



# Pre-Triad Conceptual Site Model (CSM)



Big-Picture

Pre-Triad  
CSM

New CSM

Triad  
Objectives

DMA

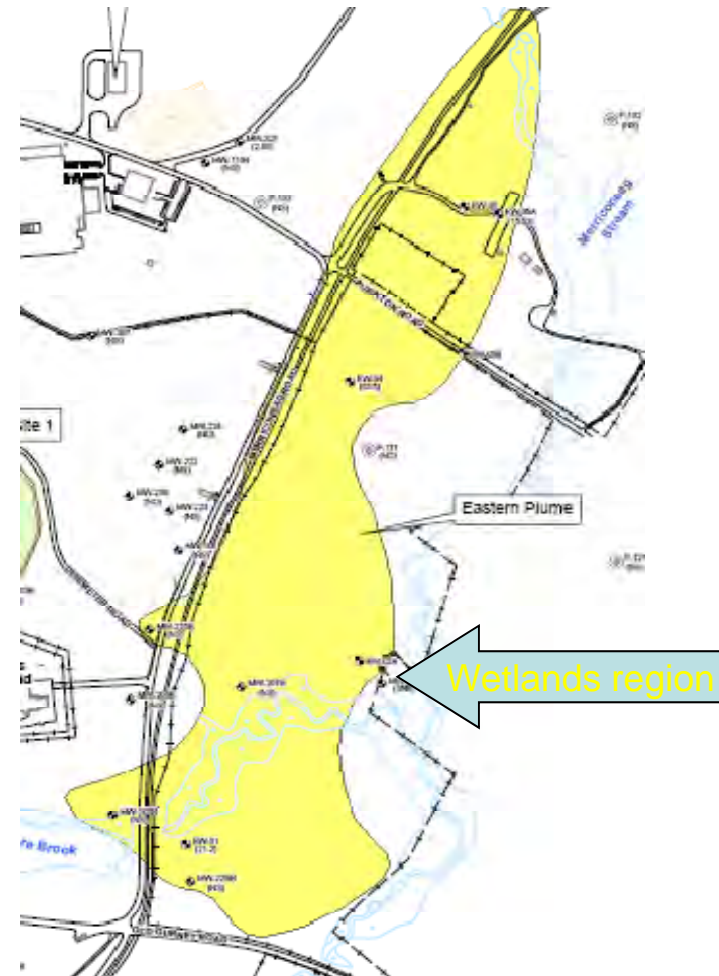
Systematic  
Planning

Dynamic  
Work Plan

Triad  
Accomplish-  
ment

Conclusion

- ROD RA(O)s
  - Minimize further migration
  - Prevent surface water discharge
  - Restore aquifer
- Source Areas Closed
- CVOCs flowed with groundwater in lower sand unit
- Flow to the south and southeast
- Lower sand atop clay/bedrock
- Bedrock Troughs control flow
- Wetlands associated with surface water



Vision

Integrity

Results



Big-Picture

Pre-Triad CSM

Stratigraphy

Clay

Hydro geology

Plume Contours

New CSM

DMA

Systematic Planning

Dynamic Work Plan

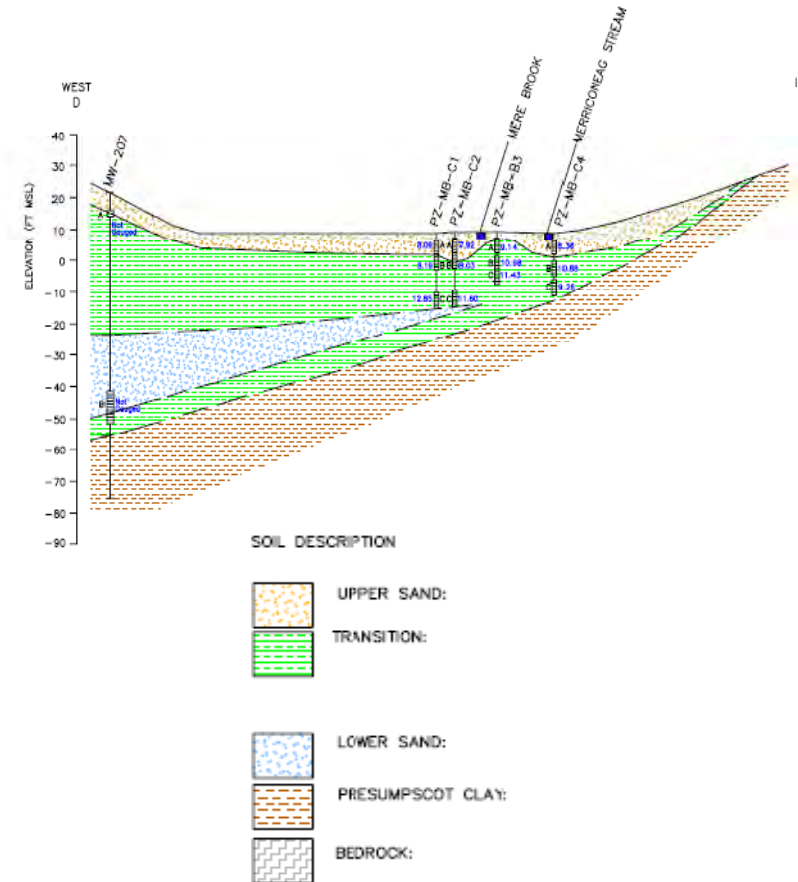
Triad Accomplishment

Conclusion

## Basis of CSM

RI identified 5 units

- Upper Sands
- Lower Sand
- Transition Sand
- Presumpscot Clay
- Bedrock





# Pre-Triad CSM – Clay Layer



Big-Picture

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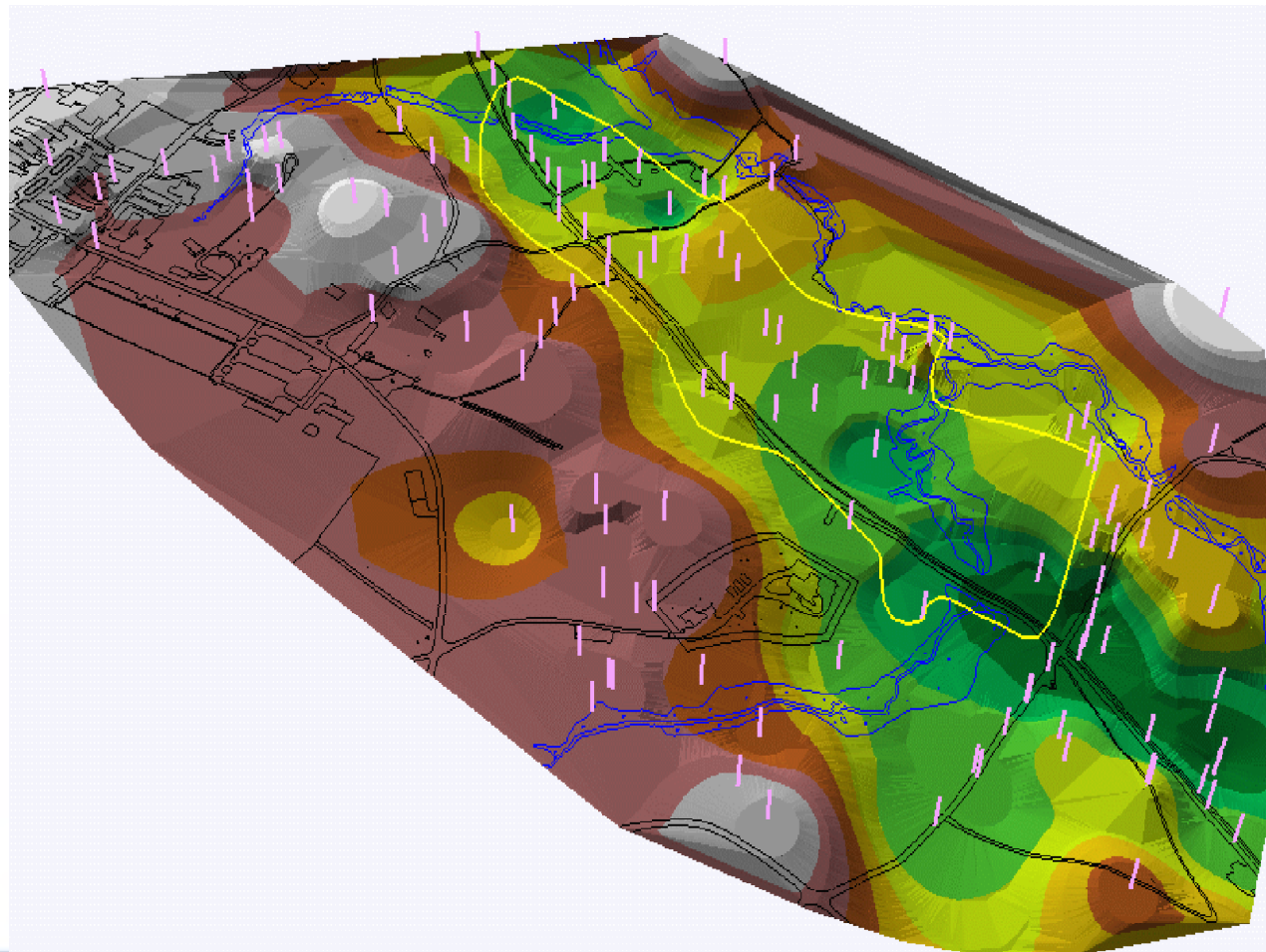
Systematic  
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## Top of Clay Follows top of Bedrock



*Vision*

*Integrity*

*Results*





# Pre-Triad CSM Hydrogeology



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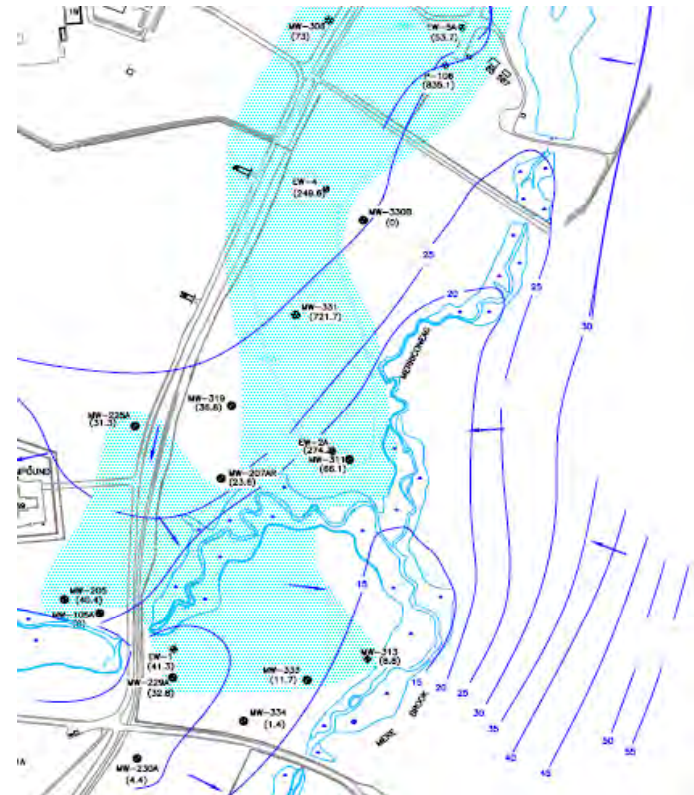
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Conclusion

- Groundwater divides pour into this region
- Groundwater following top of clay in lower sands
- Groundwater follows local topography upper over burden
- Unconfined in western portion of site
- Lower sand throughout the source and plume
- Lower sands under confined conditions in wetlands
- Trough in bedrock influence flows
- Some CVOCs in clay depressions



*Vision*

*Integrity*

*Results*



# Plume TCE Contours



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Systematic  
Planning

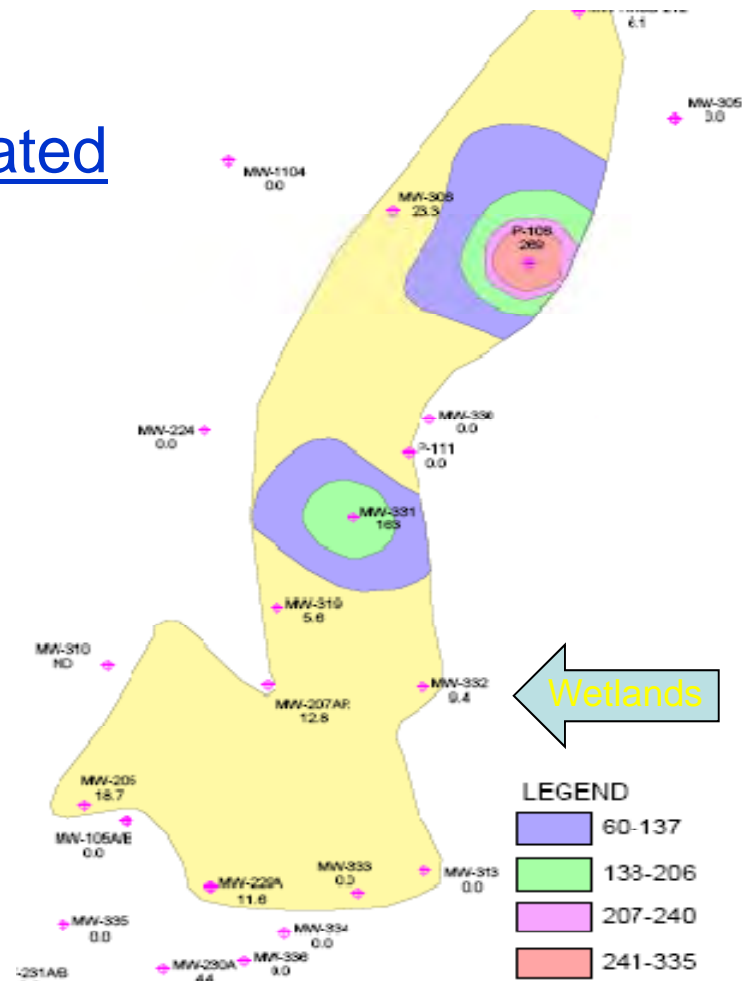
Dynamic  
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## Regions of Elevated CVOCs

-Wetlands not  
included in CSM



Vision

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# New CSM Needed



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**New CSM**

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## New Data Created Uncertainty in old CMS and Prompted need for new CSM

- 1,4 Dioxane detected during LTM sampling (2004)
- CVOCs detected in surface water (2004/2005)
- Interagency Porewater Study honed in on the Wetlands as a region of high uncertainty in the CSM



*Vision*

*Integrity*

*Results*

# CSM Refinement –Adaptation of Triad Approach



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Adapt Triad  
Approach

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## Why Adapt a Triad Approach?

- New CSM to be based upon older CSM as starting point for decision making and project DQOs
- Past Investigations showed high degree of cooperation between stakeholders
- Heterogeneous and dynamic hydrogeology required flexibility in field decision on data collection
- Large volume of data needed due to nature of site and to build confidence in new CSM

*Vision*

*Integrity*

*Results*





## Objectives of Wetlands Investigation

- Determination of the extent of Eastern Plume migration to surface water within the vicinity of the Mere Brook/ Merriconeag Stream confluence and associated Floodplains.
- Refine understanding of localized subsurface geology and groundwater flow regime within the vicinity of Mere Brook and Merriconeag Stream confluence and associated floodplain.
- Establish Monitoring Network Locations

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Adapt Triad  
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