



RADIOCHEMISTRY PROGRESS REPORT

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"Learning from Plutonium and Uranium Workers"



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Outline

- Analytical methods
- Tissue analysis progress
- Case analysis progress
- Case status summary
- Tissue sample backlog
- FY2023 Analysis Strategy
- Facility Maintenance & equipment upgrades



Analytical Methods (I)

Drying
Ashing

Digestion
Dissolution

Actinide
separation

α -source
preparation

Actinide
measurement



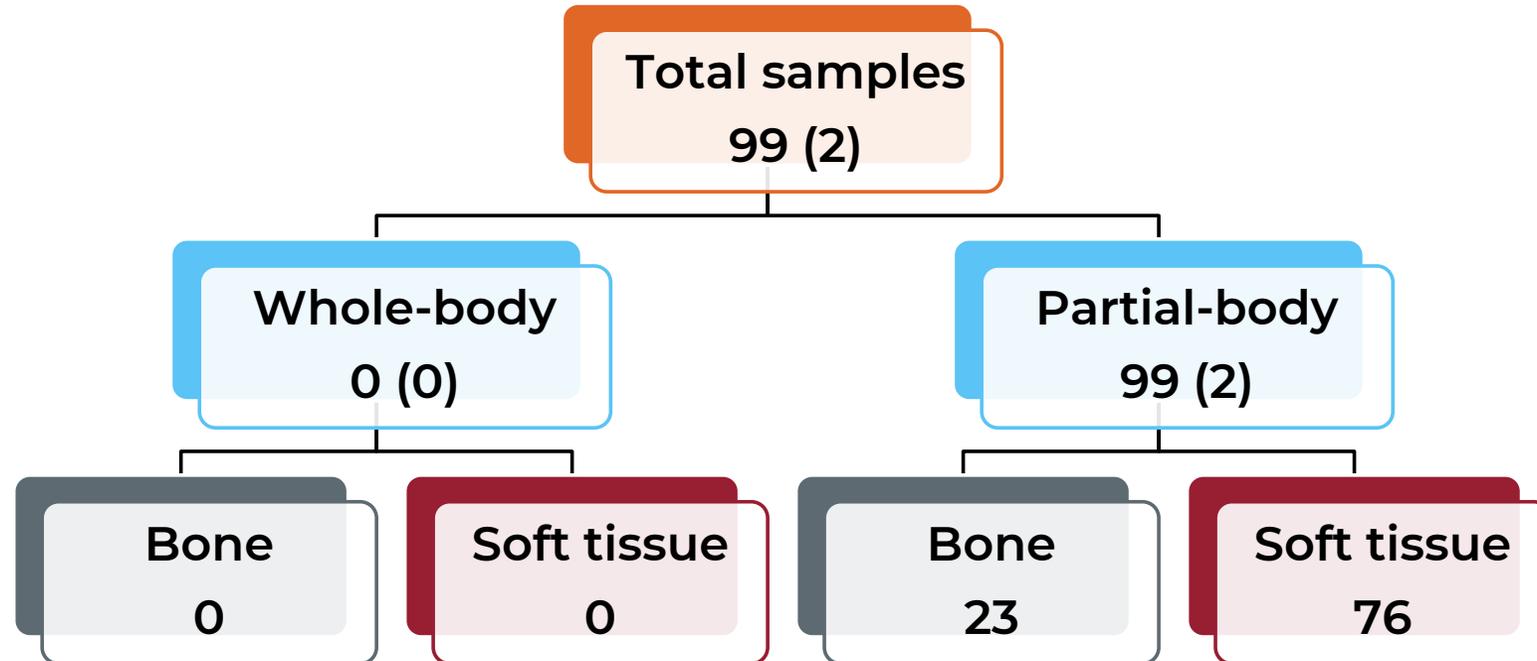
Analytical Methods (II)

Development & revision of USTUR analytical documents and procedures

- USTUR DQO document
- USTUR 800: Quality Assurance Plan
- USTUR 030: Document Control and Record Storage (data backup)
- USTUR 080: Cleaning of Labware
- USTUR 106: Tissue Preparation for Digestion and Dissolution
- USTUR 115: Microwave Tissue Digestion for Isolation of Radionuclides

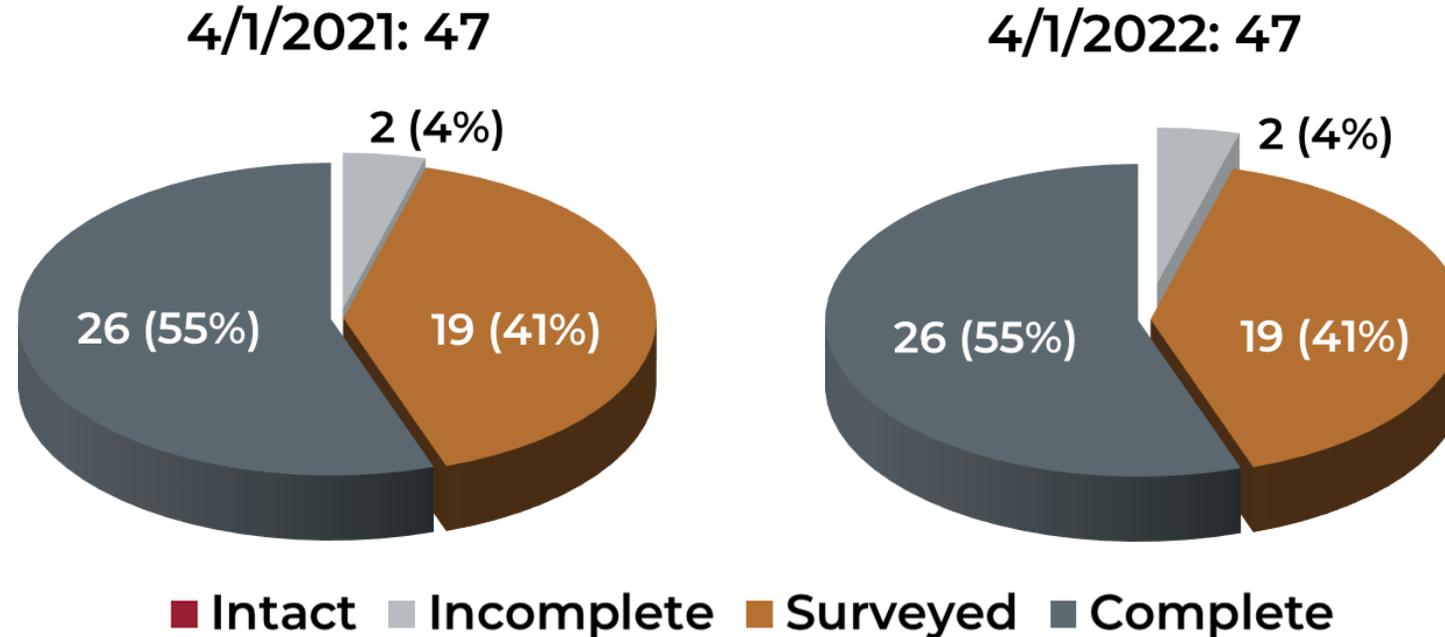


Tissue Analysis Progress



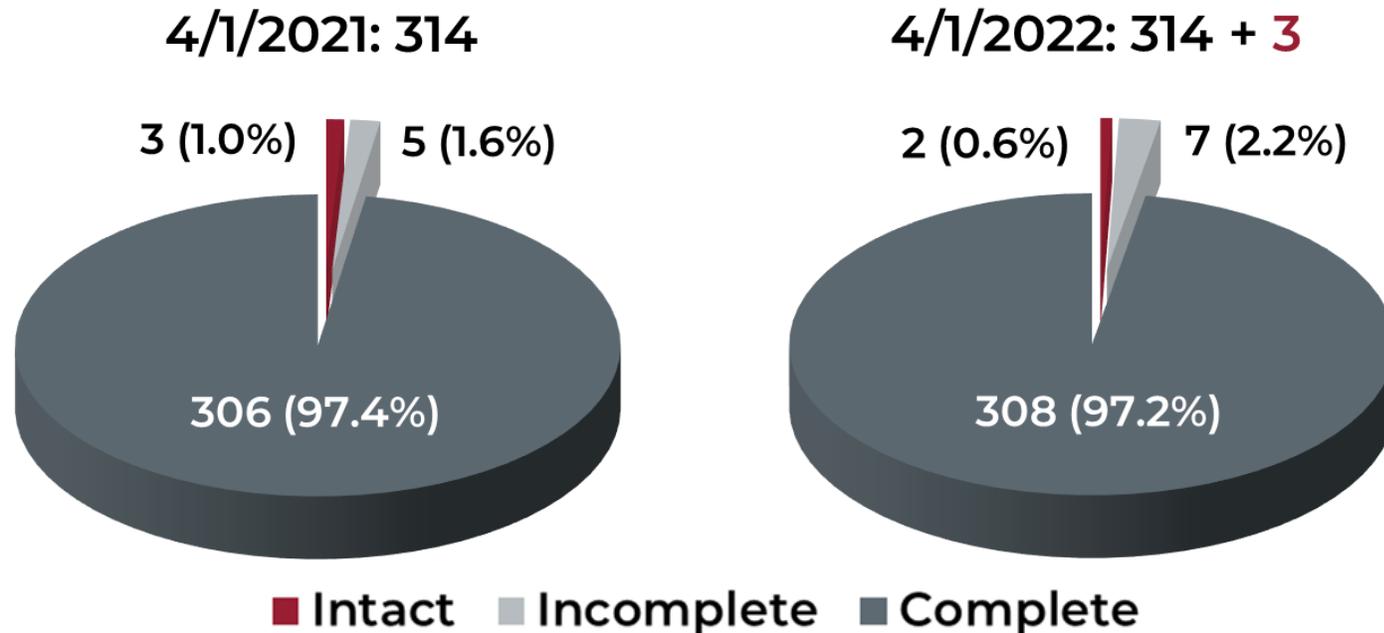
Case Analysis Progress: Whole-body

- No new whole-body cases received in FY2022
- No progress was made in analysis of 'Surveyed' or 'Incomplete' cases

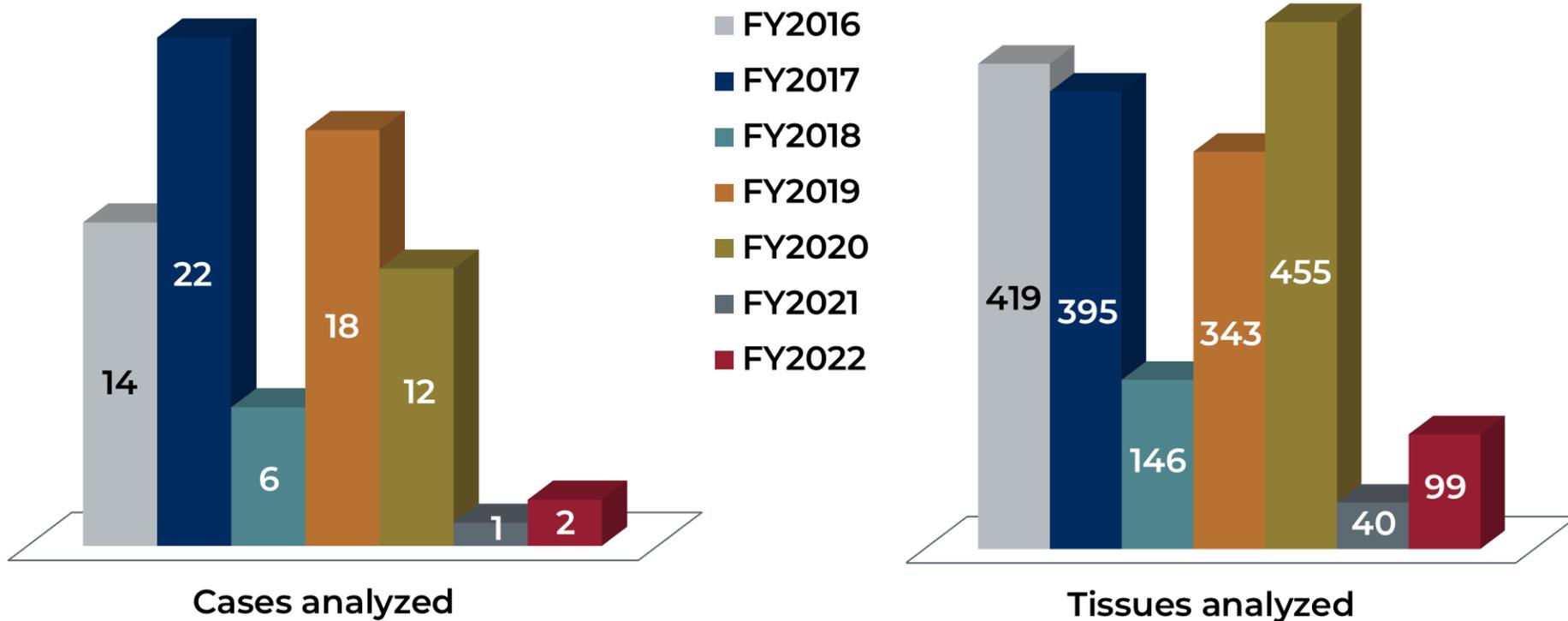


Case Analysis Progress: Partial-body

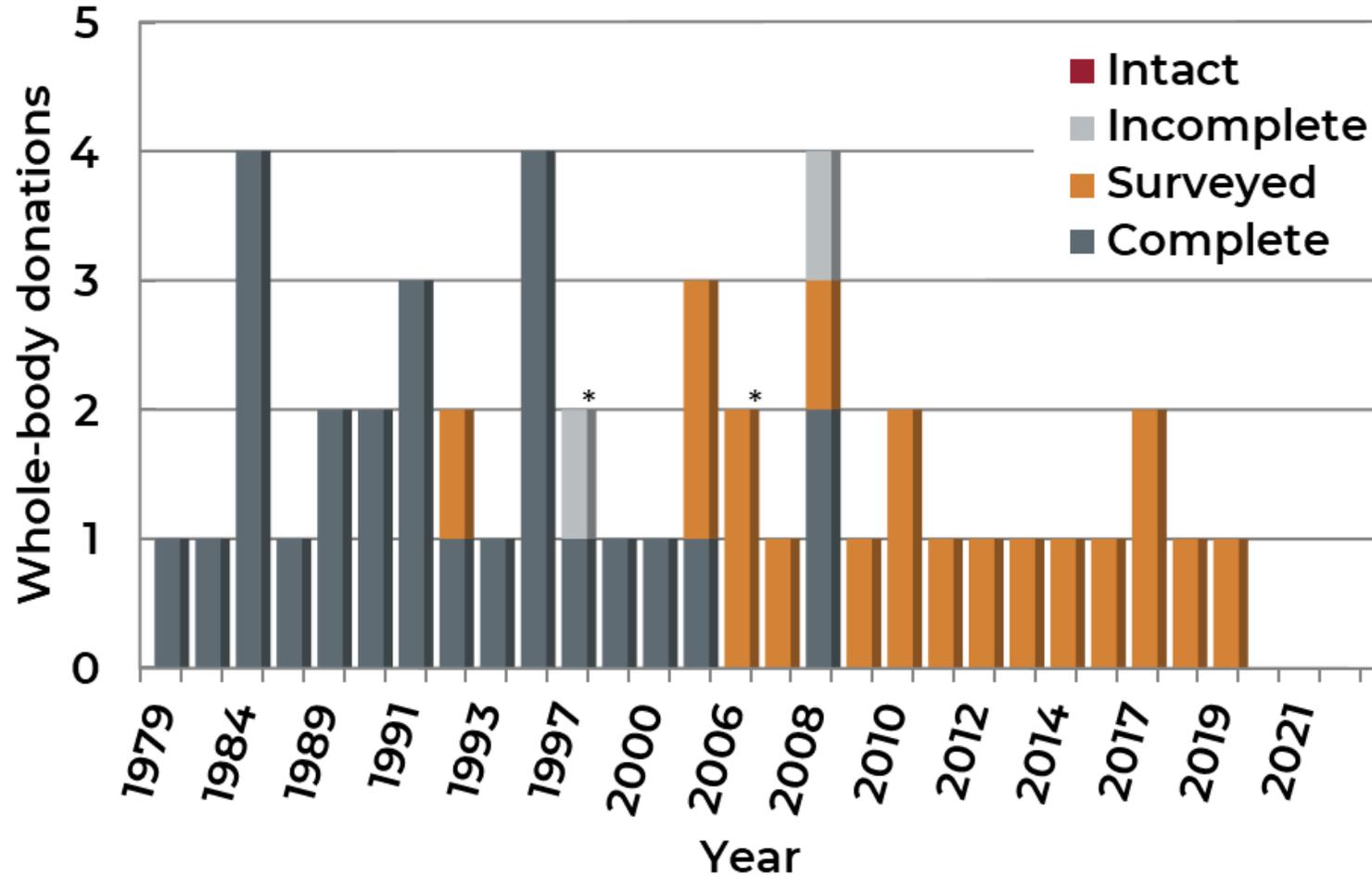
- Three new partial-body cases received in FY2022: 0288, 0656, and 0718
- **Intact** → Complete: 0284 (2020)
- Incomplete → Complete: 0417 (2019)
- **Intact** → Incomplete: 0452 (died 2020), 0475 (2021), and 0656 (2021)



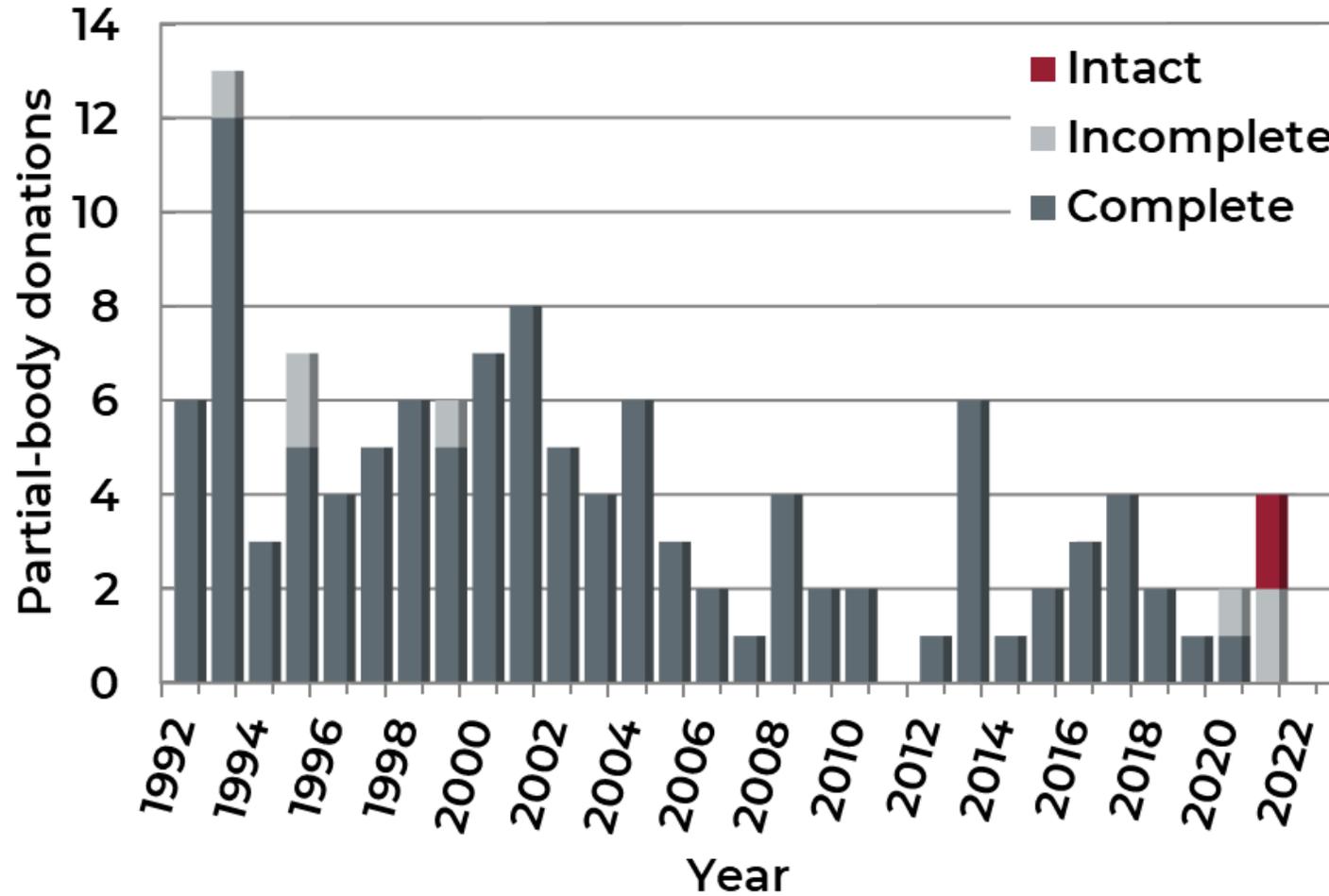
Case and Tissue Analysis: Summary



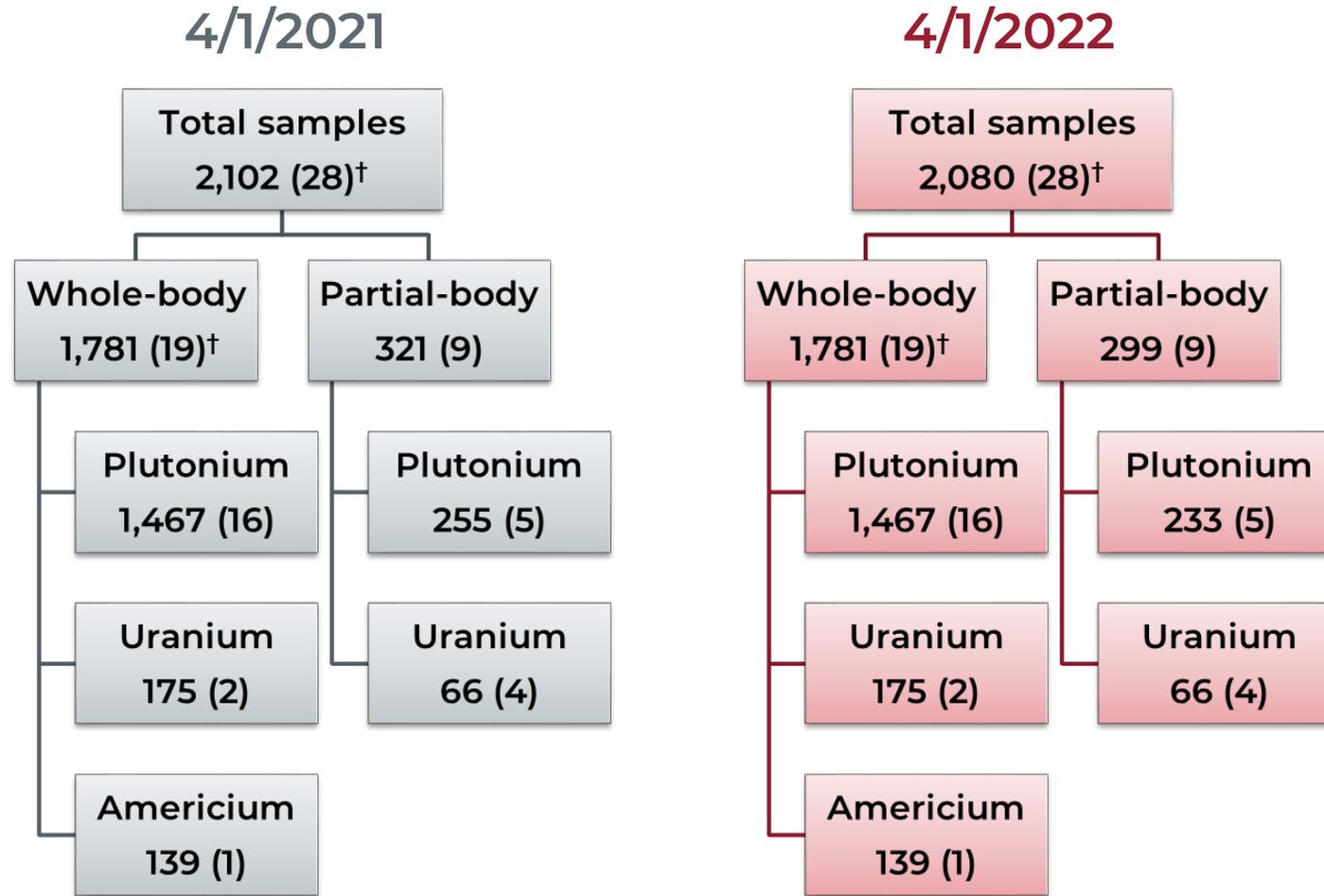
Case Status Summary: Whole-body



Case Status Summary: Partial-body



Tissue Sample Backlog

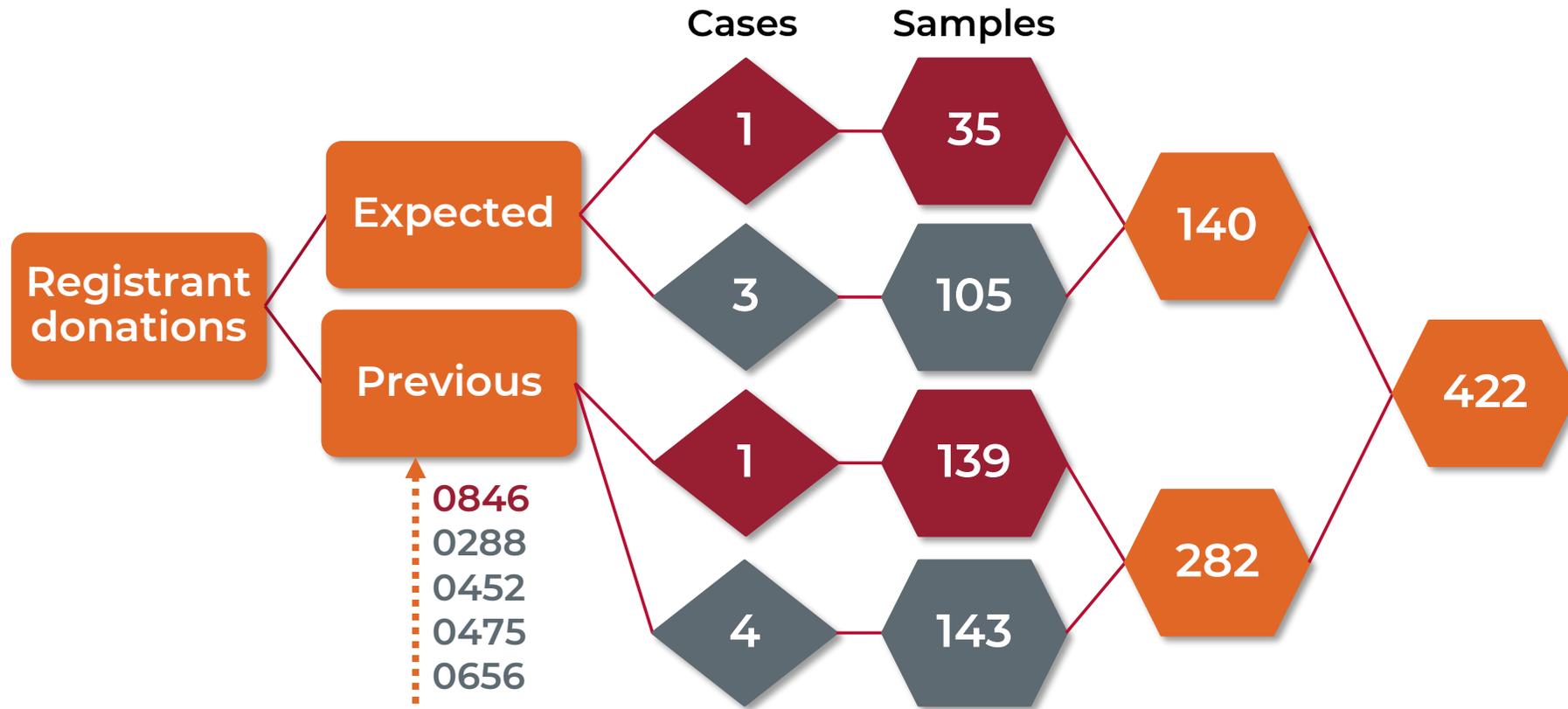


[†] excluding two Thorotrast cases



FY2023 Analysis Strategy

- Tissue analysis throughput: 400-450



■ Whole-body ■ Partial-body



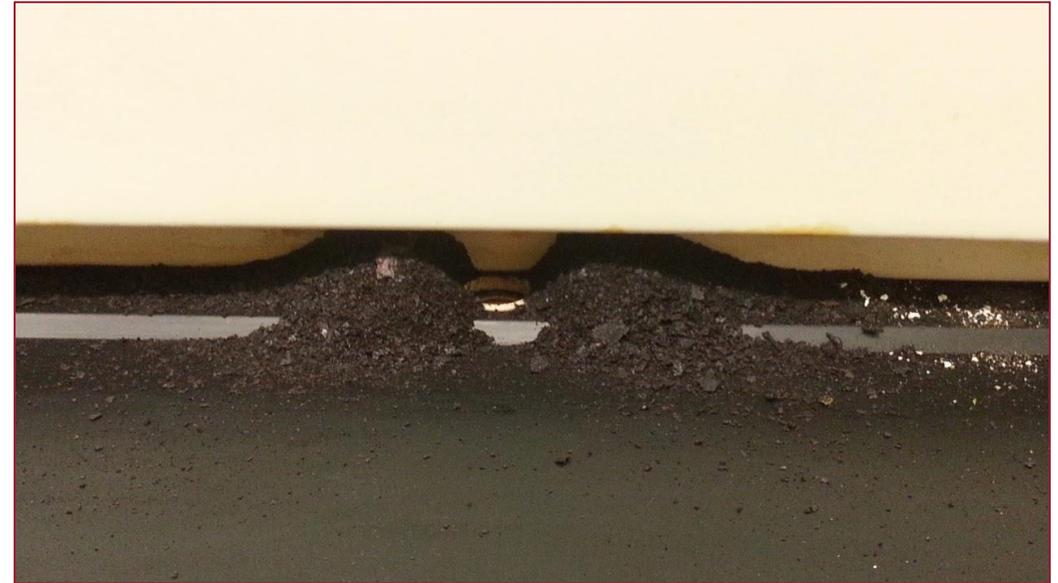
Laboratories Facility Maintenance

- Radiation contamination survey by USTUR personnel (quarterly)
- Radioactive waste disposal by the WSU RSO (quarterly)
- HVAC system general maintenance by a certified contractor (quarterly)
- Hazardous (acid) waste disposal by the WSU EH&S (biannually)
- Medical waste disposal by a certified contractor (biannually)
- Fire safety inspections by a certified contractor(annually)
- RAM license 5-year renewal completed in FY2022



Equipment Upgrades (I)

- Problems with fume hoods and ducting
- Patching damages only delayed the inevitable



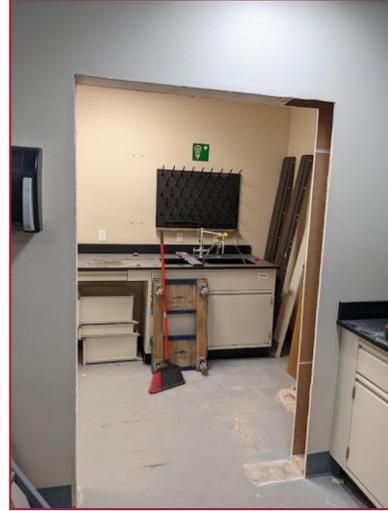
Equipment Upgrades (II)

- 2020-2021: winds combined with corrosion of exhaust fan caused damage



Equipment Upgrades (III)

- Final quotes received: April 2021
- PO submitted: July 2021
- Engineering drawings approved: November 2021
- Preparation work (plumbing, electrical): November 2021
- Installation Began: February 2022

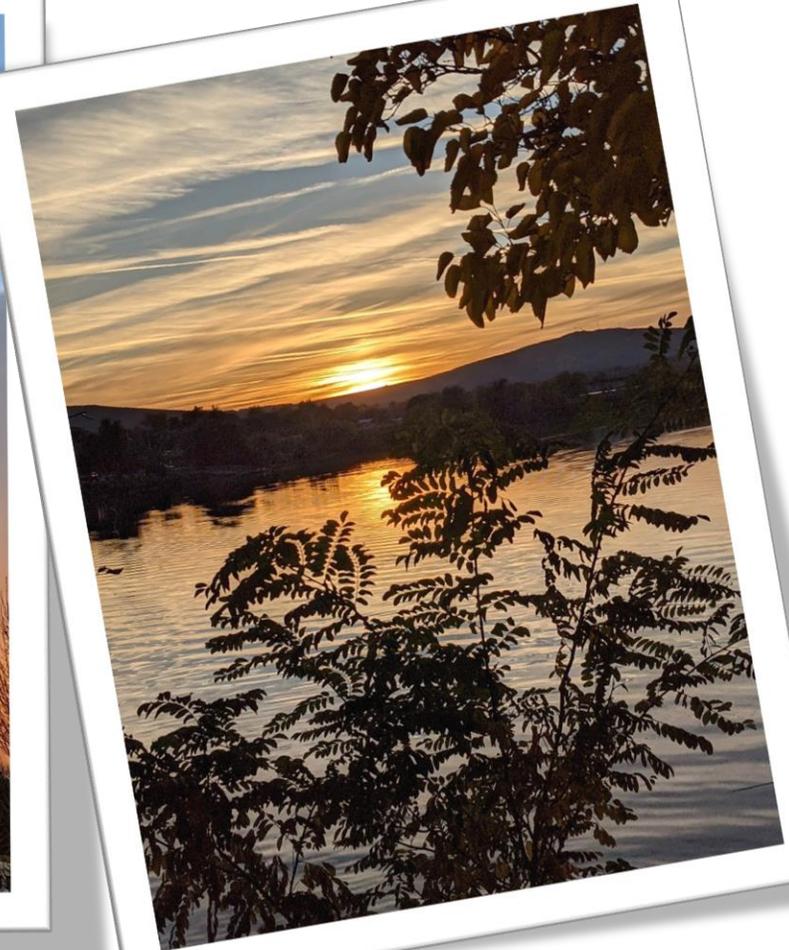


Equipment Upgrades (IV)

- Ductwork installation approval pending



QUESTIONS?



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