

Development of Next Generation Buffer Materials

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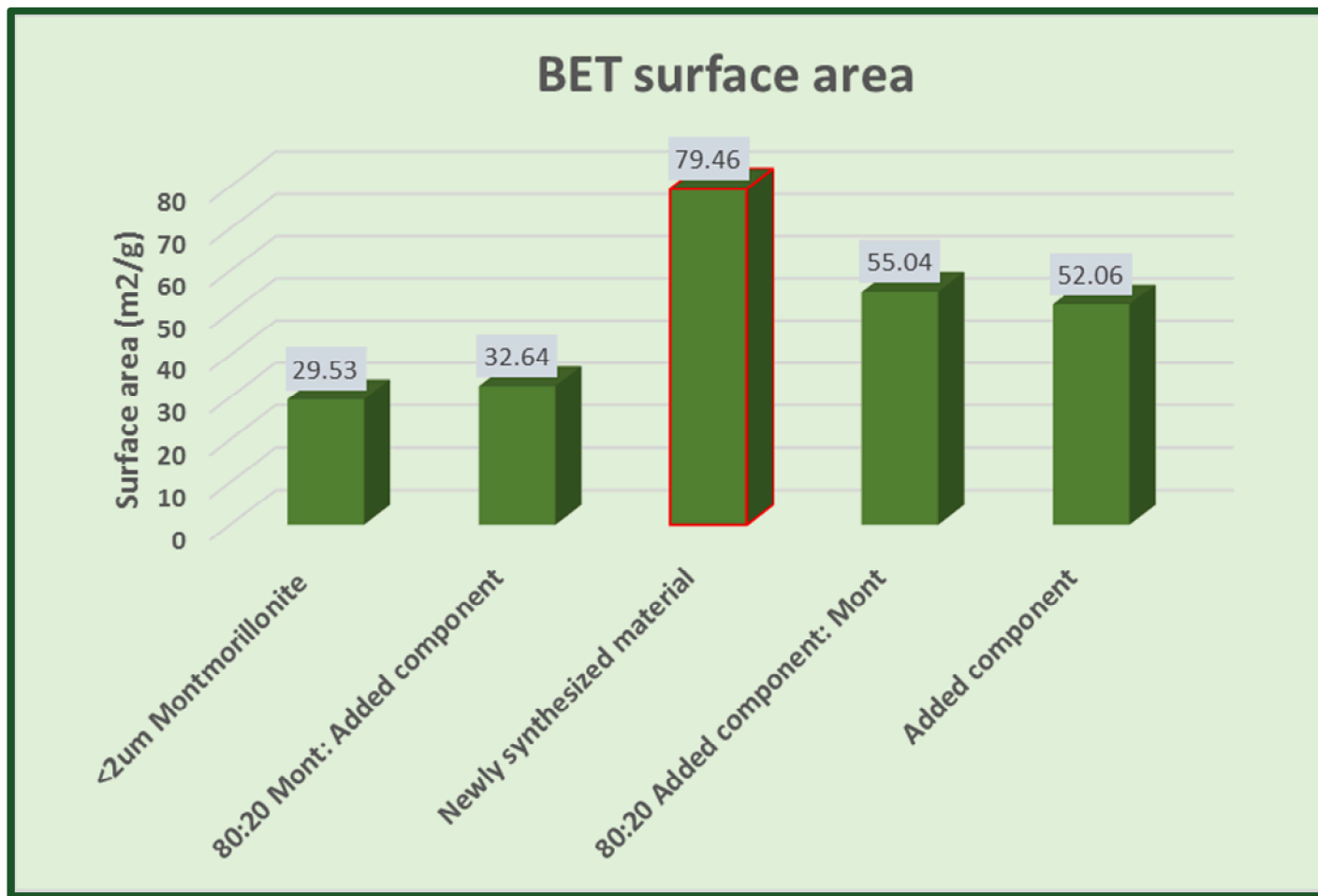
Jessica Kruichak

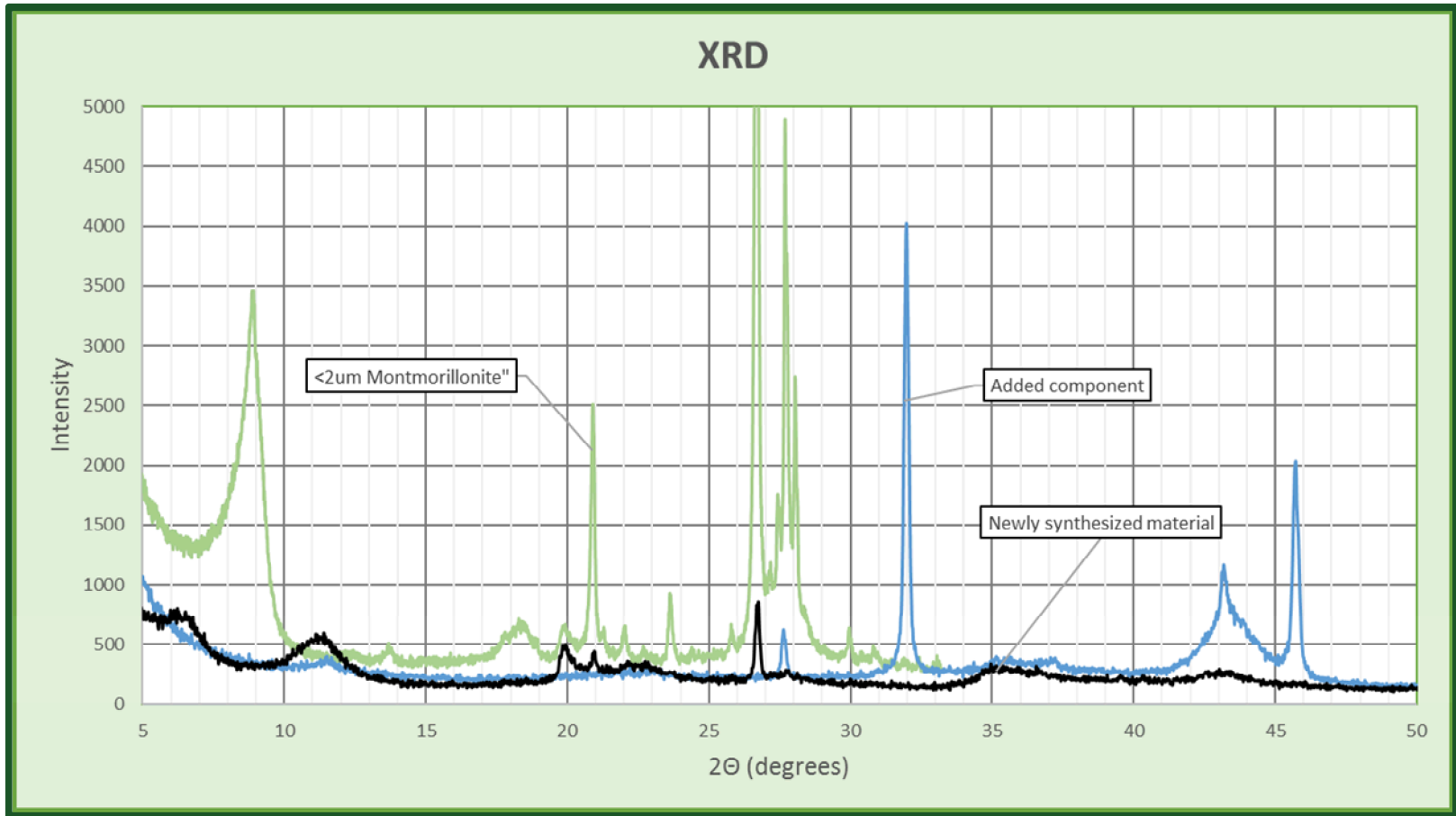
Sandia National Laboratories

SFWST Working Group Meeting

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- **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

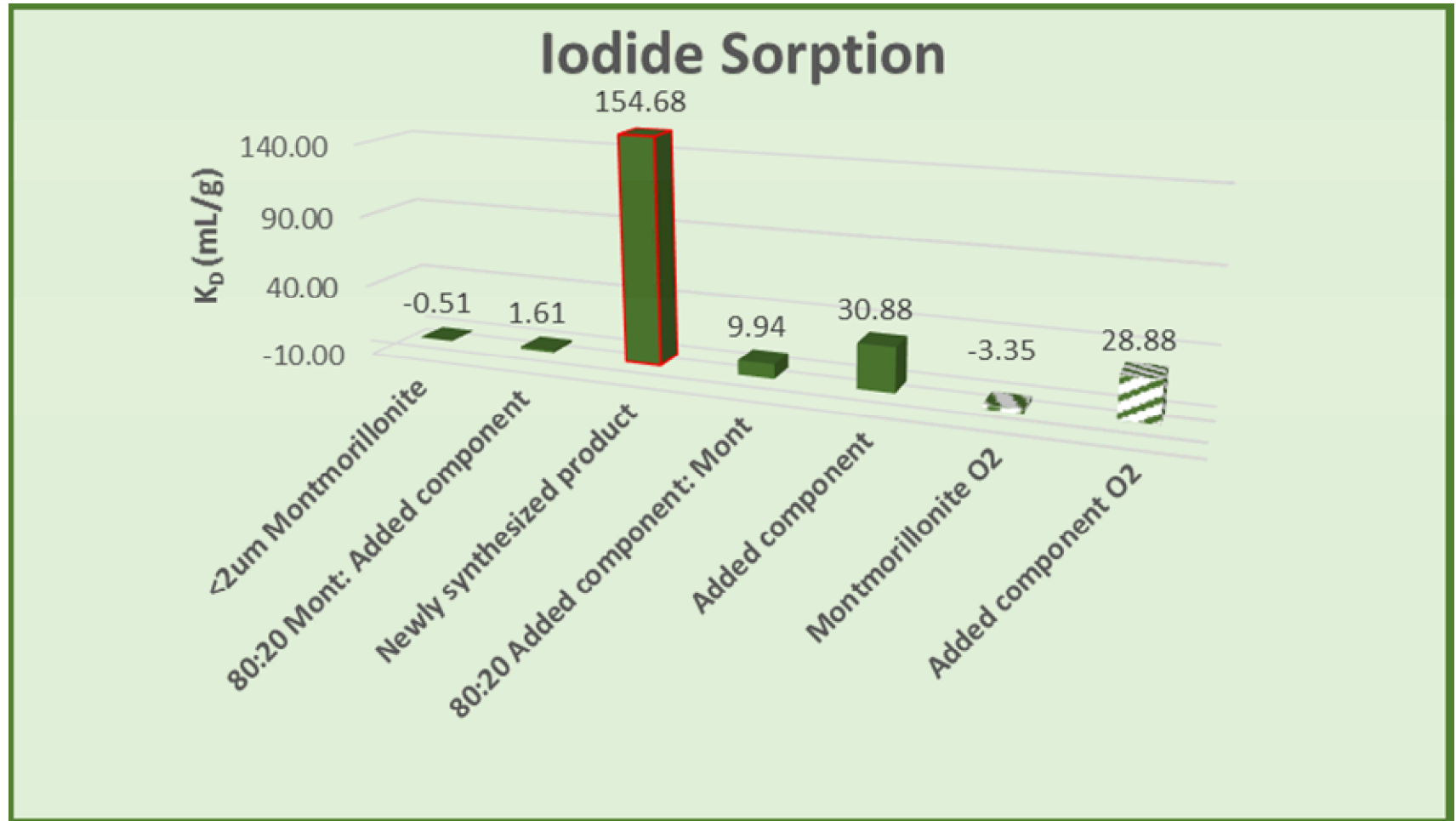
- *0.2g of material*
- *14.7mL of water*
- *Let hydrate/shake overnight*
- *Spike with 300uL iodide IC standard*

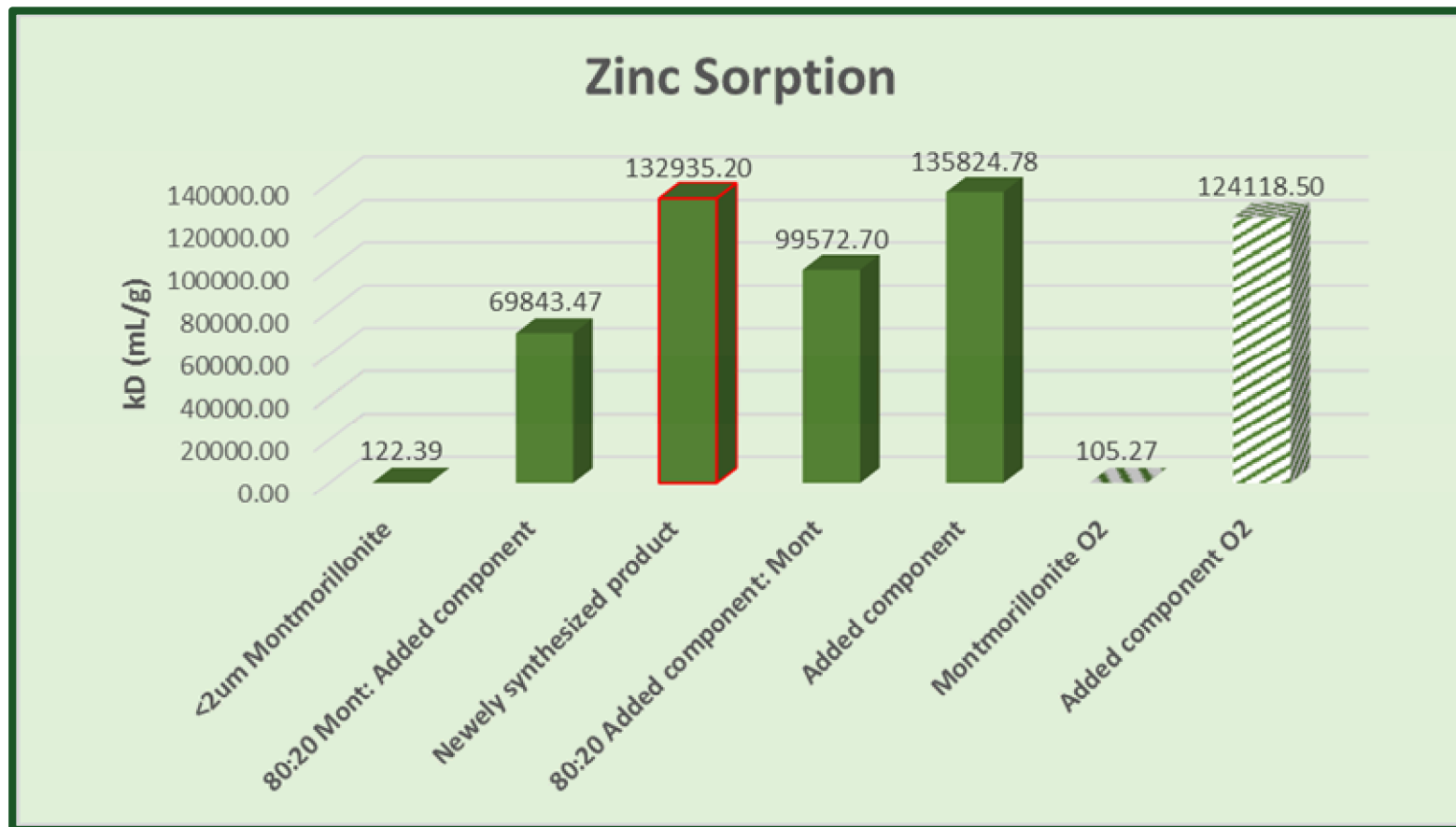


➤ Zinc sorption

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







- **Batch arsenic sorption experiments**
- **Sorption experiments on radioactive radionuclides**
- **Titration**
- **Patent application**