

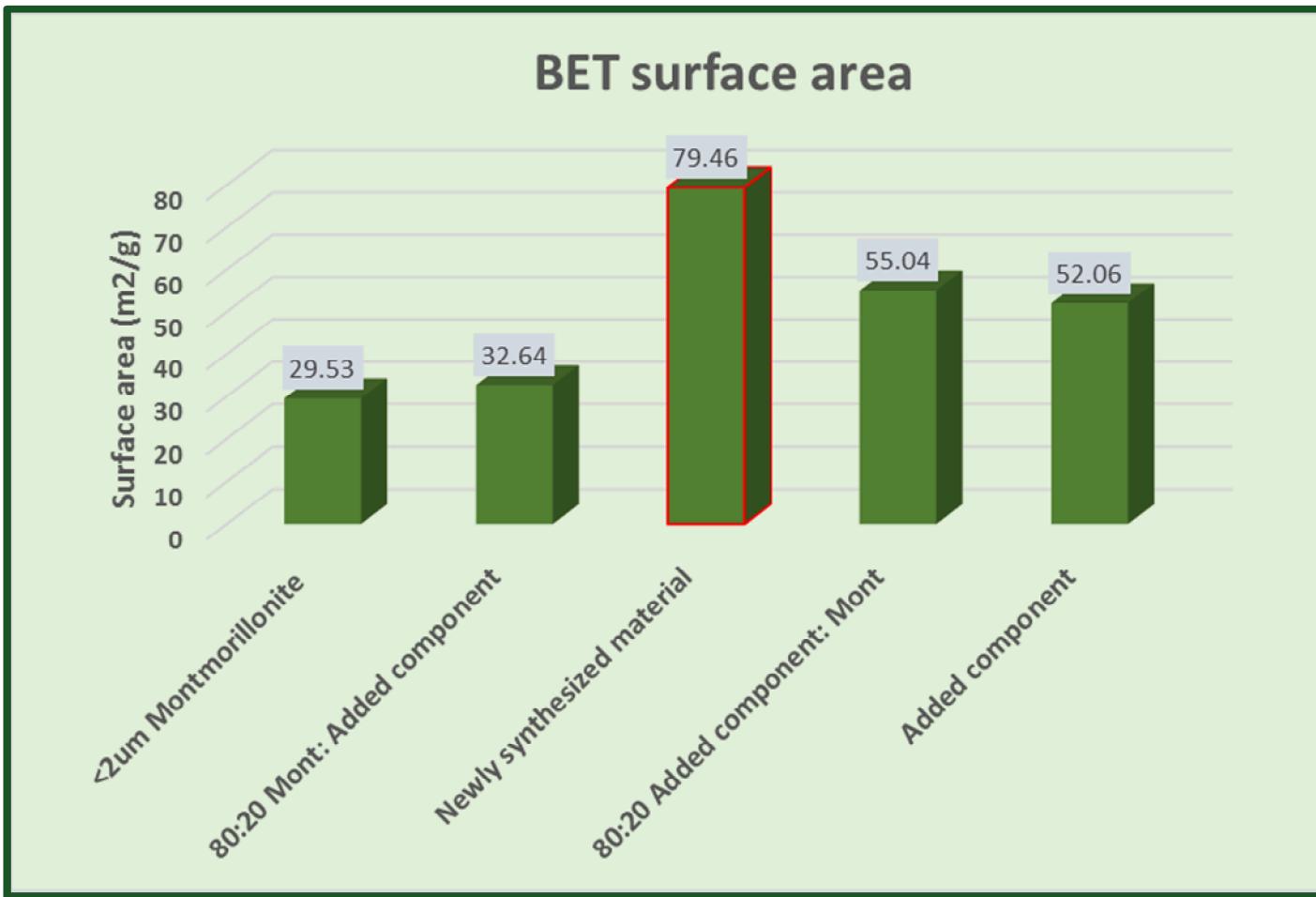
## Development of Next Generation Buffer Materials

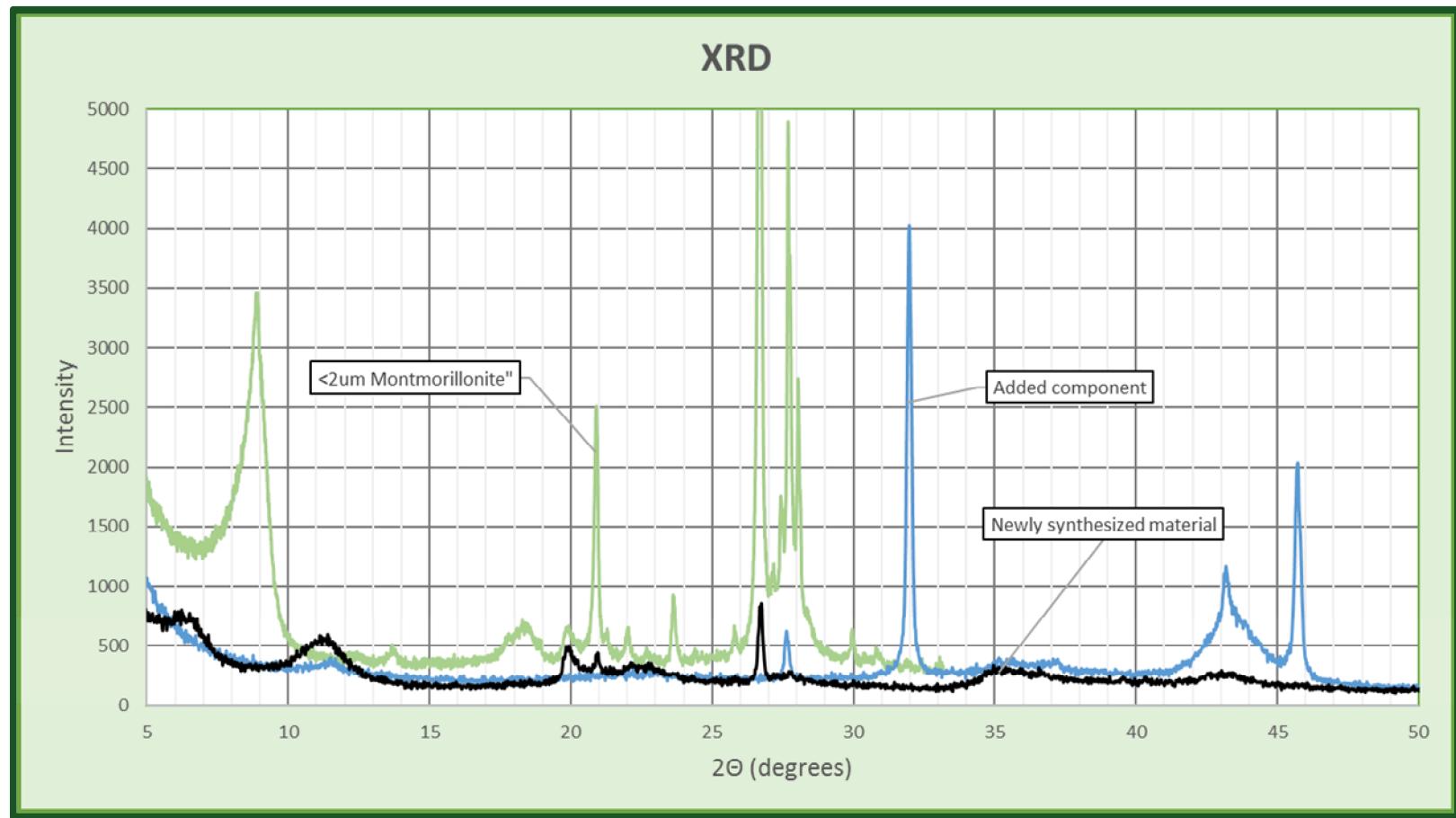
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**SFWST Working Group Meeting**  
**5/24/2017**

- **Development of next generation buffer material for waste isolation**
  - **Synthesized a new bentonite based buffer material**
  - **Characterized material**
  - **Tested material capability**





## Batch reactors: In glovebox (nitrogen environment)

### ➤ Iodide sorption

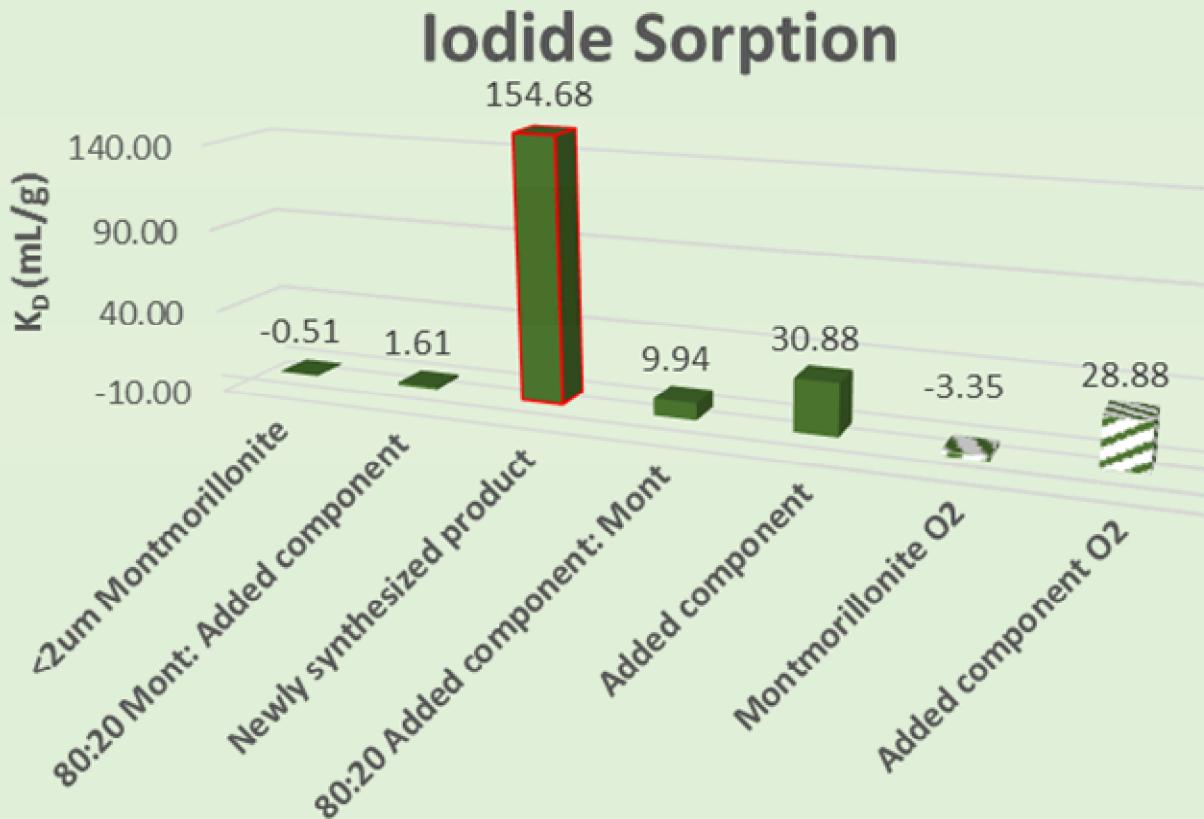
- 0.2g of material
- 14.7mL of water
- Let hydrate/shake overnight
- Spike with 300uL iodide IC standard

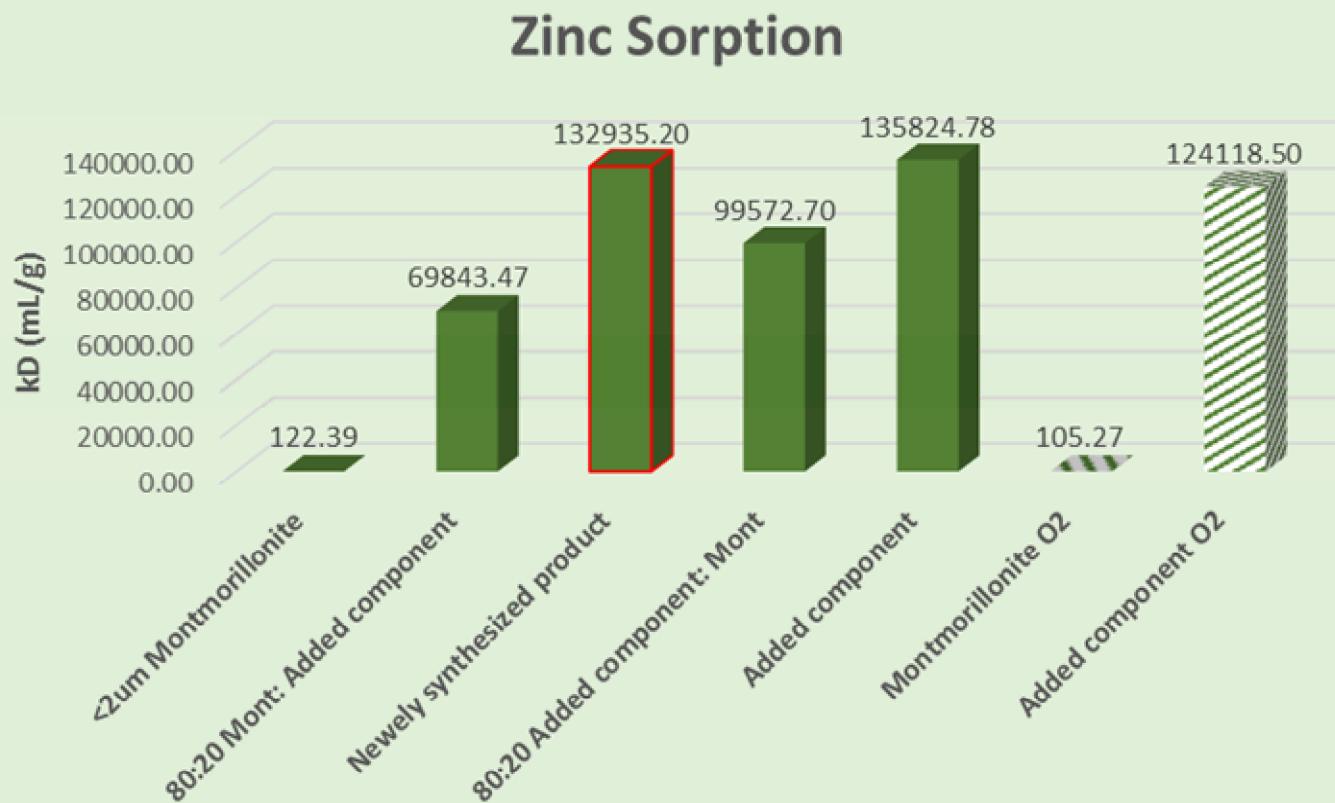


### ➤ Zinc sorption

- 0.2g of material
- 14.85mL of water
- Let hydrate/shake overnight
- Spike with 150ul zinc ICP-OES standard (same Molar concentration as iodide)







# Spent Fuel and Waste Science and Technology

## Future Work

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- Batch arsenic sorption experiments
- Sorption experiments on radioactive radionuclides
- Titrations
- Patent application