



THE HANFORD SITE

A/AX Tank Farms Single-Shell Tank Retrievals

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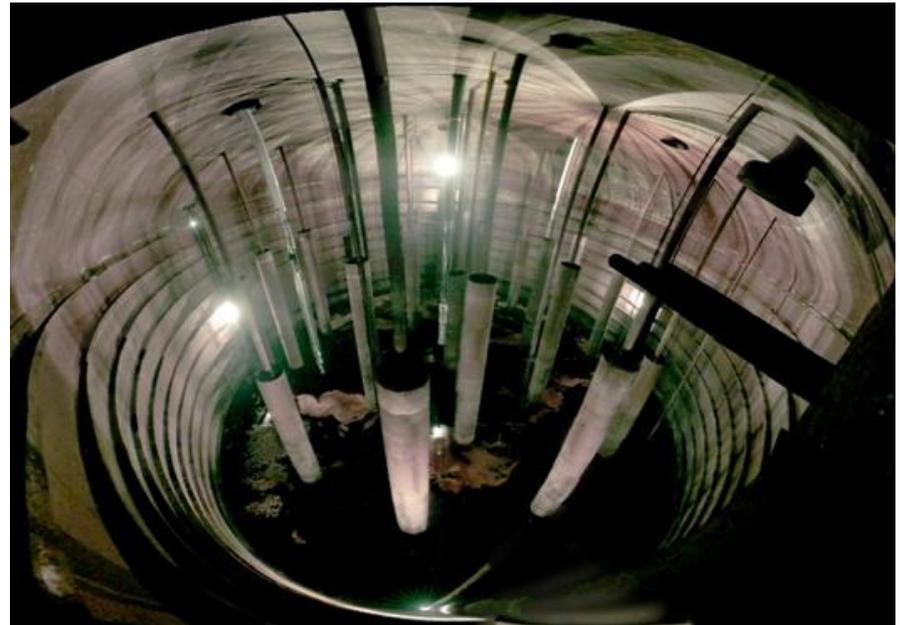


AX-102 Sluing Operations

A Farm Exhausters



- Operations started Aug. 31, using low-pressure sluicing
- 69 percent of waste recovered
- Challenges with fogging and lighting
- Tank vapor protections demonstrated effective



Interior of AX-102 before retrieval

AX-102 Equipment Issues and Path Forward



Sluicer #3 bent hydraulic ram piston at elbow

Status

- Retrieval operations suspended Sept. 13 due to equipment issues
- No effect on waste containment or worker safety

Path Forward

- Complete a cause analysis and repairs to resume operations
- Continue cycles of low-pressure sluicing and high-pressure water
- Lessons learned will improve future retrievals

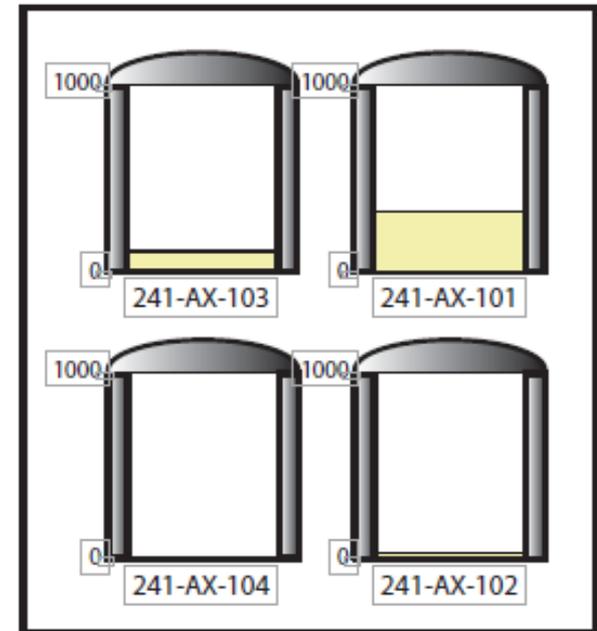


Sluicer #2 PUREX connector leak identified during water flush inspection

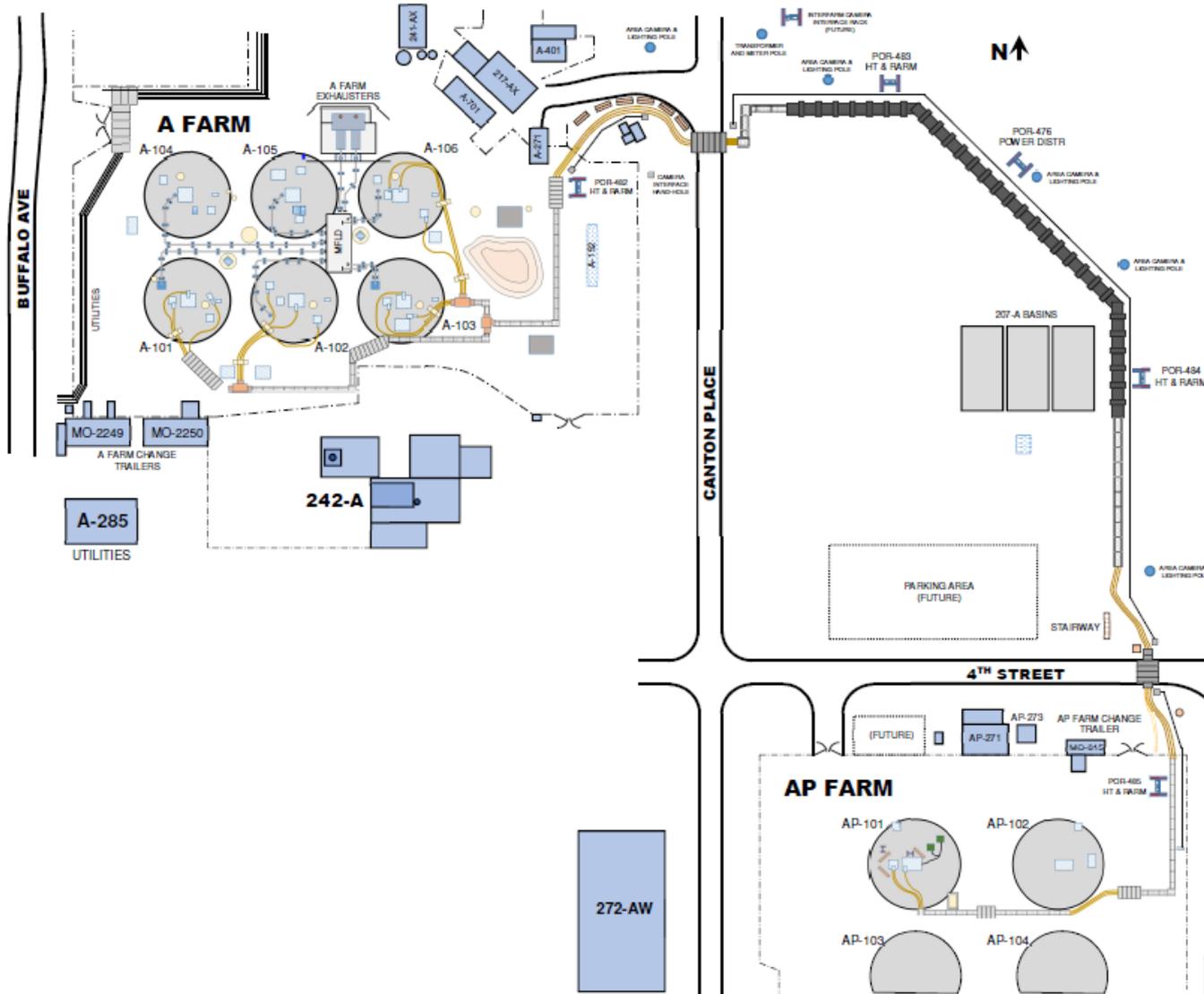
- Complete construction and start AX-104 retrieval during summer of 2020
- Complete waste retrieval system construction of AX-101 and AX-103 and retrieve in 2021-2022
- Attributes of remaining AX tank wastes:

Kgal

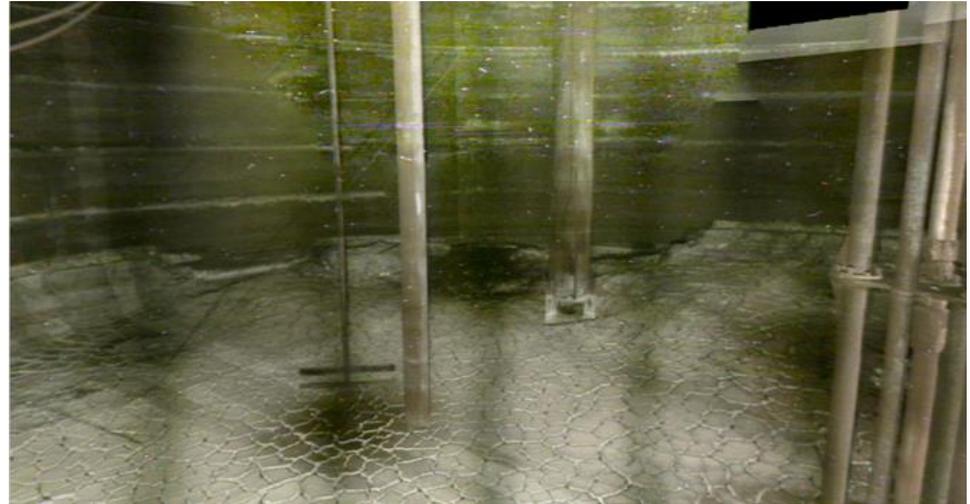
Tank	Sludge	Saltcake	Supernatant	Total Radionuclide Inventory (curies)
241-AX-101	2	318	0	747k
241-AX-102	6	24	6	386k
241-AX-103	8	96	4	778k
241-AX-104	5	0	0	1,870k



A Farm Waste Retrieval System Facility Inter-farm Locations



- Complete exhauster construction and start operations May 2020
- A Farm Waste Retrieval System engineering design and equipment fabrications
- Waste Management Area A/AX characterization and performance assessment development and deployment



A-104 (photo taken 2017)



A-105 (photo taken 2017)

New Retrieval Technology Deployment

Solutions in development:

- In-tank mechanical processing
- Limited fluids retrieval methods
- Improvements to existing equipment



Mobile Waste Gathering System (In-tank vehicle to grind/push waste)



Hanford Waste End-Effector (Localized, low-fluid sluicing/pumping head)



Extended Reach Sluicer Modification (Adds vertical motion capability)

- Safe and effective AX-102 retrieval approximately 69% complete
- AX-104 retrieval on schedule; will begin operations in summer 2020
- Retrievals present many challenges
 - Equipment issues in AX-102
 - New technology development