C Farm Retrieval Status

Blaine Barton

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C Farm Retrieval Status

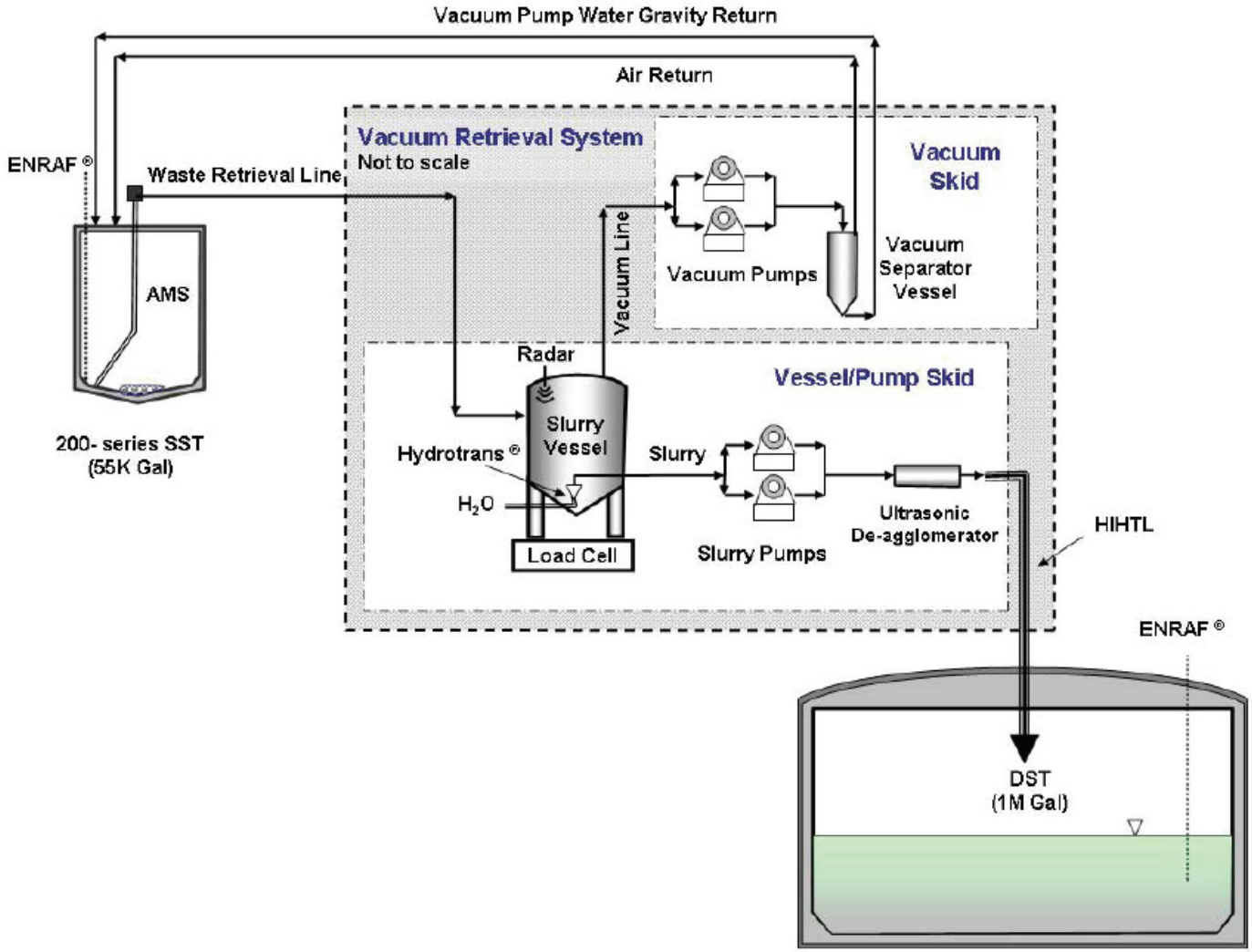
- Vacuum Retrieval
  - Retrieved tank C-204, completing retrieval of all four C-200 series tanks
- Modified Sluicing
  - Retrieved tank C-103
  - Tanks C-108 and C-109 > 80% retrieved
  - FoldTrack® to be used to complete tank C-108 and C-109 retrievals

FoldTrack® Manufactured by Non Entry Systems Ltd. UK Patent Application No: 0718573.9

Vacuum Retrieval

- Articulating mast system (AMS) can reach all parts of the bottom of the C-200 tanks
- Water is added via AMS flushes or scarifier nozzles on AMS to mobilize waste
- Air from tank head space used as pneumatic assist to draw waste up AMS to 250 gal slurry tank
- Waste transferred from slurry tank to double-shell tank storage

Vacuum Retrieval System



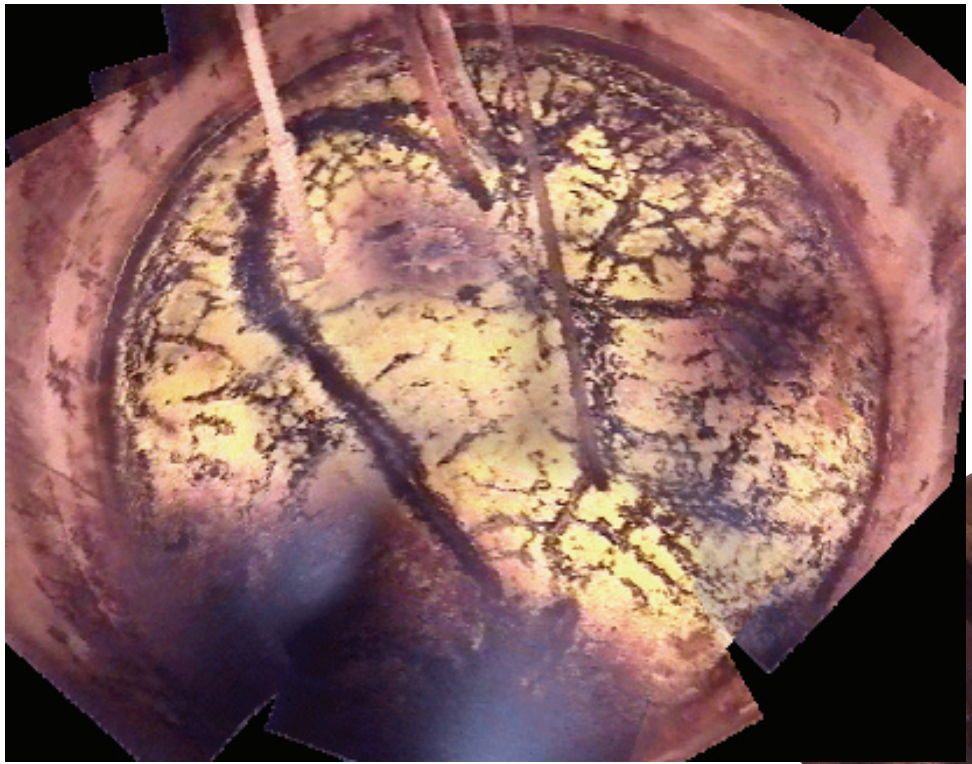
Vacuum Retrieval – Articulating Mast System

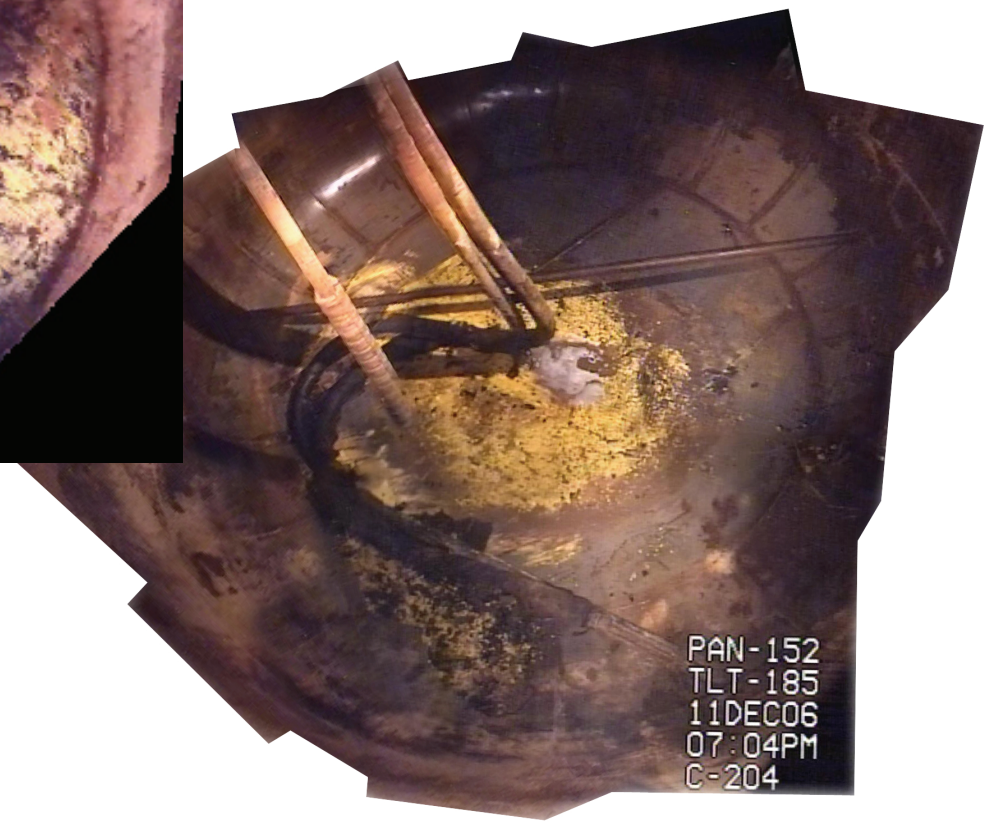
C-200 Tank Retrieval

Tank	Retrieval Duration	Efficiency (gal DST space/ gal retrieved)	Total Residual Waste[a]	Volume Retrieved
C-203	31 days (~40 shifts)	~26	19.9 ft^3 (149 gal)	334 ft^3 (2,500 gal)
C-202	17 days (18 shifts)	~12	20.9 ft^3 (156 gal)	167 ft^3 (1,250 gal)
C-201	30 days (36 shifts)	~48	20.5 ft^3 (153 gal)	90.3 ft^3 (676 gal)
C-204	35 days (46 shifts)	~35	19.6 ft^3 (147 gal)	180 ft^3 (1,350 gal)

[a]Total Residual Waste Volume = Volume of waste at bottom of tank at 95% upper confidence limit + waste on tank walls + waste on stiffener rings + waste in equipment

Tank C-204 Before and After Retrieval





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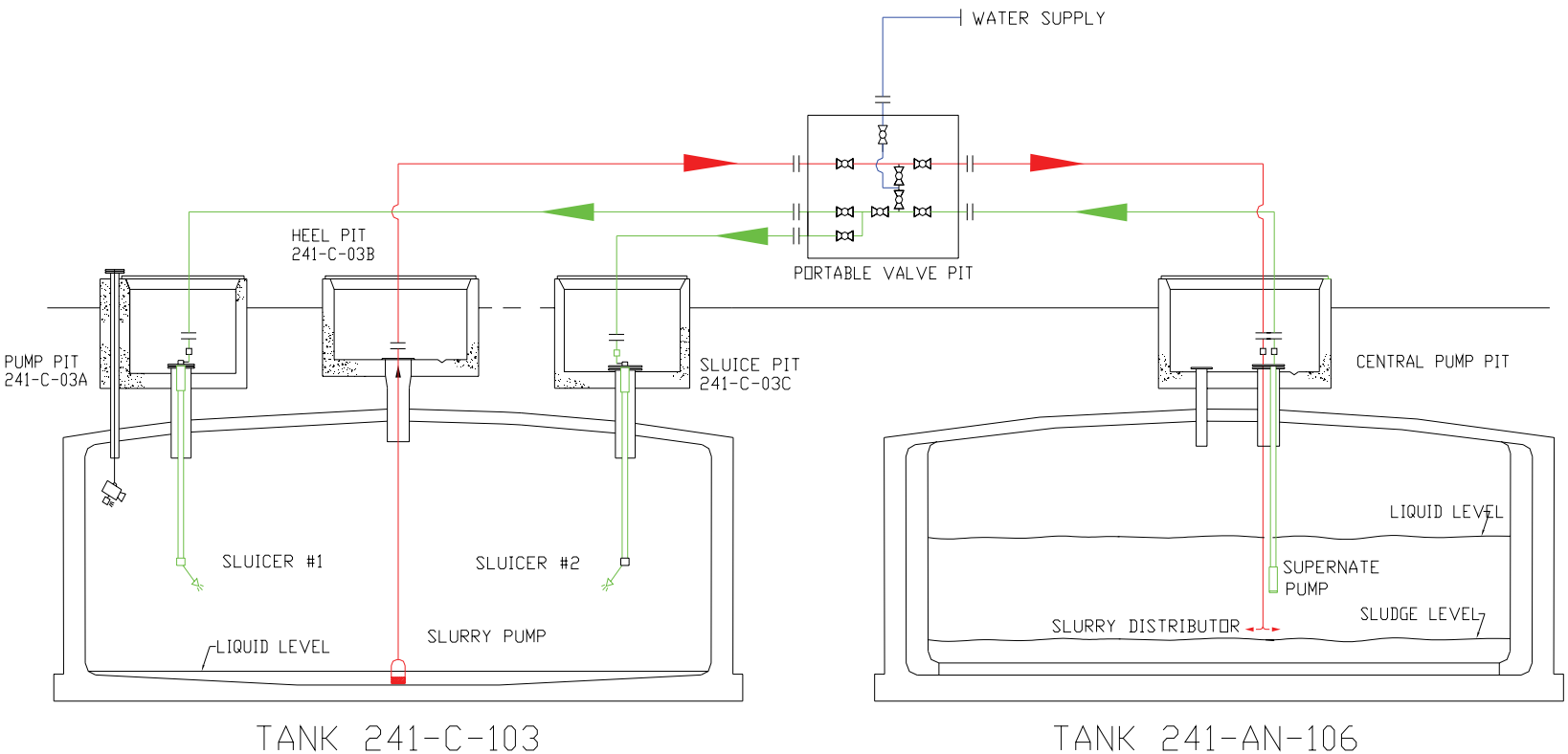
Modified Sluicing

- Single-Shell Tank (SST)
  - Two sluice nozzles on opposite sides of the tank
  - Centrally located pump
- Double-Shell (Receiver) Tank (DST)
  - Supernatant pump
  - Slurry distributor
- Supernatant from DST introduced into SST via sluice nozzles – breaks up and mobilizes solids in SST
- Resulting slurry pumped back to DST
- Supernatant is recycled until sluicing is no longer effective

Modified Sluicing System



Modified Sluicing

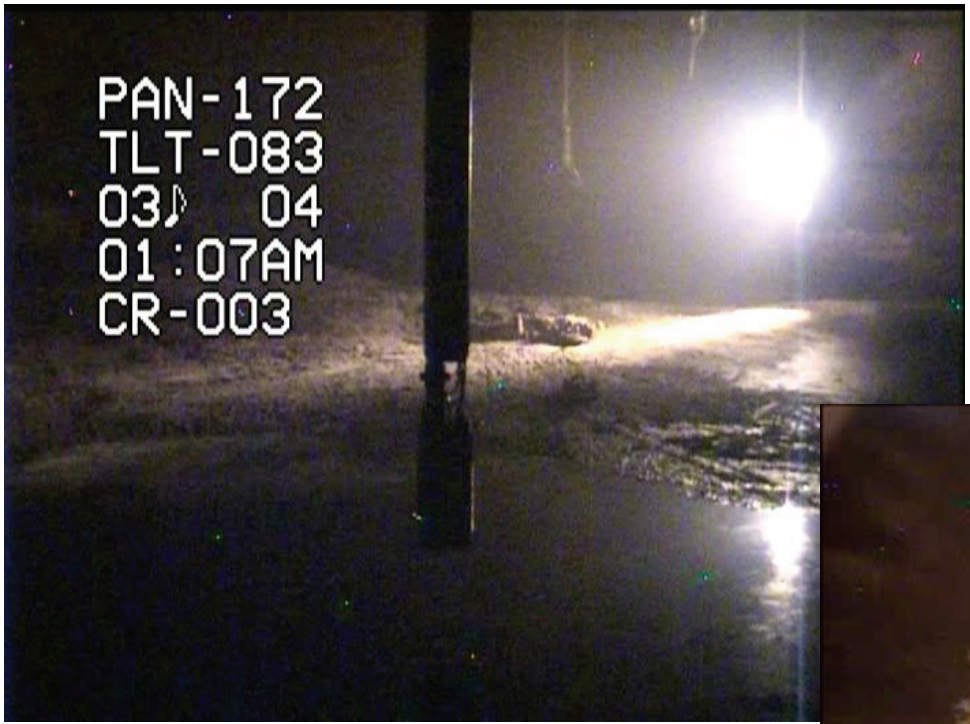
C-100 Tank Retrieval

Tank	Retrieval Duration	Slurry Pumped from SST to DST	Total Residual Waste	Volume Retrieved
C-103	50 days (100 shifts)	2.4E+06 gal	351 ft^3[a] (2,623 gal)	9,200 ft^3 (69,000 gal)
C-108	33 days (64 shifts)	1.8E+06 gal	960 ft^3 (7,200 gal)	7,900 ft^3 (58,800 gal)
C-109	57 days (80 shifts)	1.7E+06 gal	1,260 ft^3 (9,400 gal)	7,200 ft^3 (54,000 gal)

[a]Total Residual Waste Volume = Volume of waste at bottom of tank at 95% upper confidence limit + waste on tank walls + waste on stiffener rings + waste in equipment

Tank C-103 Before Retrieval

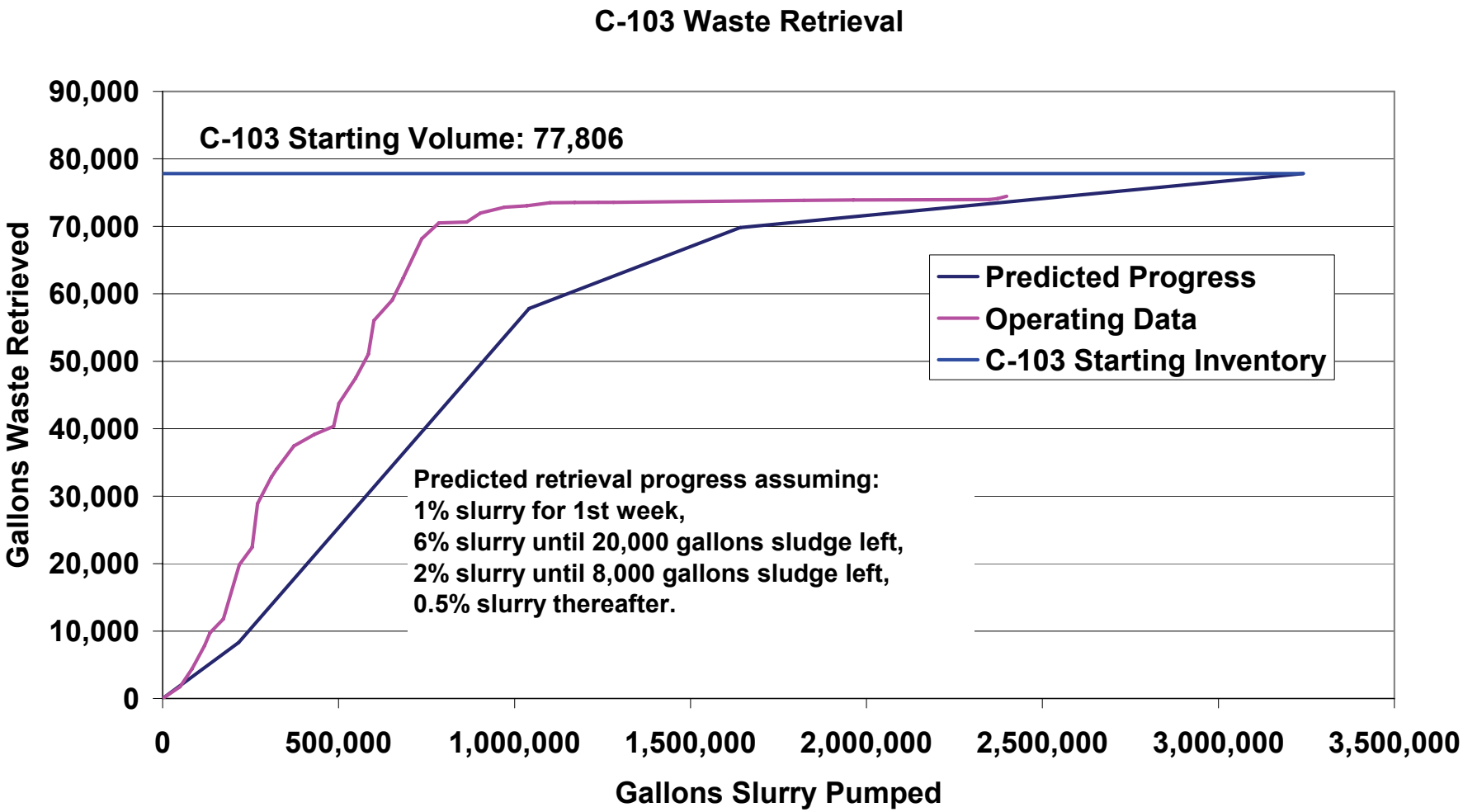
Tank C-103 After Retrieval



Tank C-103 Post-Retrieval Sampling

- Off-riser sampling system used to sample residual waste in tank C-103

Tank C-103 Retrieval Performance



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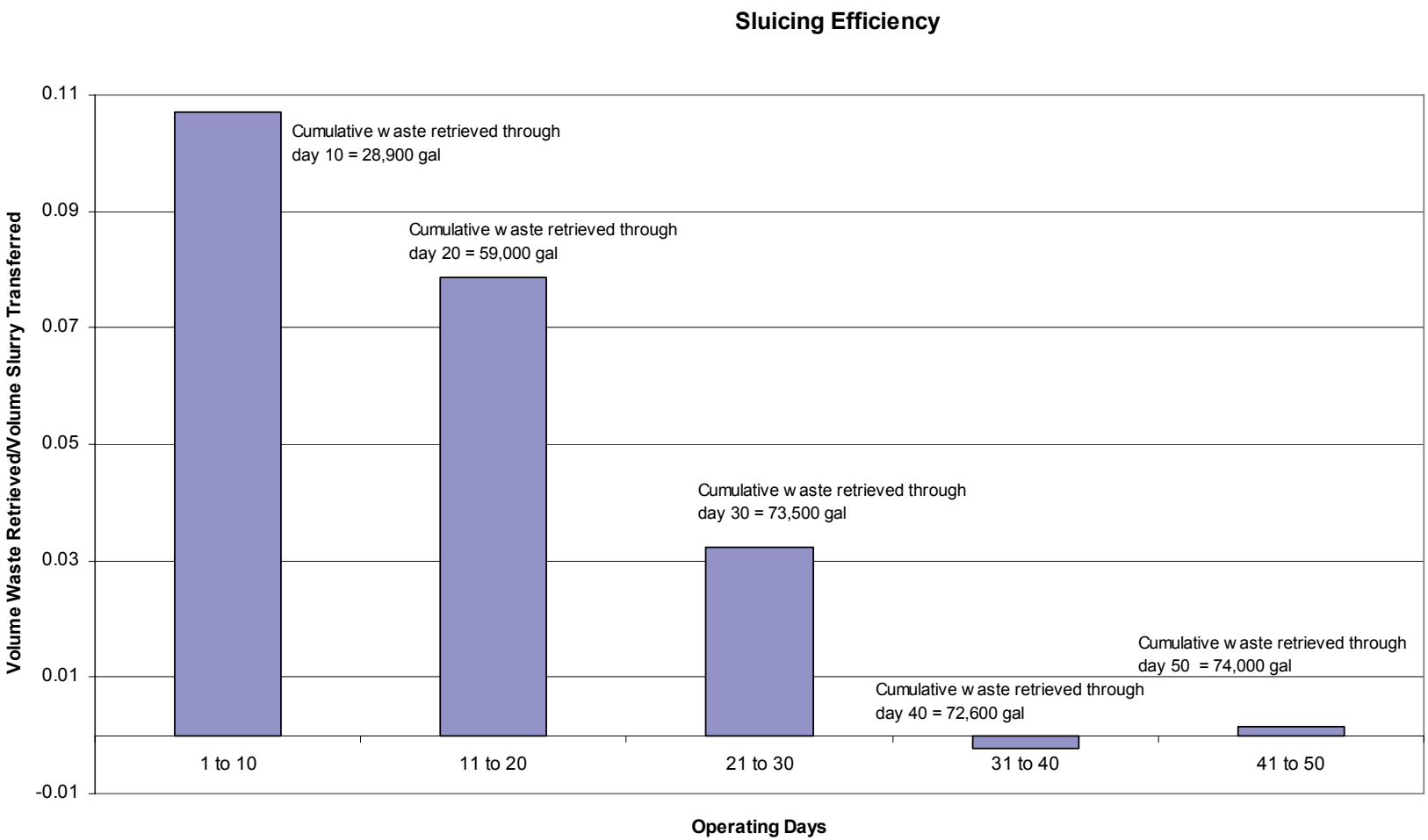
Tank C-103 Retrieval Efficiency



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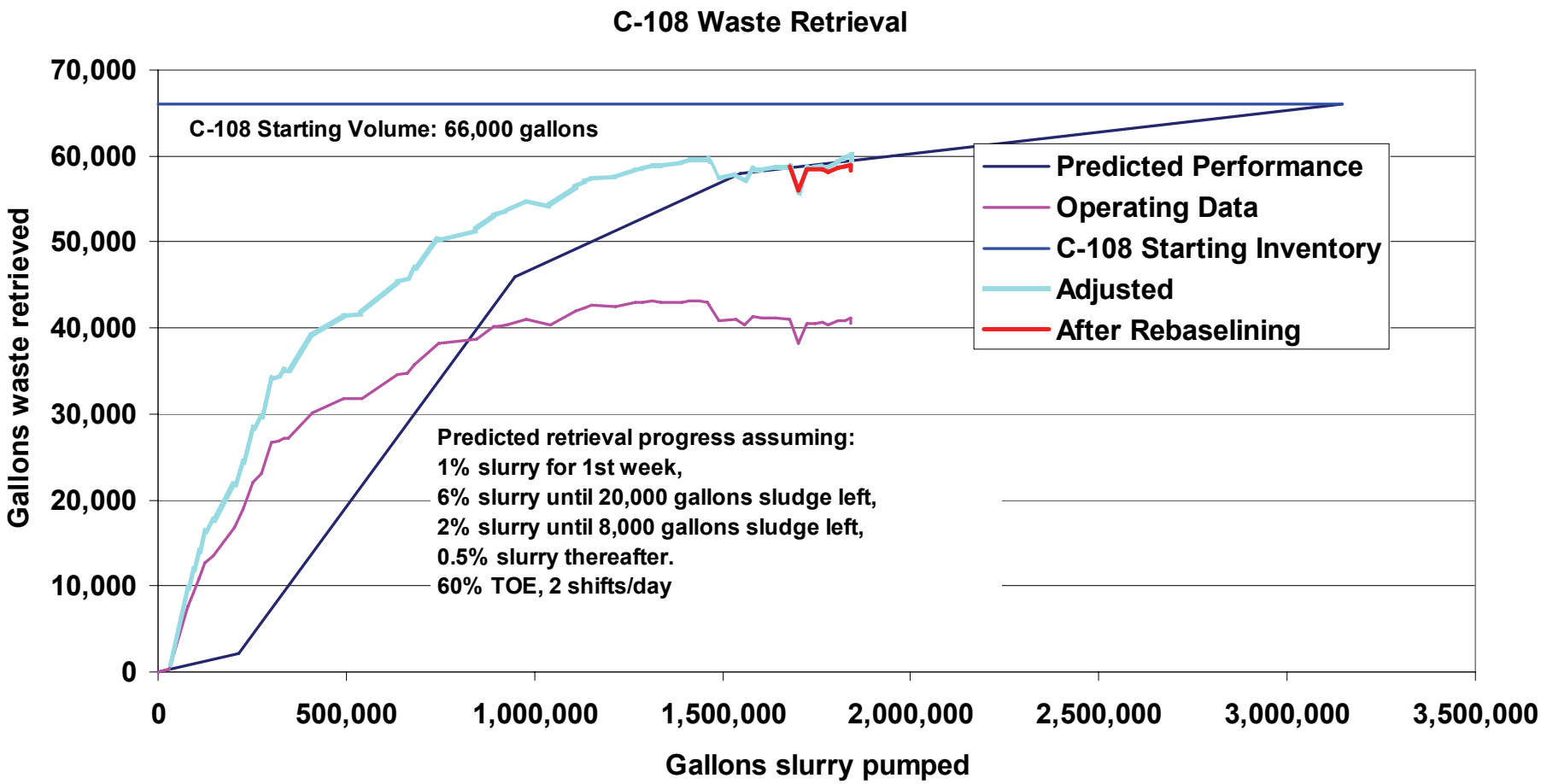
Tank C-108 Retrieval Performance



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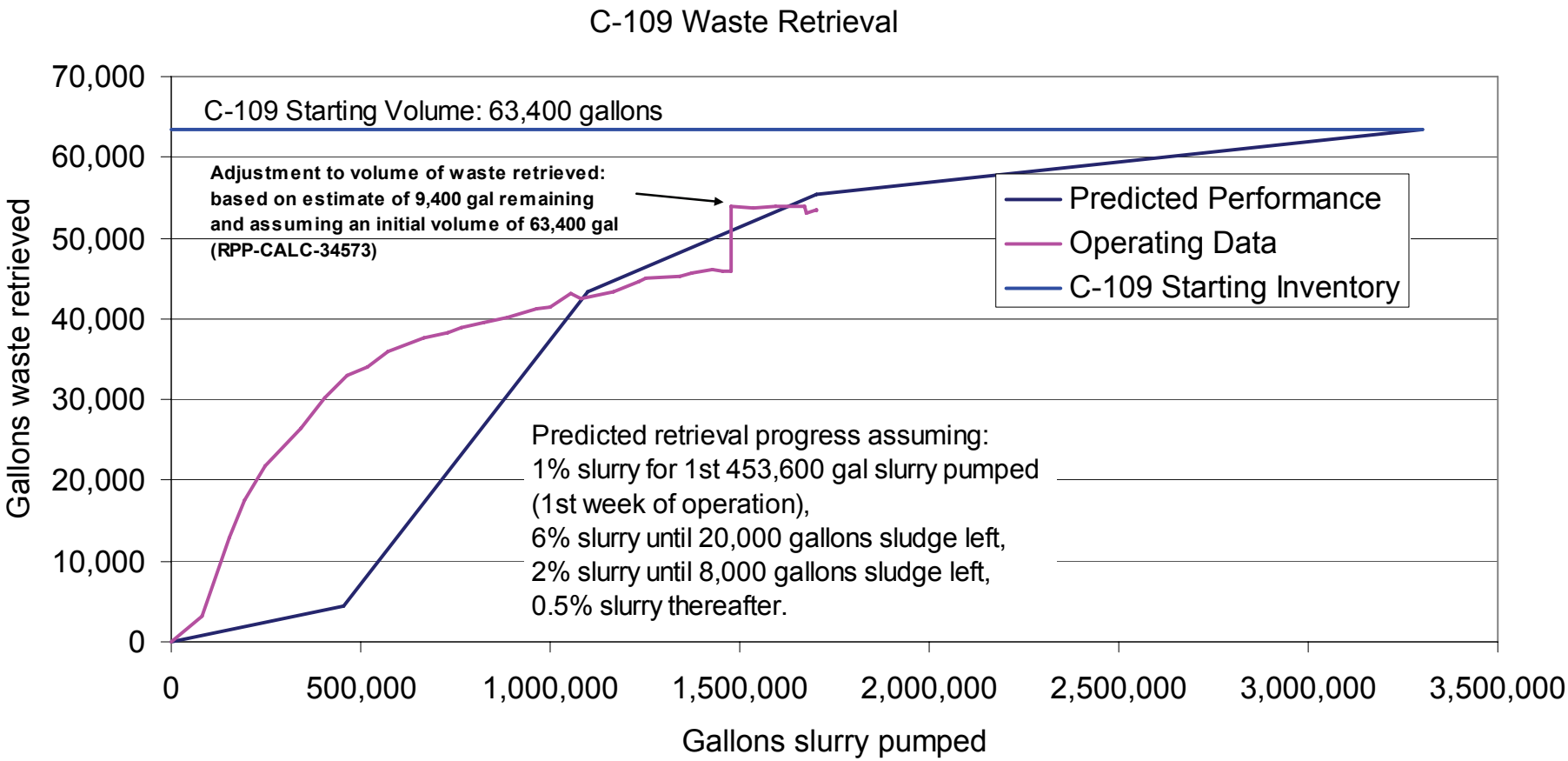
Tank C-109 Retrieval Performance



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Waste Remaining in Tanks C-108 and C-109

- Waste located primarily in two piles along the tank knuckle, between the two sluicers
- Waste exists as
  - Hard chunks, which are not broken up or moved by the sluicers
  - Smaller, gravel-like material
- Use of FoldTrack mobile retrieval tool planned for retrieval of remaining solids

Waste Remaining in Tank C-109

Questions?

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