FWP 82351

Basalt Mineralization Support

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Integrated Mineralization Strategy

- Provide technical support and advising on FECM mineralization project new starts
- Develop methodologies for sample sharing from key field demonstration sites

Carbon Storage in India

- Participated in Carbon Storage workshop in India
- National Storage Resource Assessments Basalt/Saline/EOR
- Socialize a sample protocol/characterization assay for projects to utilize



Reactive Transport Code Comparison Plan

Develop reactive transport code comparison plan, addressing:

- Implementation
- Timeline
- Problem sets
- Participant list (suggested)
- outcomes

Outcomes

A baseline for simulator verification using benchmark problems of increasing complexity.

An established set of best practices or key parameters that contribute most to model discrepancy or uncertainty.

A forum for discussing strategies for dealing with numerical challenges associated with modeling subsurface coupled CO₂ fluid flow and reactive processes.

A means for identifying key physical and chemical processes that are not currently represented in existing simulators.

Developing Site Specific Storage Facilities – Basalt/Saline

- Risk Assessment and monitoring, reporting, and verification of stored CO₂
- Best Practices
- Regulatory needs and approaches
- Stakeholder perspectives Government of India + industry
- Outcomes
- Solidifying commitment to collaborate on advancing geological storage
- Identified specific topics of mutual interest for collaboration



CO₂ Mineralization Working Group

Outcomes to facilitate Commercial Deployment

- Linking scales integrating across scales and across analytical spaces
- Sample database Develop diverse set of reactive reservoir rock samples acquired and

Geology 101 Education Tool Set

• Developing educational tools for the FECM team to use in community engagement events.

- characterized under consistent protocols
- Basalt toolkit develop, publish, and evolve a set of best practices, tools and characterization methodologies
- Simulation ecosystem integrate bench- and field-scale experiments with a new open-source ecosystem of reservoir simulation tools
- CarbonSTORE test field test injection strategies & monitoring techniques; validate reaction kinetics and products; build consensus for MRV approaches; lower cost drilling techniques
- CarbonSAFE field projects a growing set of CarbonSAFE projects in reactive reservoirs will leverage learnings from efforts above CarbonSTORE to provide large-scale injection project data essential to refine and validate the set of tools available for in situ mineralization storage
- Class VI Demonstrate any mineralization-related reductions in AOR (with associated risk/cost reductions).





3D puzzle of the subsurface showing how aquifers stack between overburden and layers of caprock.



Ant farm subsurface injection demonstration.



Flow Pods: portable, zero-waste demo of porosity, permeability & flow velocity.





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