



Infrastructure, buildings, environment, communications



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ARCADIS

Guaranteed Remediation Program (GRiP)

Blending technology, experience and business considerations to provide:

- Accelerated closure
- Closure cost certainty
- Dependable environmental liability transfer





CONSULTING

IF YOU'RE NOT A PART OF THE SOLUTION,
THERE'S GOOD MONEY TO BE MADE IN PROLONGING THE PROBLEM.

PREMISE: After 25 + years of RCRA / CERCLA “induced” experience isn’t it reasonable to expect the consulting industry to:

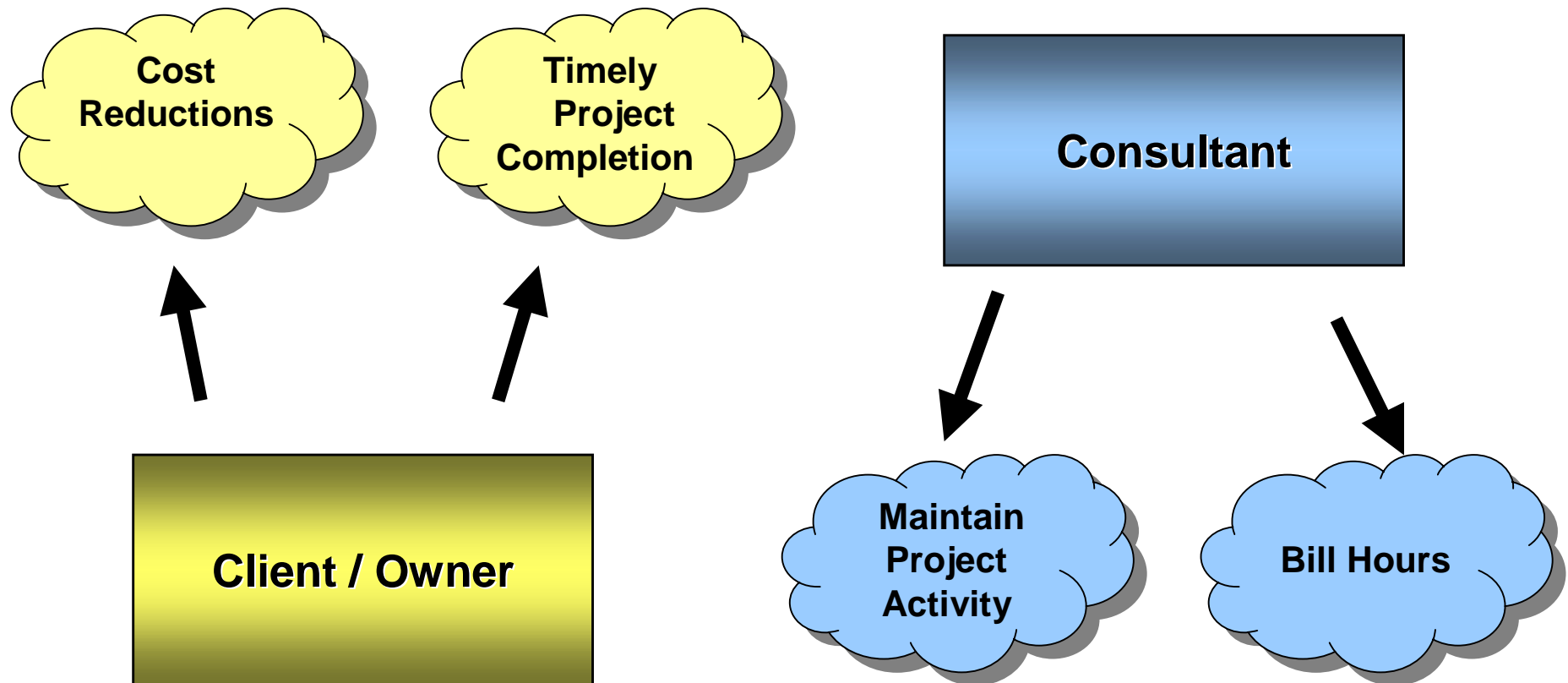
- Accelerate the process of environmental liability closure
- Assume some, if not all, of the risks the industry has built T&M understandings on, such as:
 - Regulatory uncertainties
 - Unidentified / unexpected site conditions
 - Remedy performance
- Engage in “pay for performance” contracts that incorporate provisions for:
 - Cost certainty
 - Time certainty
 - Aligning goals of clients and consultants
- Remain financially sound - provide uninterrupted service
- In summary, just **STEP UP!**

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Alignment of Objectives

“Traditional Situation”

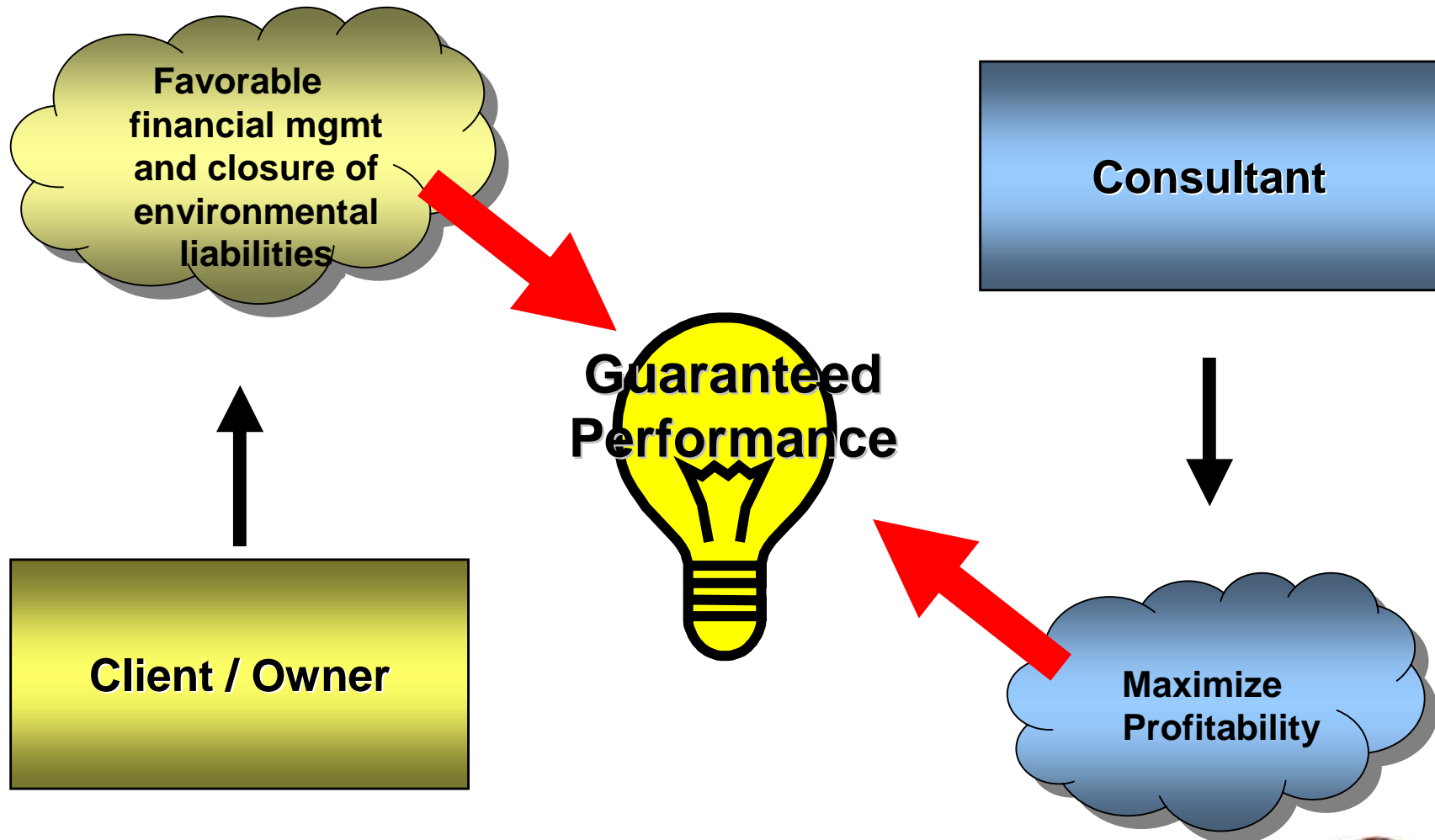


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Alignment of Objectives

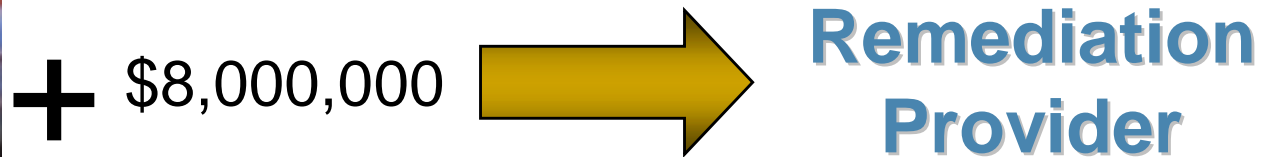
Identify and Align Ultimate Objectives



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So how does guaranteed remediation work?



IN RETURN

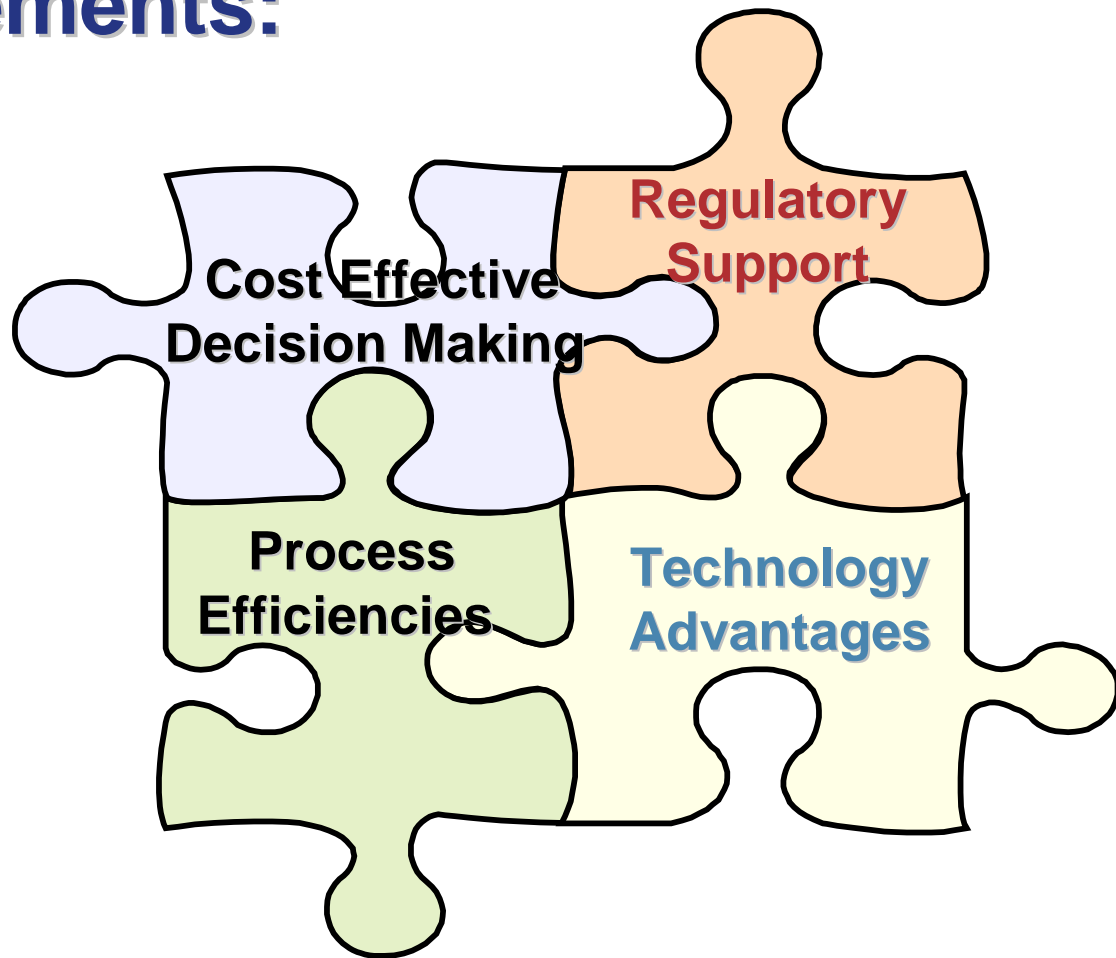
Remediation Provider 

1. Contractual commitment (guarantee) to achieve project completion:
 - **ASAP**
 - **Regardless of actual cost**
2. Willing to:
 1. Assume operator status
 2. Sign onto Consent Orders
3. Commitment (guarantee) supported by:
 1. Consultants own balance sheet
 2. Financial strength of insurance partner

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In order for this to work... every project needs a solid strategy containing the following elements:

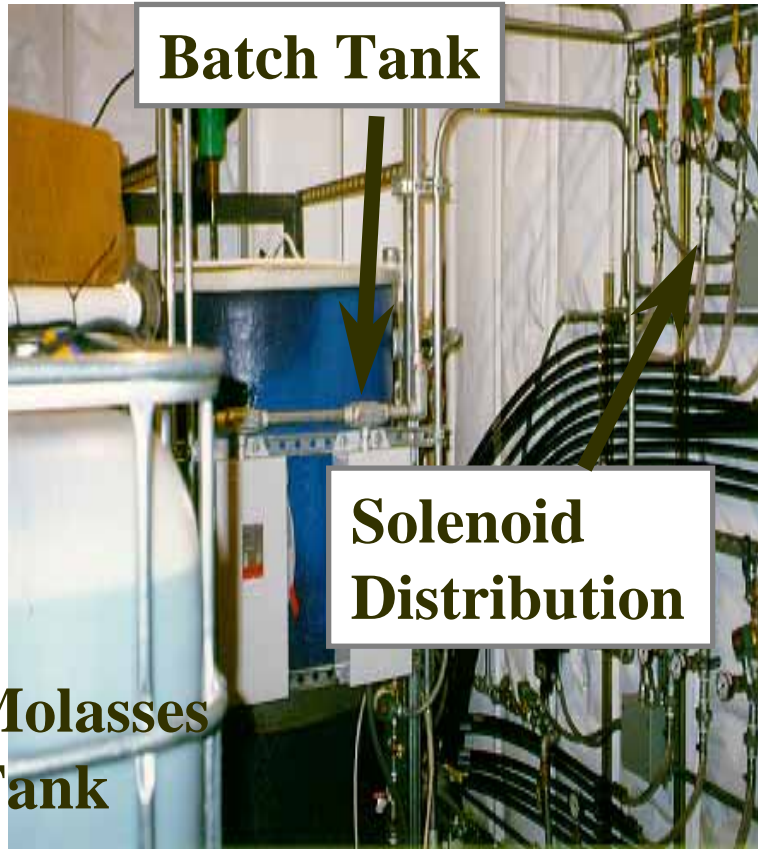


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Carbohydrate Injection System

... or the Chevy



Cadillac

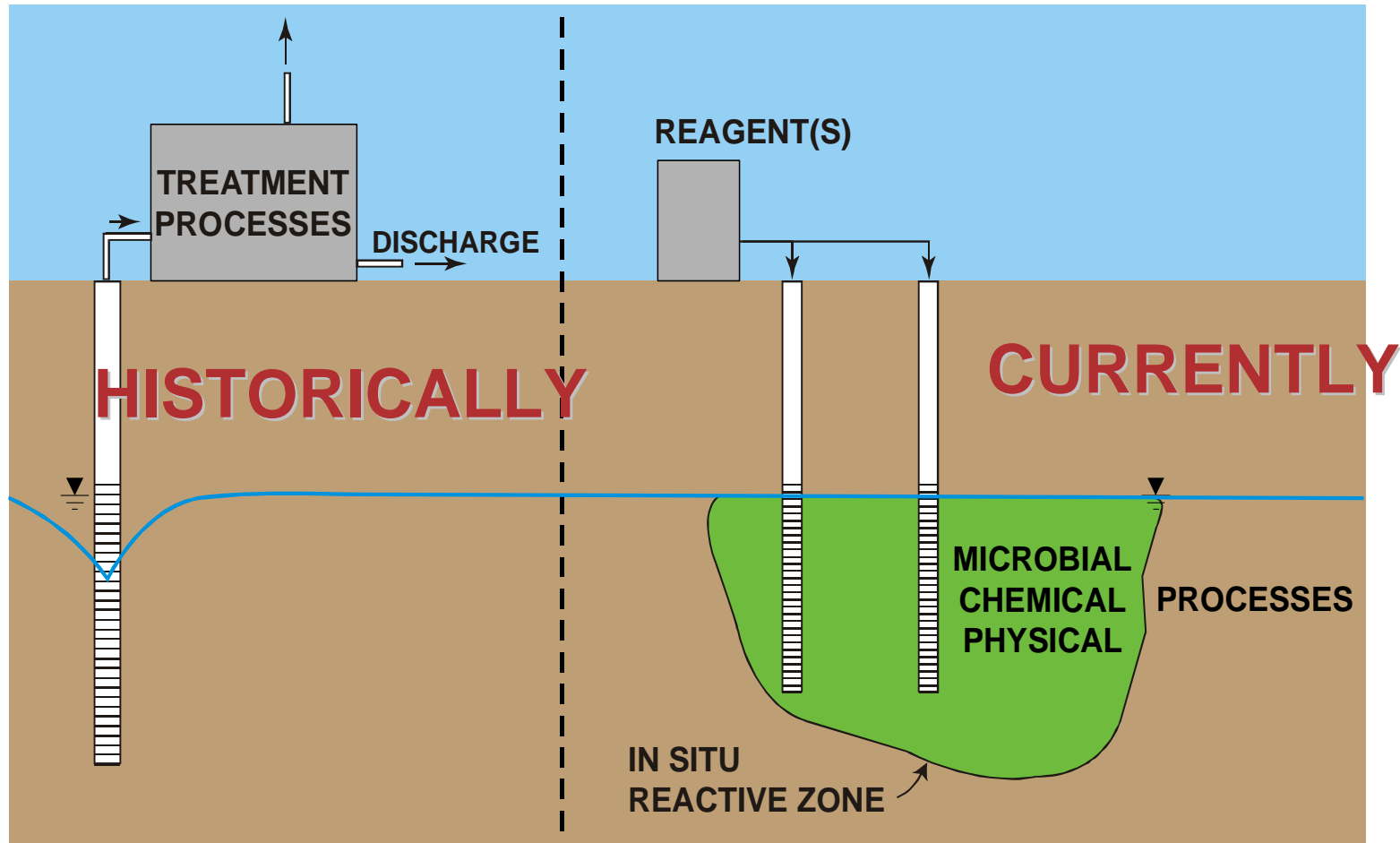
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Technology Advantages:

- Perform below ground what was previously done above ground
- Utilize and enhance natural processes wherever possible



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ARCADIS GRiP Value Proposition

- ❑ Achieve “Project Completion” **ASAP**
 - Thereby avoiding prolonged windows of potential exposure (real or perceived)
- ❑ Provide **flexibility** in defining “**Project Completion**”
- ❑ **Maximize the reuse potential** of the “impaired asset” -avoid remediation strategy extremes, such as:
 - Land use restrictions
 - Encumbering remedial approaches (above ground extraction and treatment operations)
 - MNA approach (w/ long monitoring tails)
- ❑ Enable **early** re-use / sale / concurrent development to occur
- ❑ Provide project **cost certainty**
- ❑ Provide cost certainty at substantially **less than the clients benchmark**
- ❑ Provide such certainties while assuming responsibility for:
 - Regulatory uncertainties / re-openers
 - Unexpected site conditions (hydrogeology, contaminant mass)

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ARCADIS GRiP... how is this different?

- Lead with technology
- Self-perform all of our projects
- Program manage ALL of our GRiP projects at the Corporate level with hand picked teams drawn from 2000 staff nation-wide assigned on every job
- Put our balance sheet at risk
- Use insurance as a “worst case” risk management tool **only!**
- Show our insurance partners a willingness to assume larger risks than anyone else in the marketplace

MOST IMPORTANTLY:

At the end of the day, the only really effective means by which to transfer liability is to eliminate environmental liabilities as quickly as possible!!

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ARCADIS GRiP Statistics

- ❑ Program operating / evolving effectively for > 9 years
- ❑ 47 contracts executed (ranging from < \$.5M to > \$25M)
- ❑ Total contracted value of more than \$120,000,000
- ❑ 16 sites closed (average duration of 4 years)
- ❑ Closed first DOD site ever under GFPR (2.5 years)
- ❑ Enabled > \$1,000,000,000 in property redevelopment to occur



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ARCADIS GRiP “Lessons Learned”

- ❑ Both Federal and local regulatory agencies supportive of approach
- ❑ Sites need not always be well characterized
- ❑ Clients closure cost benchmarks are not very strong – most are overstated and not believed
- ❑ Guaranteed price has some value in setting contingent environmental liability reserves
- ❑ Useful tool for dispute resolution
- ❑ Approach is only a tool and should be used judiciously
- ❑ Value as a “liability transfer tool” varies from client to client
- ❑ Limited PM resources in marketplace capable of implementing
- ❑ Considerable mis-information in marketplace
- ❑ Portfolios of multiple sites can offer greater value still

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Case History #1: Washington Square Mall Germantown, Wisconsin

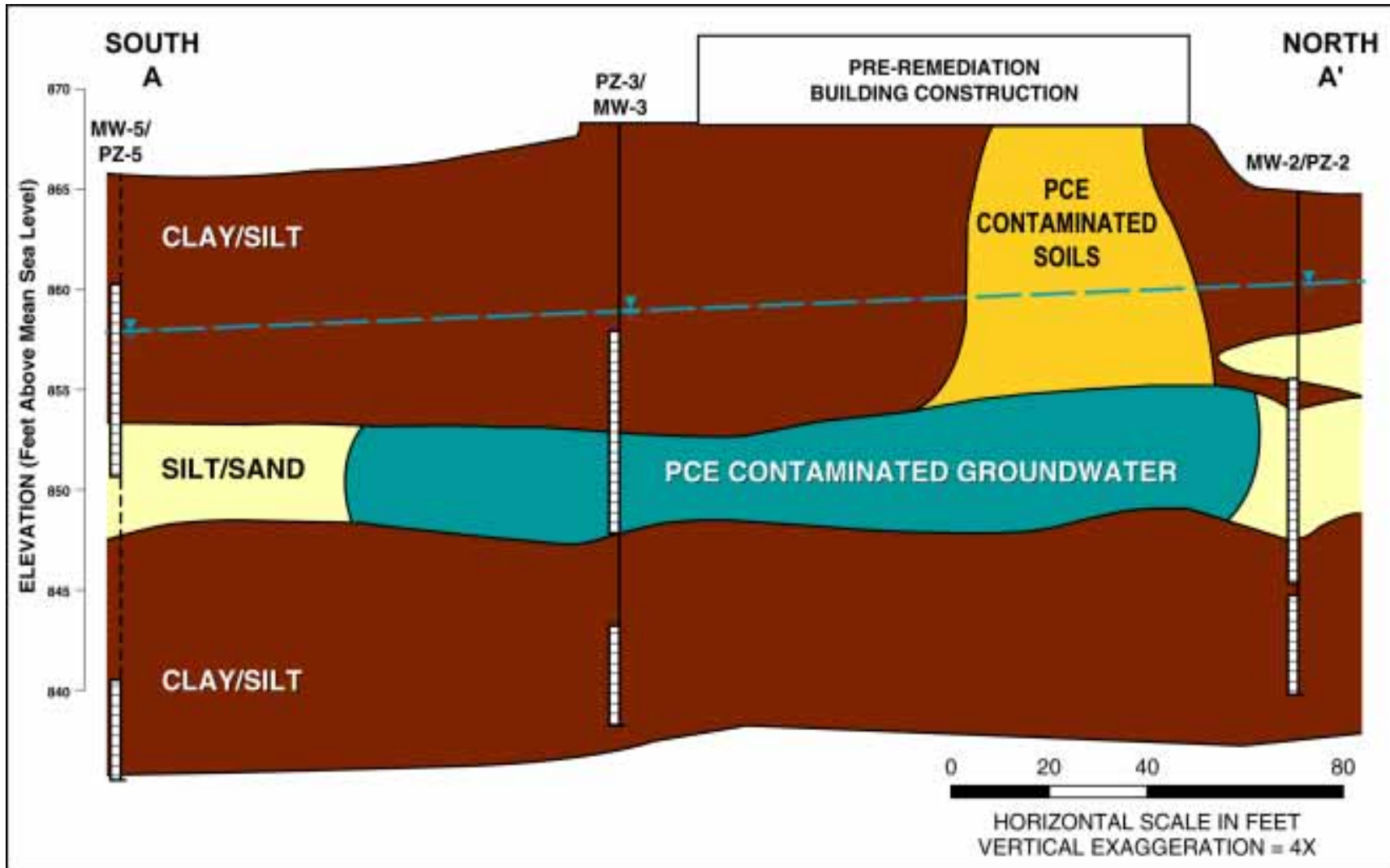


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Geologic Cross Section

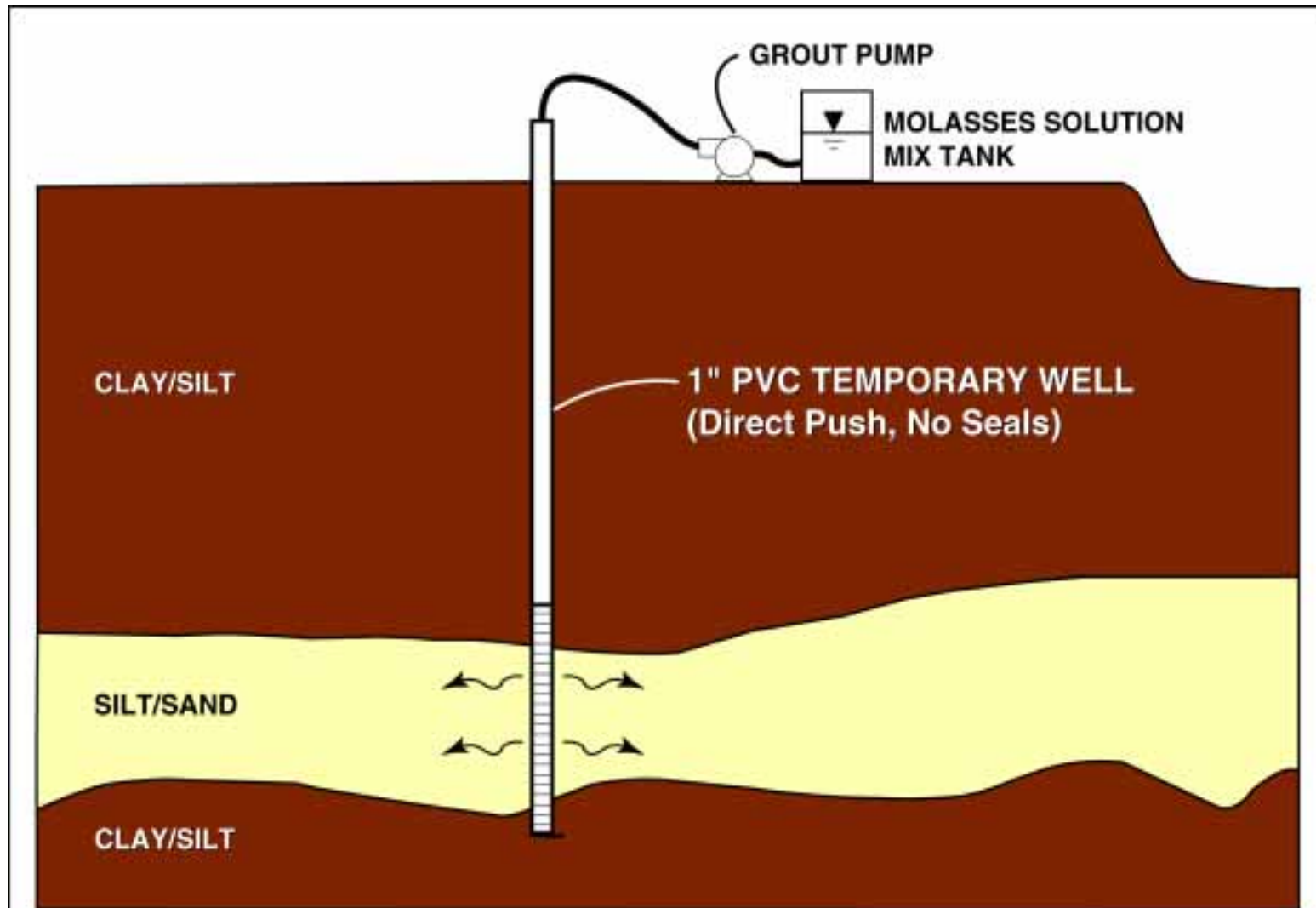


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Initial Carbon Injection



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Initial Carbon Injection



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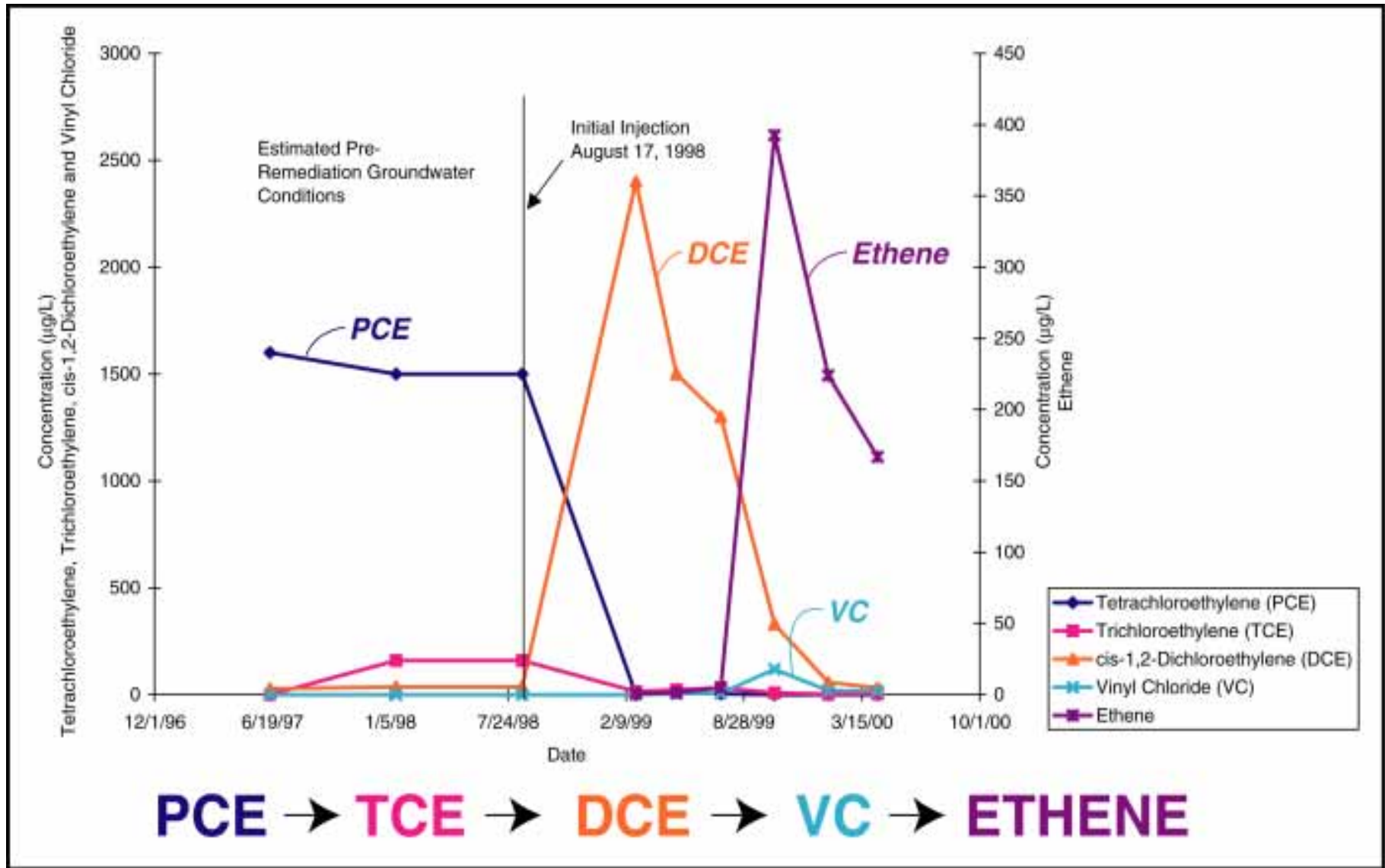


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Groundwater Remediation Results Monitoring Well MW-13



Successful Remediation / Property Redevelopment



- 20 months
- \$1,500,000 guaranteed cost
- Enabled \$70,000,000 of value

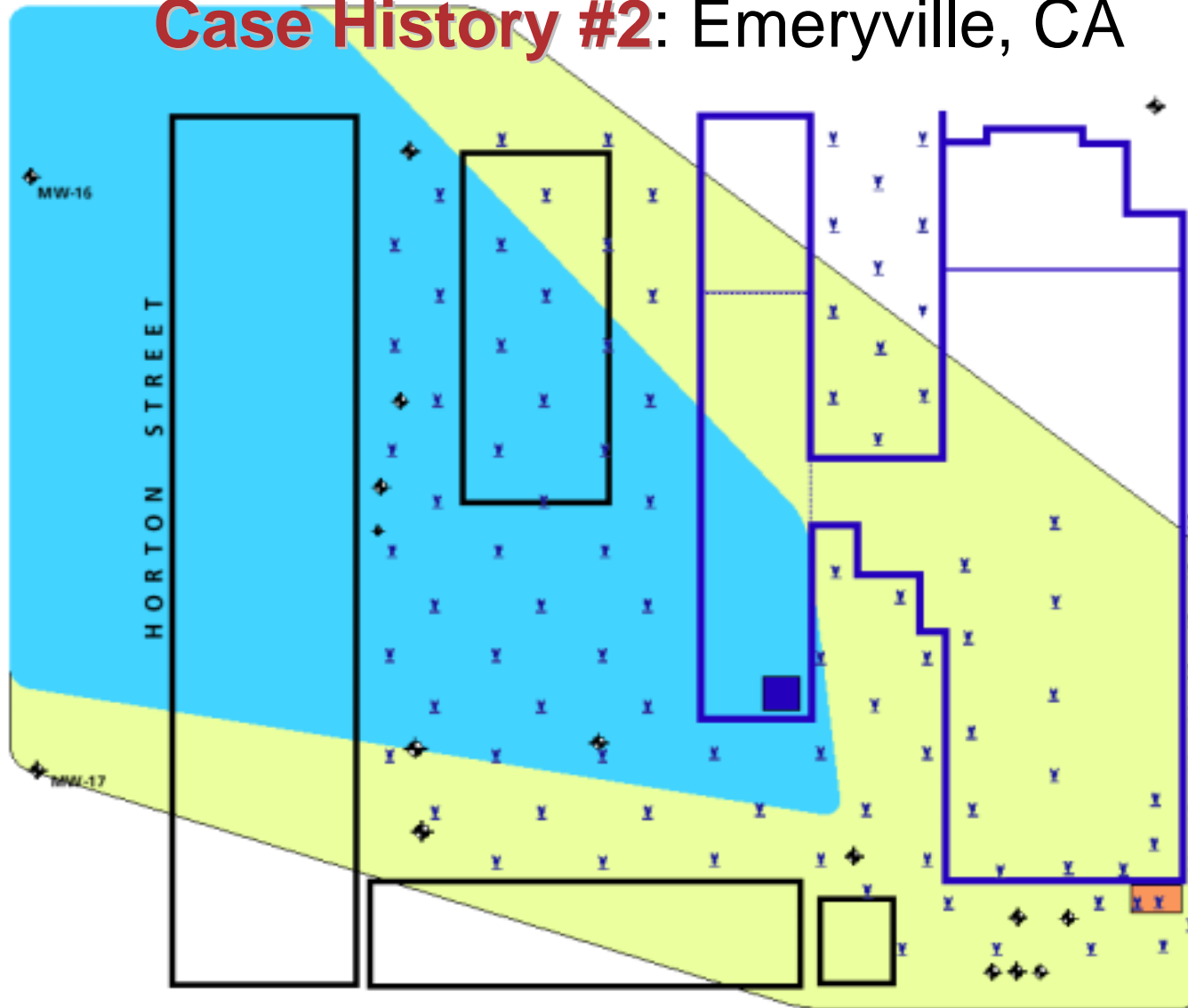


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Case History #2: Emeryville, CA



Location of Injection Points

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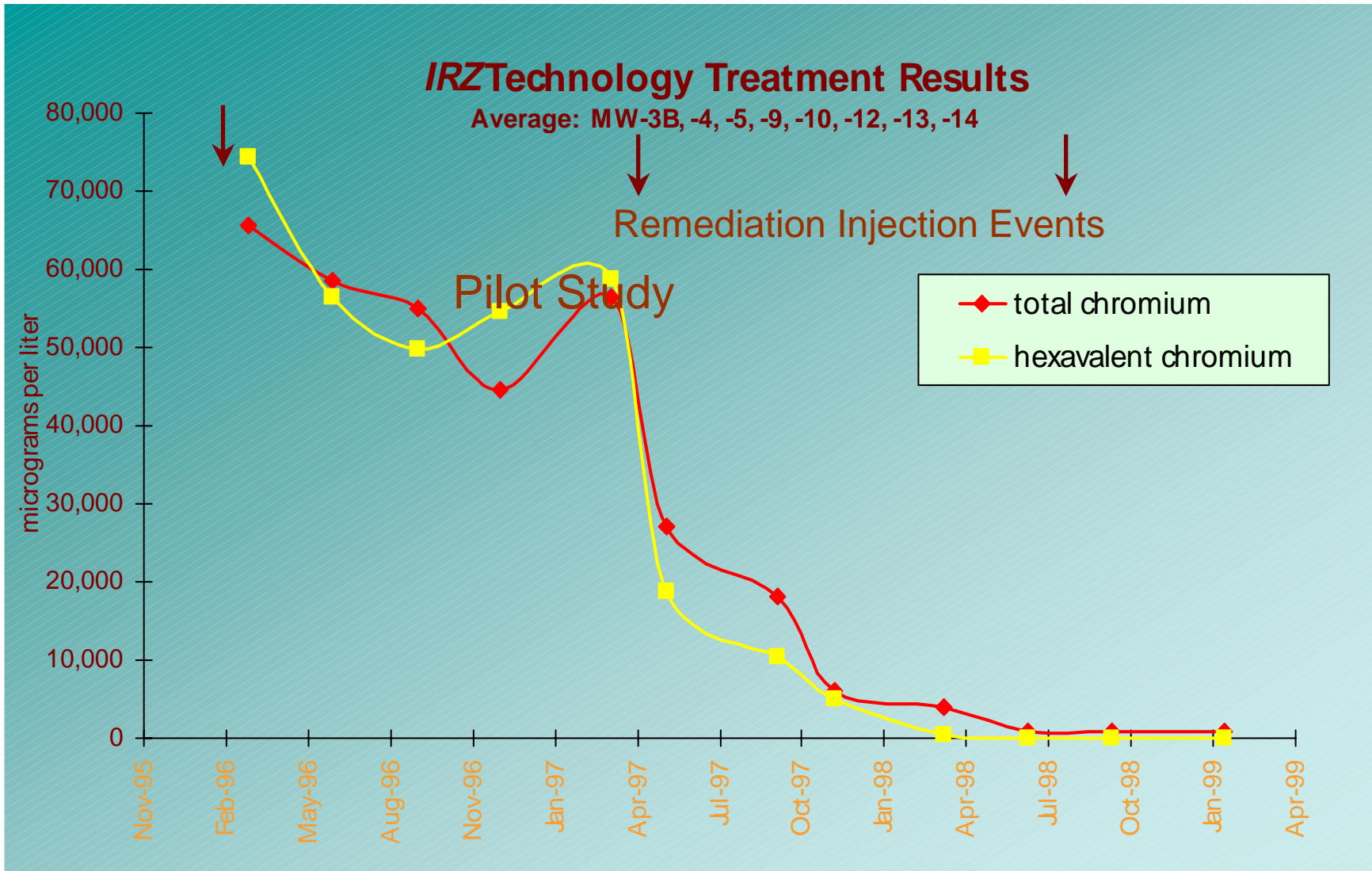


Injection Well Installation (inside Former Plating Building)

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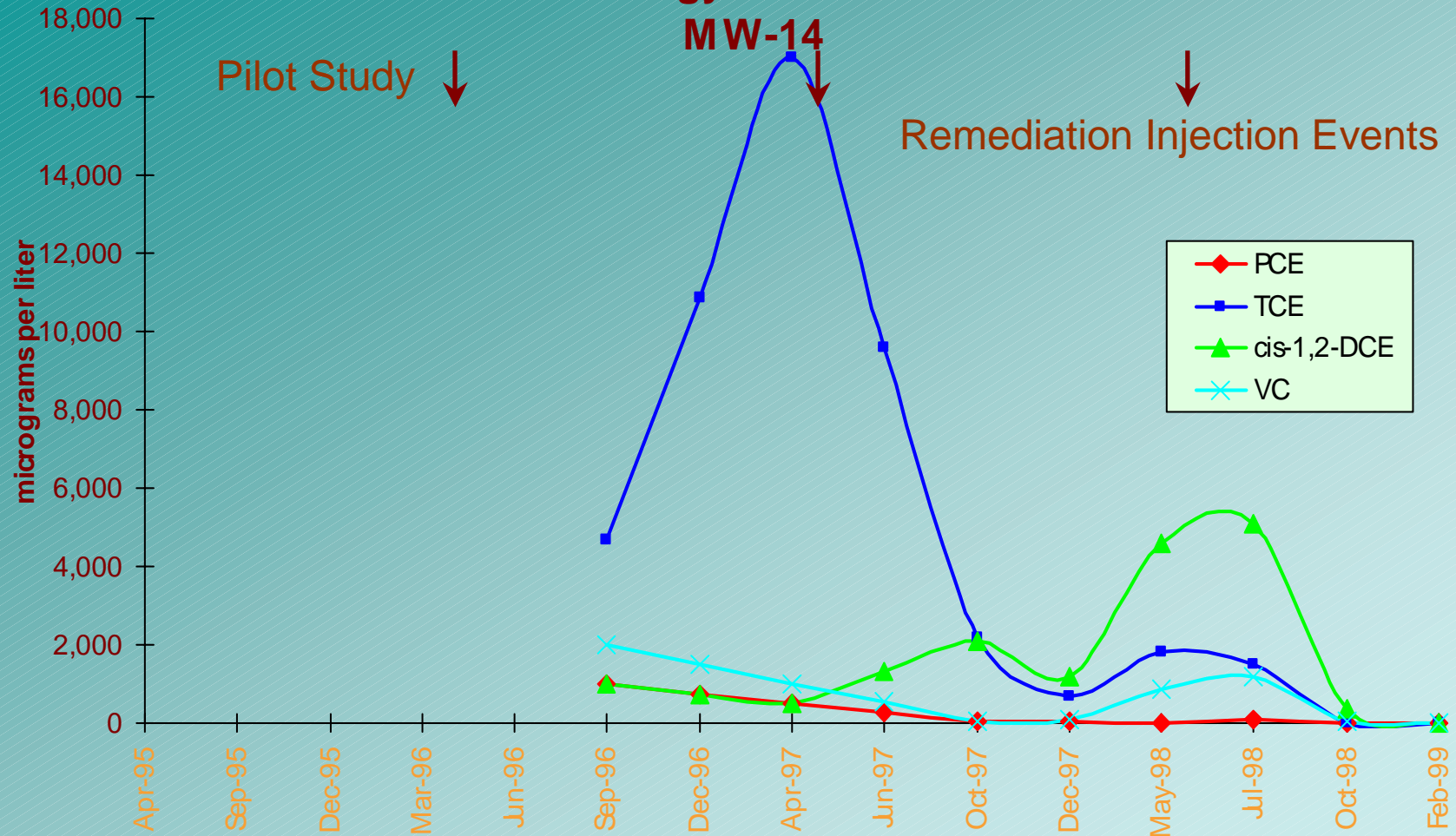


Average Treatment Results for Total and Hexavalent Chromium

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IRZ Technology Treatment Results



Treatment Results for Hot Spot Area

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- **30 months to complete**
- **\$600,000 guaranteed remediation cost**
- **T&M price > \$3,000,000**

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