

GDSA Debrief

■ GDSA session *(Mariner)*

— Progress

- *Isotope behavior*
 - Decay, ingrowth, partitioning
- *Source term framework*
 - Canister, WF dissolution, decay
- *Crystalline rock repository*
 - DFN, full 3D, unstructured grids, sensitivity analyses
 - Fast movement of I-129 through geosphere – time to revisit the conceptual design
- *Integration*

— FY17 planning discussion

- *To Do list*
 - Discrete fracture networks
 - Grid refinement (Octree)
 - Multiphase (re-saturation)
 - Colloid transport
 - Solute properties vs. temperature
 - New process model(s) for integration

- GDSA overview (Mariner)
- GDSA simulation framework: PFLOTRAN (Hammond)
- Isotope chemistry and source term (Mariner)
- Source term implementation and demonstration (Frederick)
- GDSA process model integration (brief) (Sevougian)
- GDSA mined repository in crystalline rock (Stein)
- GDSA planning for FY17 (Mariner)

— Feedback on To Do list

- Additions to list
 - Solute-specific diffusion
 - Alpha recoil
- On list but suggested for high priority
 - Benchmarking/V&V documentation
 - Pitzer equations
 - Reactive transport in near field

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■ GDSA integration session *(Sevougian)*

- Lightning talks
- 4 on current integration work
- 11 on proposed integration
- 1 on gap analysis
- Feedback
 - Good talks
 - Well attended
 - A few fire engine blasts but no hooks
 - Informative
 - Useful – facilitates/instigates integration and provides a way to promote ideas
 - No time for serious prioritization
 - Positive feedback on lightning talk format

- Density dependence on salinity (Hammond)
- DFN model (Stein/Makedonska)
- Colloid-facilitated transport model (Reimus)
- CSNF degradation model (FMDM) (Jerden)
- Salt coupled THM processes (TOUGH-FLAC) (Rutqvist)
- THC processes in salt (Stauffer)
- TOUGH-FLAC/BBM/RBSN models (Rutqvist)
- THMC model (illitization) and THM model (TPHM Hooke's) (Zheng)
- DFN enhancements (Viswanathan)
- Waste package degradation (Jov & Colon)
- Waste package and waste form degradation (Frederick)
- Glass degradation (Rieke)
- Grid refinement (Alzraiee/Hammond)
- ROMs for creep closure (Park/Hammond)
- A control variate method for PA (MacKinnon)
- Remaining process model gaps (Mariner)