



Industry Programs Conference

Subsurface Opportunities

James A. Wright Jr.
Manager, Subsurface Contaminants Focus Area
DOE Office of Science and Technology

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Presentation Focuses on Opportunities in



- *Science Partnering*
- *Applied Research*
- *Technology Gap Areas*
- *Deployment of existing solutions*



*Within the context of existing
subsurface problems*



Contaminant Source Terms in the Vadose Zone and Groundwater





Vadose Zone and Groundwater Opportunities



***Science* – Characterization and Monitoring**

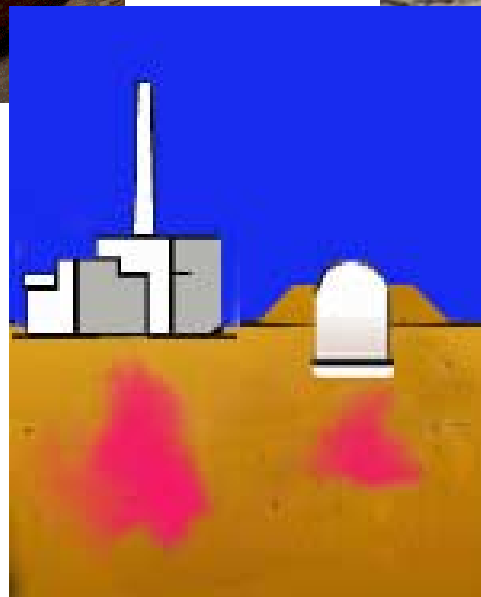
***Applied Research* – Contaminant flow mechanisms,
modeling and analysis**

***Technology Gaps* – System delivery to deep fractured rock**

***Deployments* – In situ remediation systems**



Under Buildings and Infrastructure





Opportunities under Buildings and Infrastructure



***Science* – Metal Ion stabilization and immobilization**

***Applied Research* – Under building characterization**

***Technology Gaps* – Non invasive precise characterization**

***Deployments* - Characterization systems**



Landfills, Basins, Waste Pits, and Trenches





Landfills, Basins, Waste Pits, and Trenches Opportunities



Science – Metal ion immobilization, metal reducing bacteria
for bioremediation

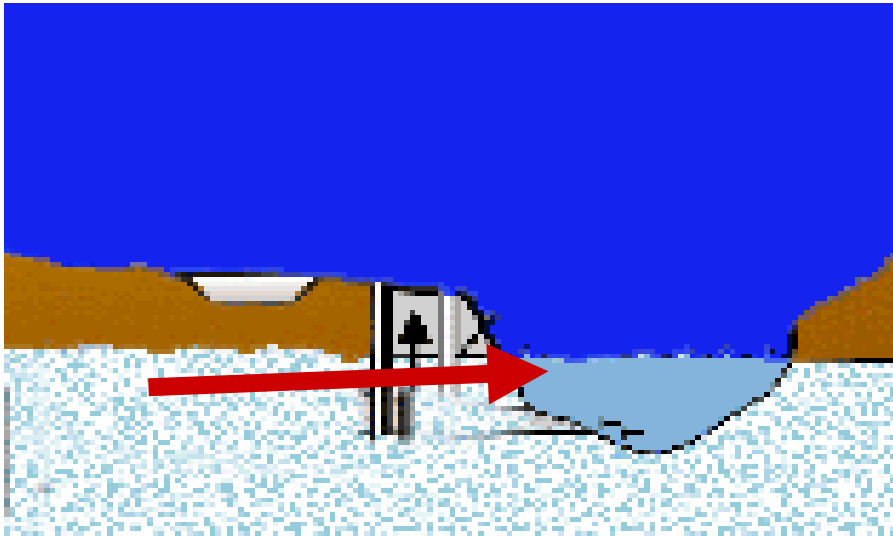
Applied Research – Flow modeling and analysis,
Performance verification and validation

Technology Gaps – In situ radionuclide remediation,
Long term performance monitoring

Deployments – Economical and compliant capping systems,
Source term “hot spot” removal systems



Outcrops and Aquifers





Outcrops and Aquifers Opportunities



***Science* – Contaminant flow and transport mechanisms**

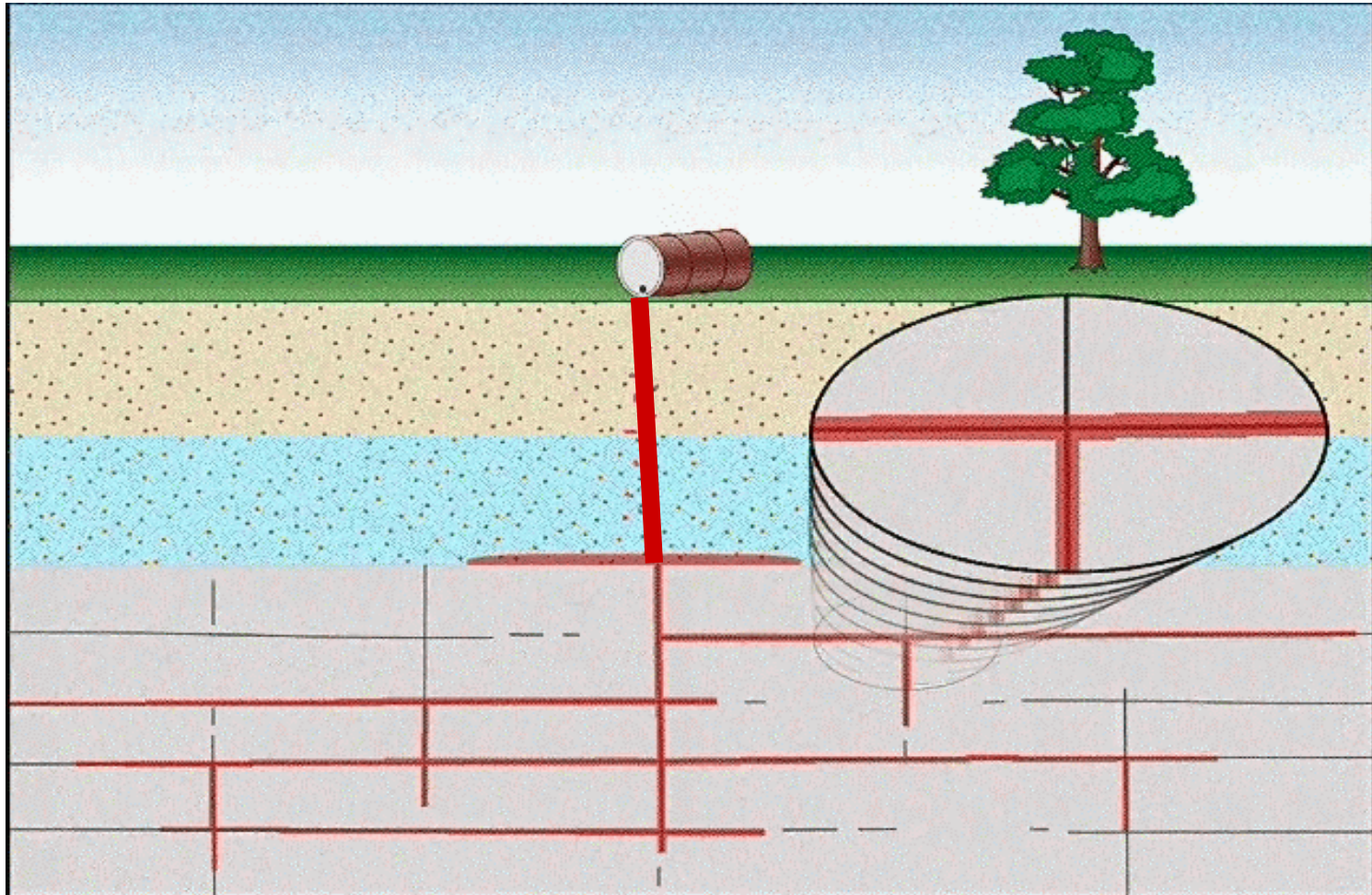
***Applied Research* – Modeling and analysis**

***Technology Gaps* – Low level Tritium detection**

***Deployments* – Passive or active in situ remediation systems**



In Deep Geologic Settings





In Deep Geologic Settings



***Science* – DNAPL flow and transport mechanisms**

***Applied Research* – Characterization in deep fractured rock**

***Technology Gaps* – Precise DNAPL characterization, Access
and system delivery to deep fractured rock**

***Deployments* - Access and delivery systems**



Conclusions



- *Opportunities exist for the Private Sector, Universities and National Laboratories in science partnering and applied research*
- *There are multiple opportunities for the deployment of existing solutions at DOE sites.*



Opportunity Points of Contact



*EM Science Program: Mark Gilbertson, DOE-HQ (202)
586-5042 <http://emsp.em.doe.gov/>*

Potential Solution Application:

Tom Hicks, DOE-SR Technical Team Lead (803) 725-2027

or

Jack Corey SCFA Lead Laboratory (803) 725-1134

Visit the SCFA website at

<http://www.envnet.org/scfa>

for more information