

SMART *Remediation*

*Hazardous is the New Clean – Contaminant
Management Supported Redevelopment*



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Hazardous is the New Clean – Contaminant Management Supported Redevelopment

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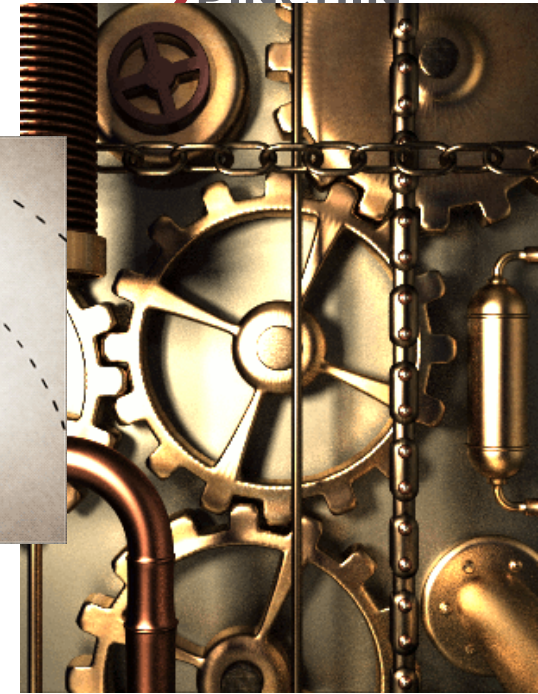
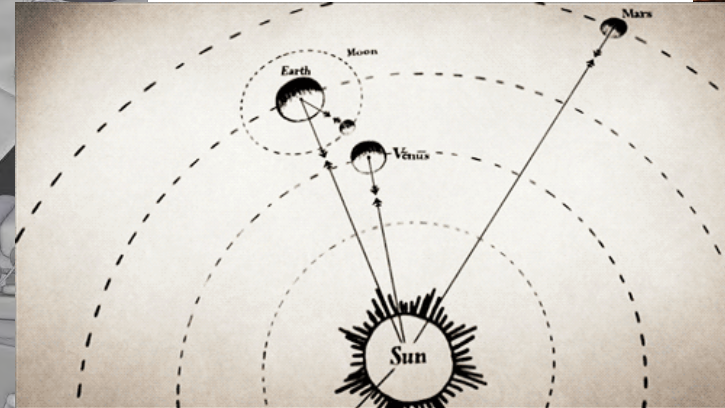
ONCE UPON A TIME...











- Full Remediation **>\$40 Million!**



Treat and Manage



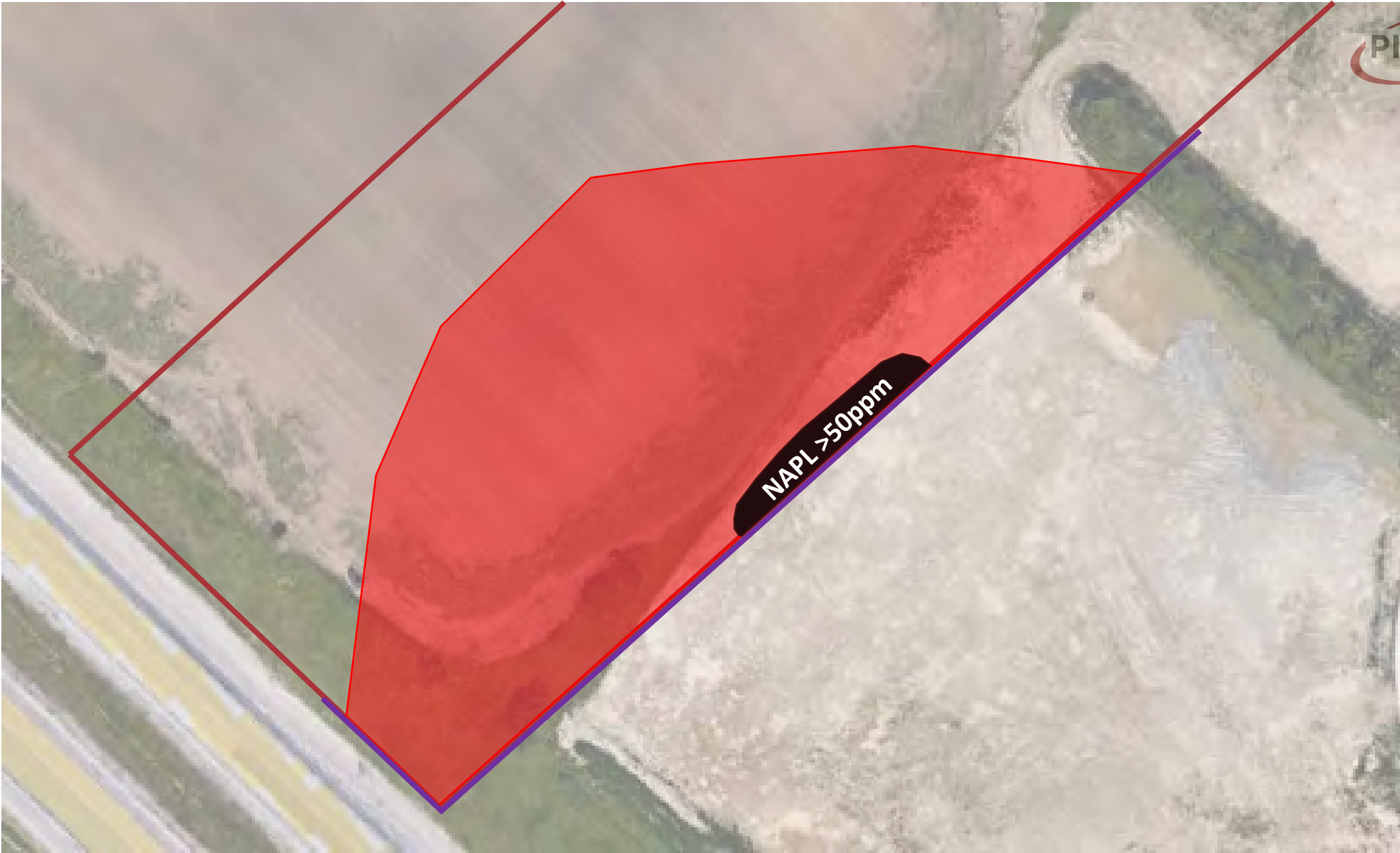
RISK ASSESSMENT AND RMMS

Risks:

- Indoor Vapour Intrusion
- Ingestion/Contact
- Offsite Migration

Management:

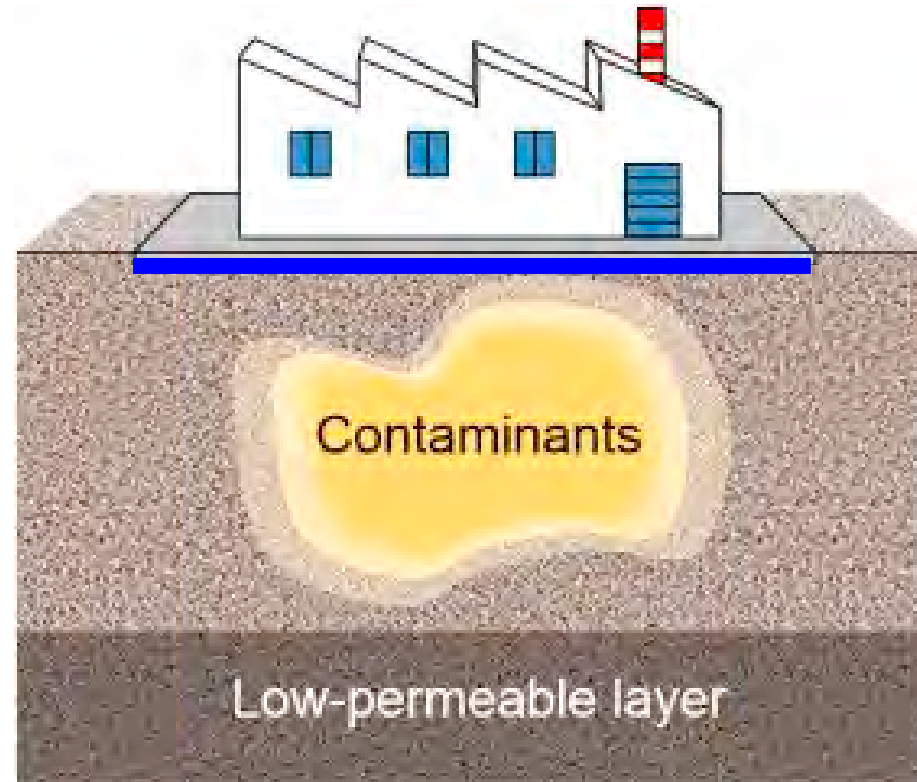
- SSDS
- Hard-capping/HASP
- Boundary Control



WENT BACK TO THE TOWER TO RE-ASSESS



HYDRAULIC ISOLATION THROUGH ENCAPSULATION!



TO THE LABORATORY!



BENCH SCALE TREATABILITY STUDIES

Permeability Study



- Designed to determine ideal mixing ratio to achieve in-situ impermeability (ASTM D5048 Hydraulic Conductivity of Porous Saturated Materials)
- Multiple tests were run with different percentages of bentonite with target permeability of 10^{-7} cm/s

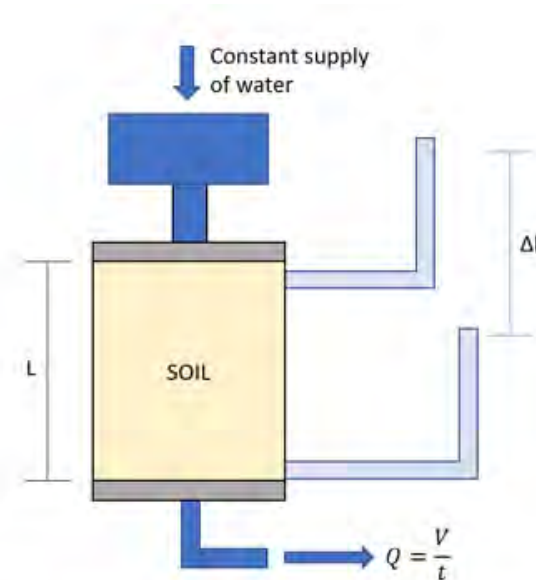
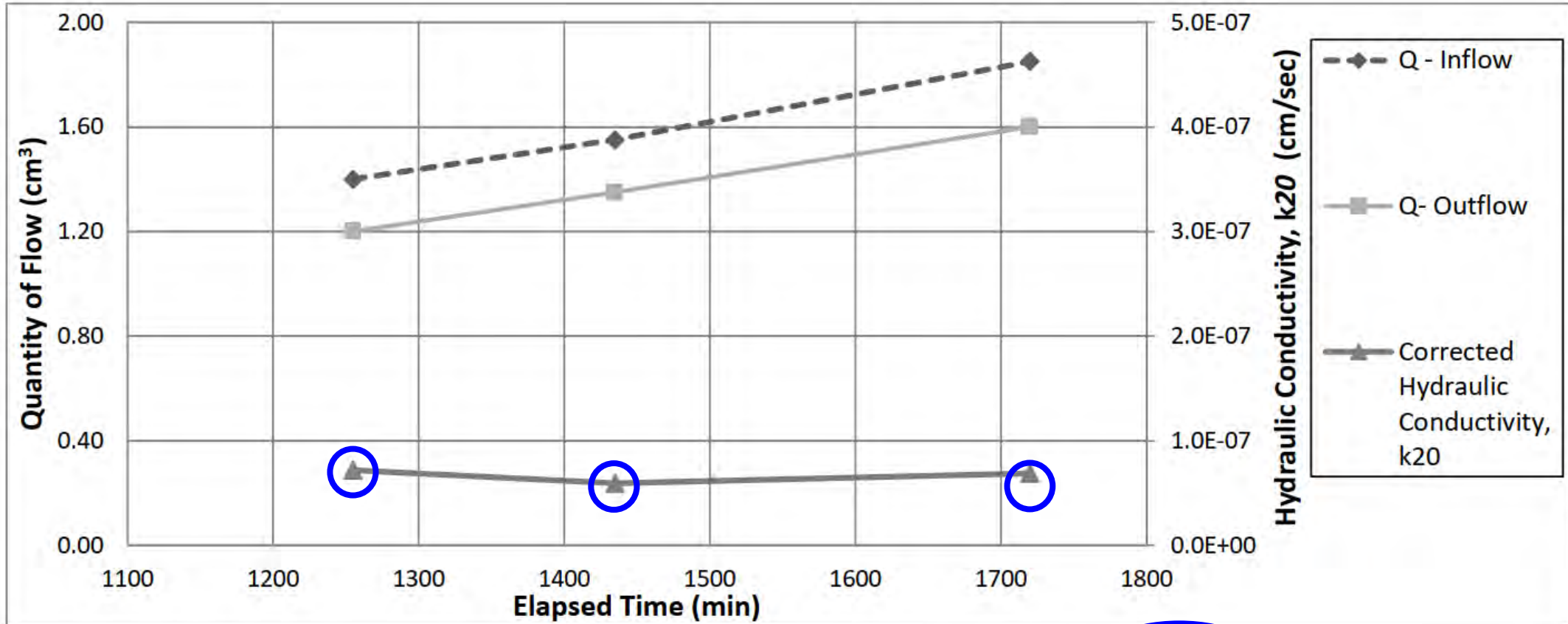


Figure 1: Schematic representation for Constant head Permeability test



BENCH SCALE TREATABILITY STUDIES

Test Results: Hydraulic conductivity

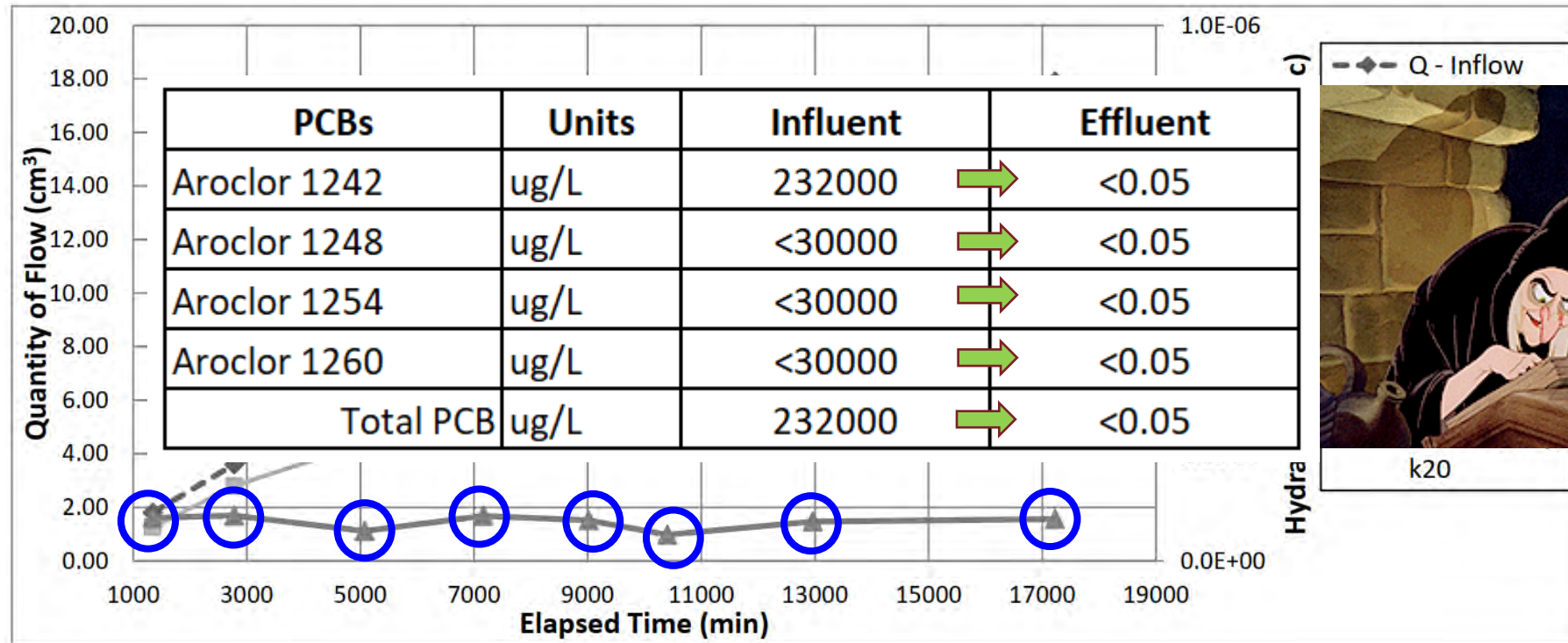


Hydraulic Conductivity, k_{20} , cm/sec **6.7E-08**

BENCH SCALE TREATABILITY STUDIES

PCB Permeability Study

- Designed to assess PCB permeability through Slurry Wall Design



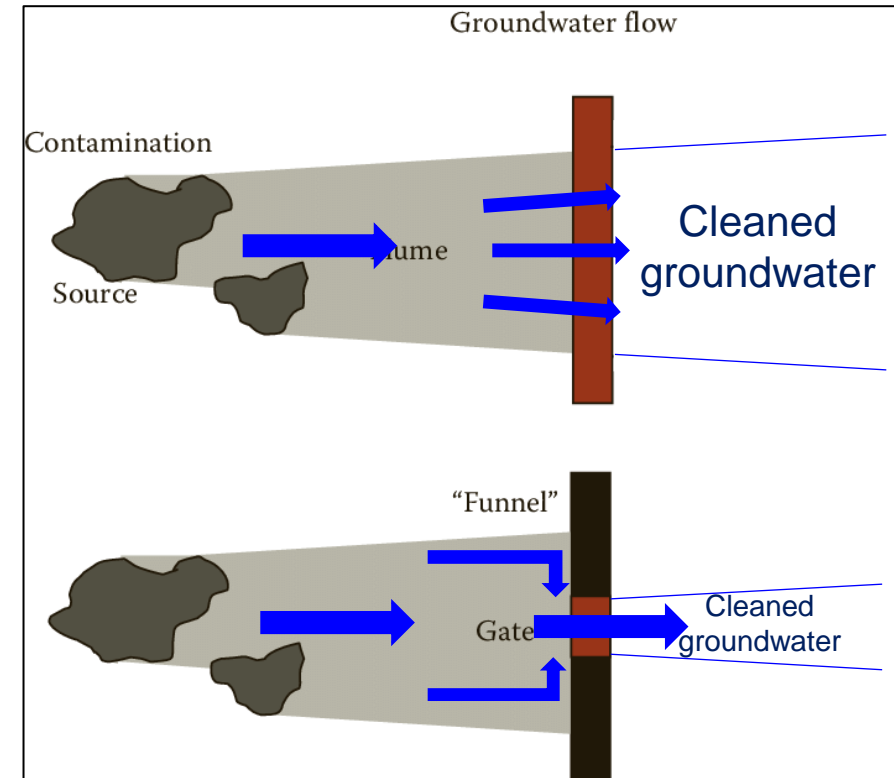
Hydraulic Conductivity, k_{20} , cm/sec	6.7E-08
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BOUNDARY CONTROL TYPES

Impermeable Walls

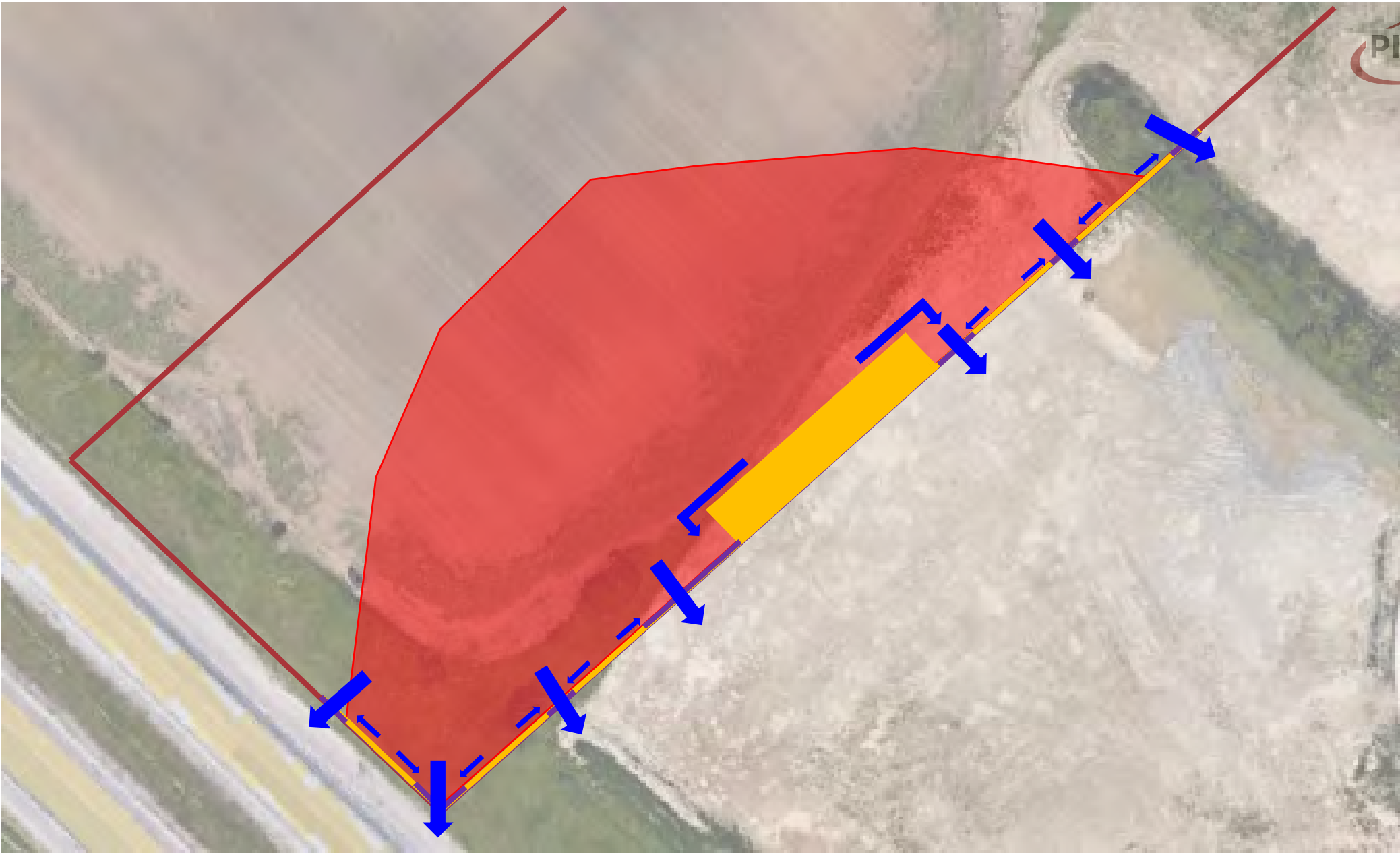


Soil/Bentonite Cutoff Wall



Cutoff Wall with PRB 'Gates'











Special Thanks

EDR	HydroG	GEO	OHS	RA	CPM
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Questions?

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