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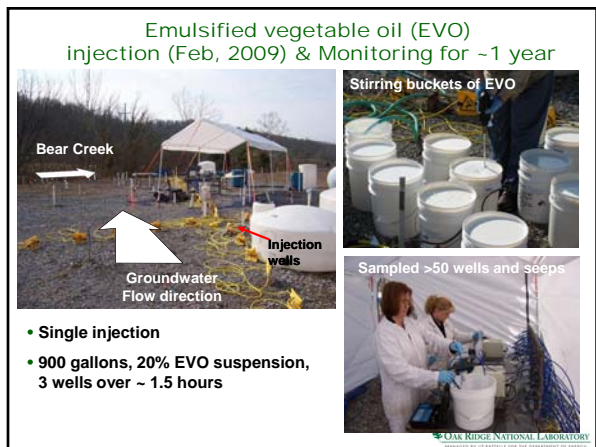
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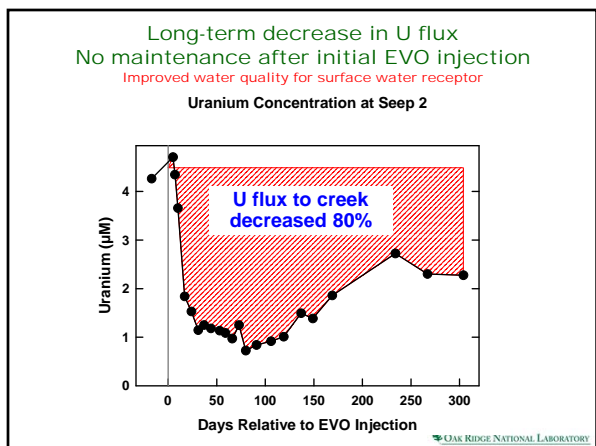
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### EVO Injection – Key Results

- Conducted the first ever field-scale injection and detailed hydrobiogeochemical monitoring of a slow release electron donor for the bioreduction and immobilization of U(VI)
- Aqueous U concentrations decreased throughout the wellfield
  - U concentration fell below MCL (30 µg/L; 0.126 µM) in some wells
- Spectroscopic investigation of aquifer solids confirmed production of U(IV) on the solid phase
- Occasional (e.g. annual) EVO injection into a highly permeable aquifer can sustain uranium immobilization and decrease U discharge by >80%
  - Better results are likely for lower permeability aquifers
  - Cost of EVO < \$10/ day



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### In summary...

- Physical and biogeochemical methods to isolate and remove radionuclides in groundwater have been tested at ORNL
- Deployed in challenging environments
- These approaches proved to be both successful and cost-effective



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