



Deployment of Field Laboratories for Rapid Remediation of Environmental Contamination

Implementing the Right Field Laboratory for the Right
Purpose



Onsite Sample Analysis

Most Fundamental questions: What is the purpose of the onsite laboratory, why is it better than a traditional fixed lab, and what needs to be done to get into the field?

Considerations

- Feasibility
- Contractor Selection
- Mobilization





Onsite Laboratory Uses

Typical Onsite Lab Uses:

- Environmental Impact of Remediation Activities
- ‘Real time’ investigation decision making
- Remote Location
- VI Investigation (multiple lines of evidence)



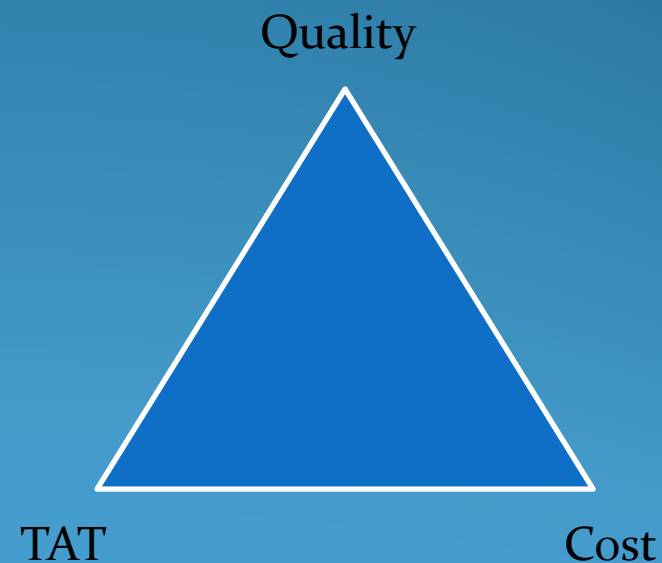


Onsite Laboratory Considerations

Is a field laboratory the right Choice?

Feasibility

- Number of samples?
- Types of analyses?
- TAT?
- QAQC?
- Accreditation Required?
- Deliverables?
- Infrastructure?
- Schedule?
- Cost?





Onsite Laboratory Considerations

Contractor Selection:

Can the contractor successfully deploy a field lab?

-Experience

- Resume
- Lab History
- Complexity of past projects

-Staffing

- Solid Analytical Background
- Troubleshooting skills
- Quick on feet, jack of all trades
- IT experience, data management skills



Onsite Laboratory Considerations

Contractor Selection (cont.):

-Instrumentation

- Dedicated field equipment
- Appropriate equipment for the job

-Deliverables

- Ability to produce required data packages and/or edata

-QAQC

- Accreditation, QAPPs, PE Studies

-Safety





Onsite Laboratory Considerations

Mobilization:

-Schedule

- Planning, logistics, ordering, shipping

-Document Preparation

- QAPP/SOP Development

-Lab facilities

- Building, infrastructure, safety

-QA/QC

- MDLs, DOCs, PEs, accreditation

-Deliverables

- Data handling systems, tailored to specific project needs





Onsite Laboratory Example: Environmental Impact of Remediation Activities

Purpose: To give almost immediate feed back on change in river conditions due to dredging activities

Laboratory Bio:

<24 hour TAT

Metals , TSS, Bioassay

ICP, Hg Analyzer

CLP like data (full QC data package)

3 full time staff

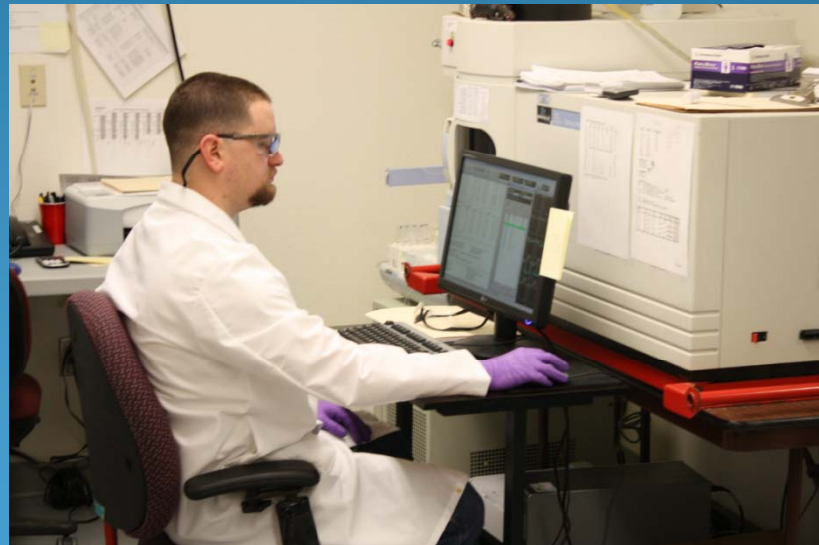
Over 2000 samples

Time:

Planning = 1 month

Mob=2 weeks

Operation= 6 months (Two 3 month campaigns)





Onsite Laboratory Example: Remote Location/ Site Investigation decision making

Purpose: To provide feedback in remote location to help guide site investigation activities

Laboratory Bio:

<48 hour TAT

TPH-Gas, Diesel ,Oil

3 GC/FIDs

AFCEE style report(full QC data package)

3 full time staff

ADEC Accredited

Over 1200 soil samples

Time:

Planning = 2 months

Mob=2 weeks

Operation= 4 months





Onsite Laboratory Example: VI Investigation

Purpose: To provided multiple lines of evidence in VI investigation activities

Laboratory Bio:

Almost immediate TAT

Inficon Hapsite-Soil gas/subslab, Indoor Air, Background indoor air sources

Photovac Voyager-Soil gas/subslab, Soil, Water

Level 1.5 data (spreadsheet-sample results and QC)

1 full time staff

Time:

Planning = 2 weeks

Mob=2-3 days

Operation=Variable





Questions?

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