crimora	10.5	Representative	3	0, 40, 60	0-6"; 12-18"	6	1 composite sample at each depth
Augusta Park at Crimora	10.5	Conceptual Model	12	0, 20, 40, 60, 100	0-6"; 6-12" 12-18"	36	3 Transects (2 perpendicular; 1 parallel) Individual samples at each depth
Forestry Center	12						Leverage samples taken previously
Park at Grand Caverns	20.5	Representative	3	0, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth
Park at Grand Caverns	20.5	Conceptual Model	5	0, 20, 40, 60, 100	0-6"; 12-18"	5	Individual sample at each depth
Alcoa Plant (Reynolds)	20.5	Representative	3	0, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth
Grottoes Town Park	23	Representative	3	0, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth
G&IF Launch at Port Republic	25	Representative	3	0, 40, 100	0-6"; 12-18"	6	1 composite sample at each depth

# Sample Types

- Representative Samples
  - 0-6”, 12-18” composites of 5 grabs
- Conceptual Model Samples
  - 0-6”, 6-12”, 12-18” single hole
- Cut Bank Sample - Eroded (1 retrieved)
  - 10, 1 ft “channel” samples from water to top
- “Hi Resolution” Cores (2 retrieved)
  - 10, 4 inch core sections from 40 inch deep core
- Sediment samples from the oxbow (2 retrieved)

# Variations from Expected Plan

- Omitted important Hopeman Pkwy locations due to tall, dense poison ivy, etc.
- Relocated cut bank sample from Hopeman to Forestry Station
- Added two “Hi-Res” cores at Crimora
- Very difficult digging resulted in single shovel-dug hole for deeper representative sample composites in most locations
- Could not get upstream of old landfill in oxbow

# Fresh Start at North Park



# Shovel Digging, then Augering

because of rocky soil



# All Waypoints GPS'ed and Photo Documented

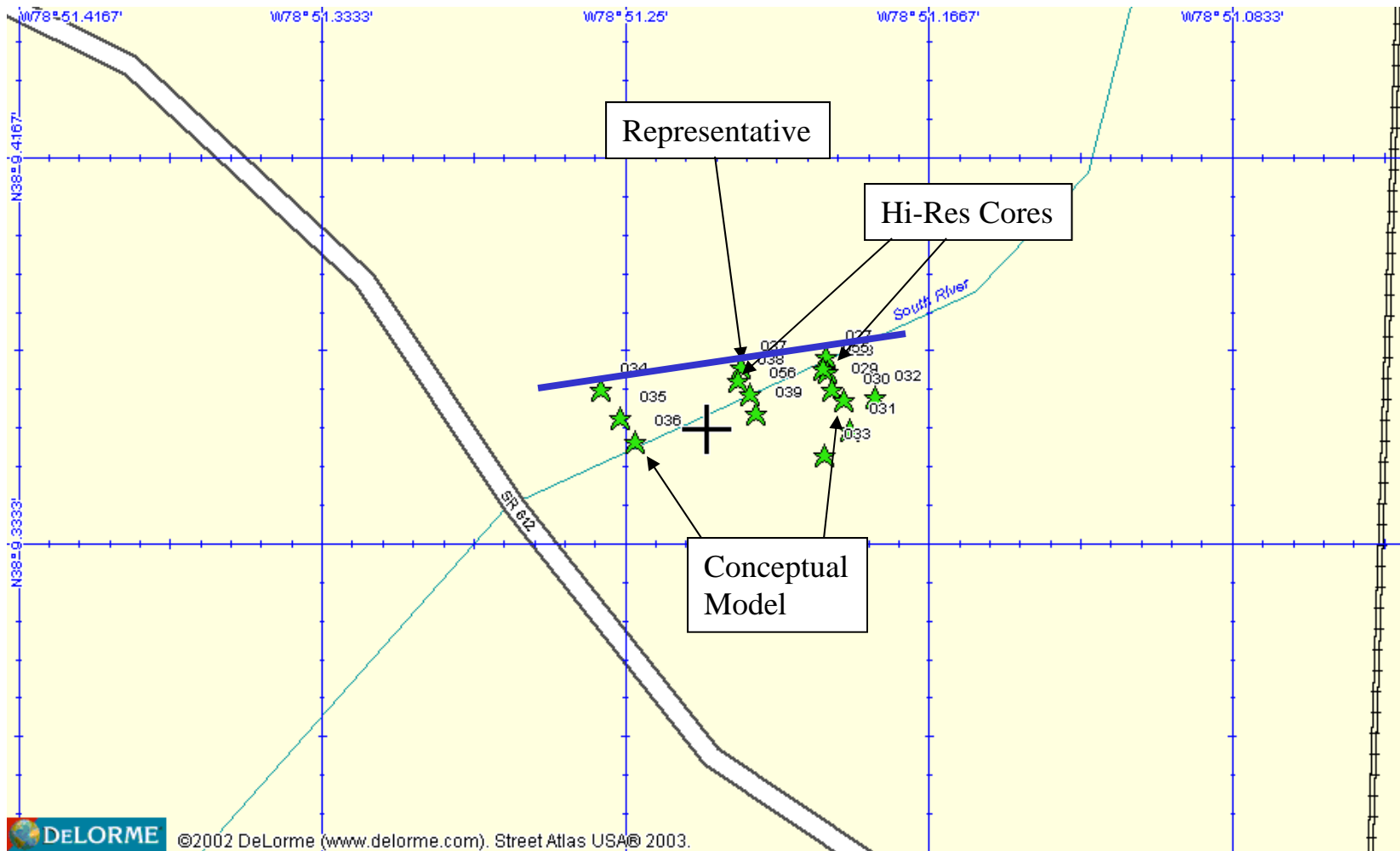




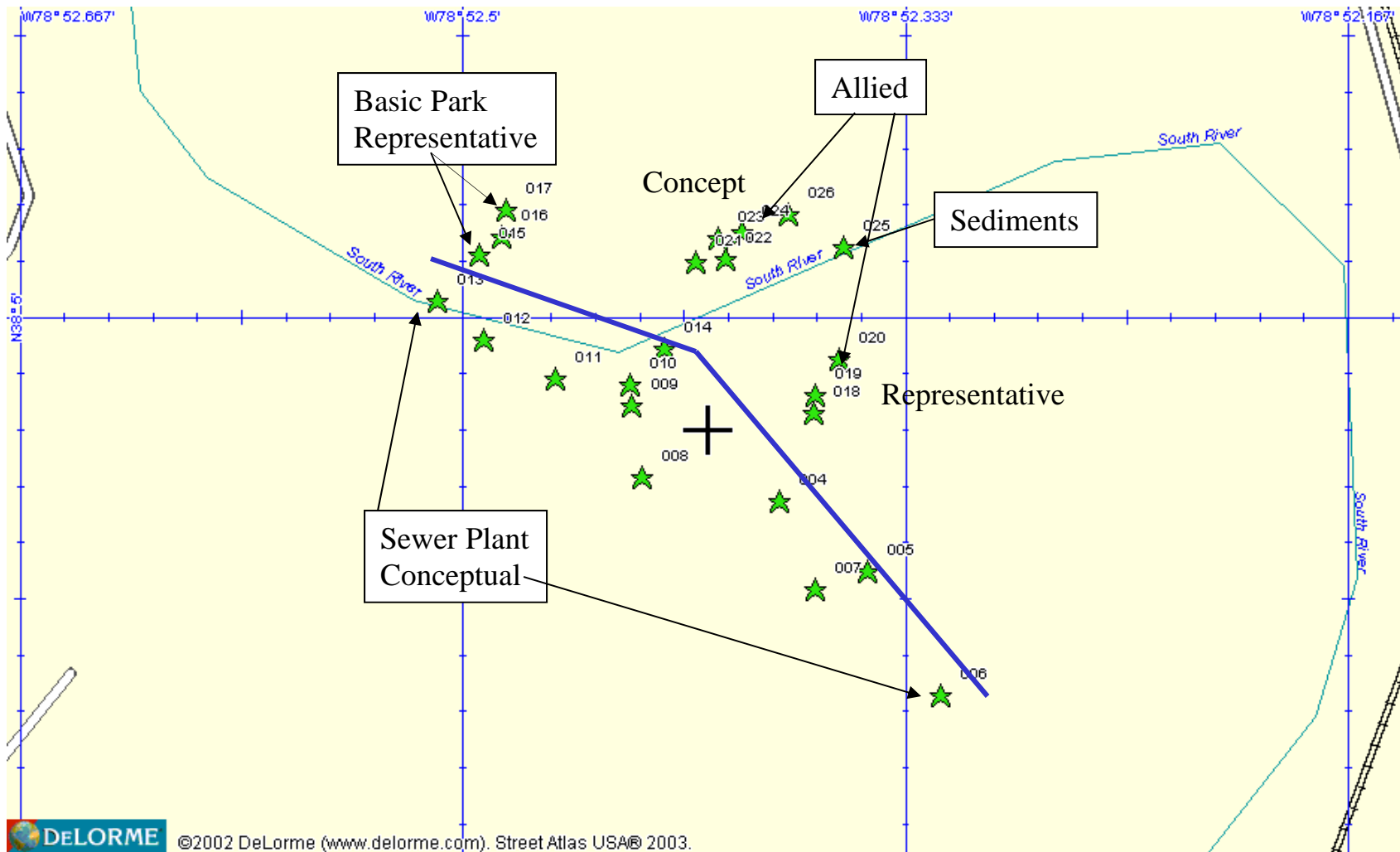
# Floodplain Soil Sample Locations



# Crimora Park Locations



# Sewer Plant, Basic Park, and Allied Readymix



# Results

- Coming in about a month
- Will report next meeting

# Next Steps

- Phase II when foliage has died back
  - Hopeman locations
  - Better coverage of Allied oxbow - floodplain and sediments
  - Other sites/samples, based on Phase I results