



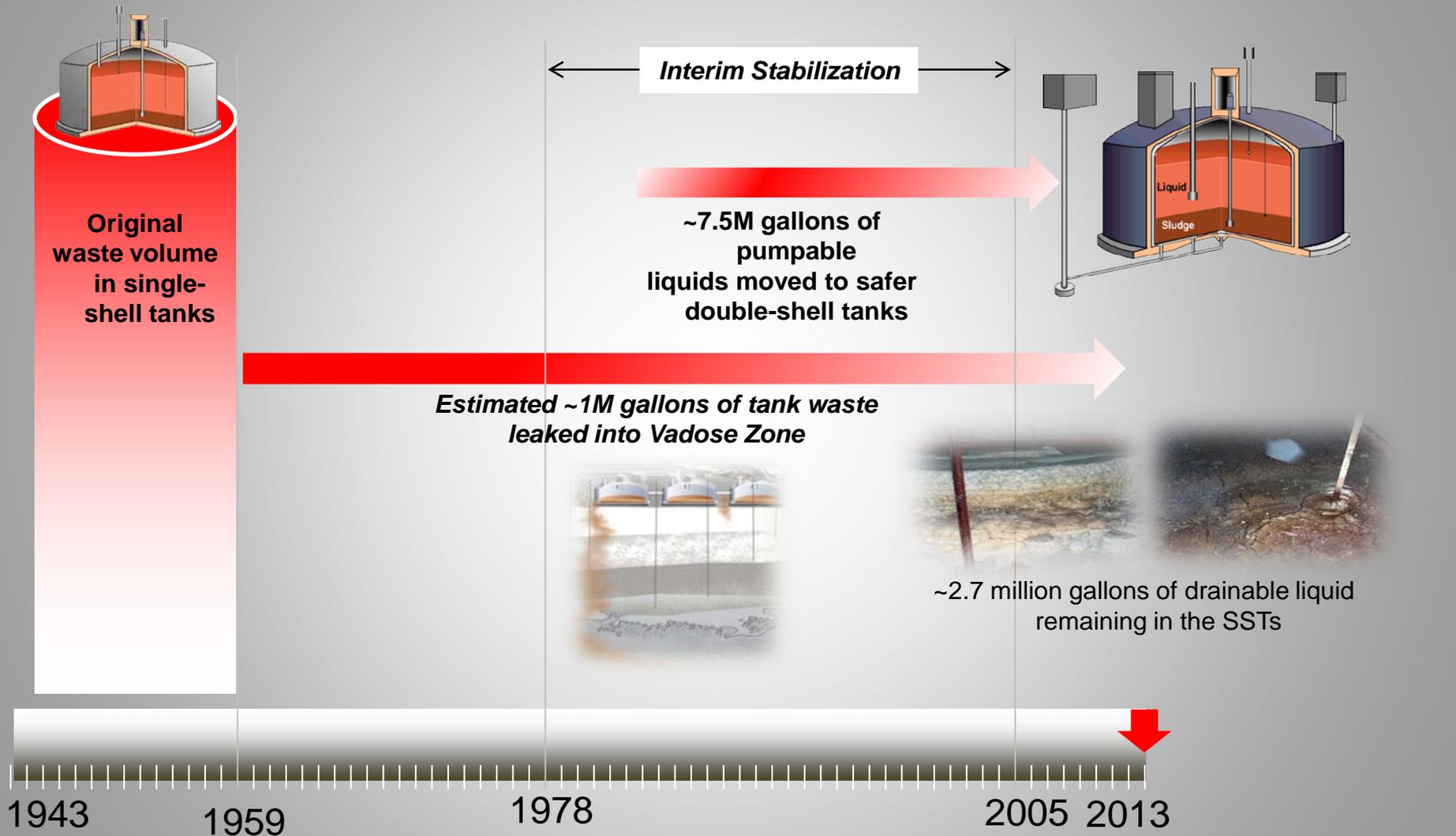
**U.S. Department Of Energy
Office of River Protection**

**Hanford Advisory Board
Tank Waste Committee**

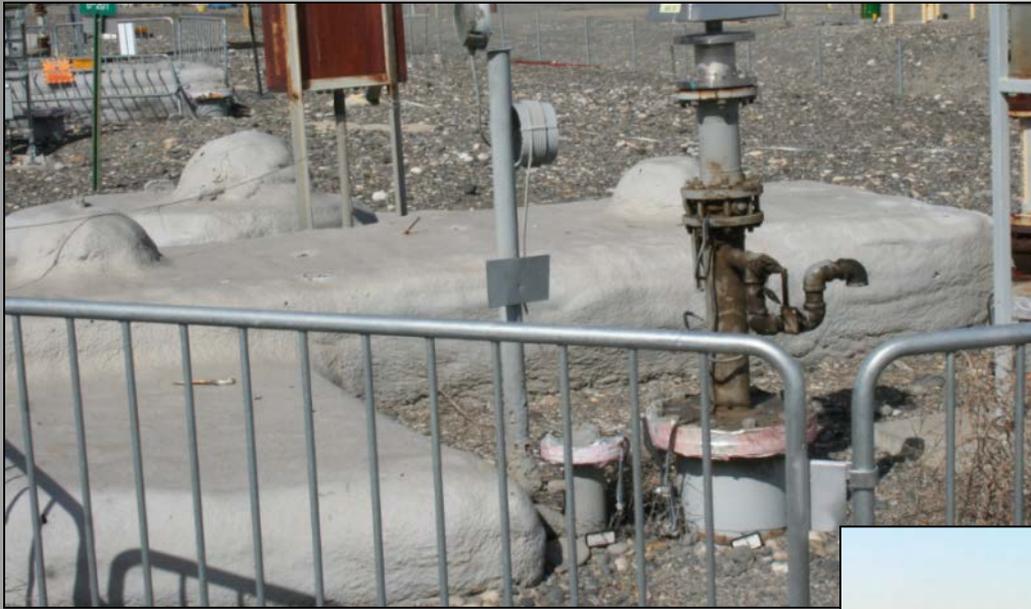
**Jeremy Johnson
Update on:
Single-Shell Tank T-111 and
Single-Shell Tanks with Decreasing Levels**

April 10, 2013

Interim Stabilization Program



Intrusion Prevention Actions and Monitoring

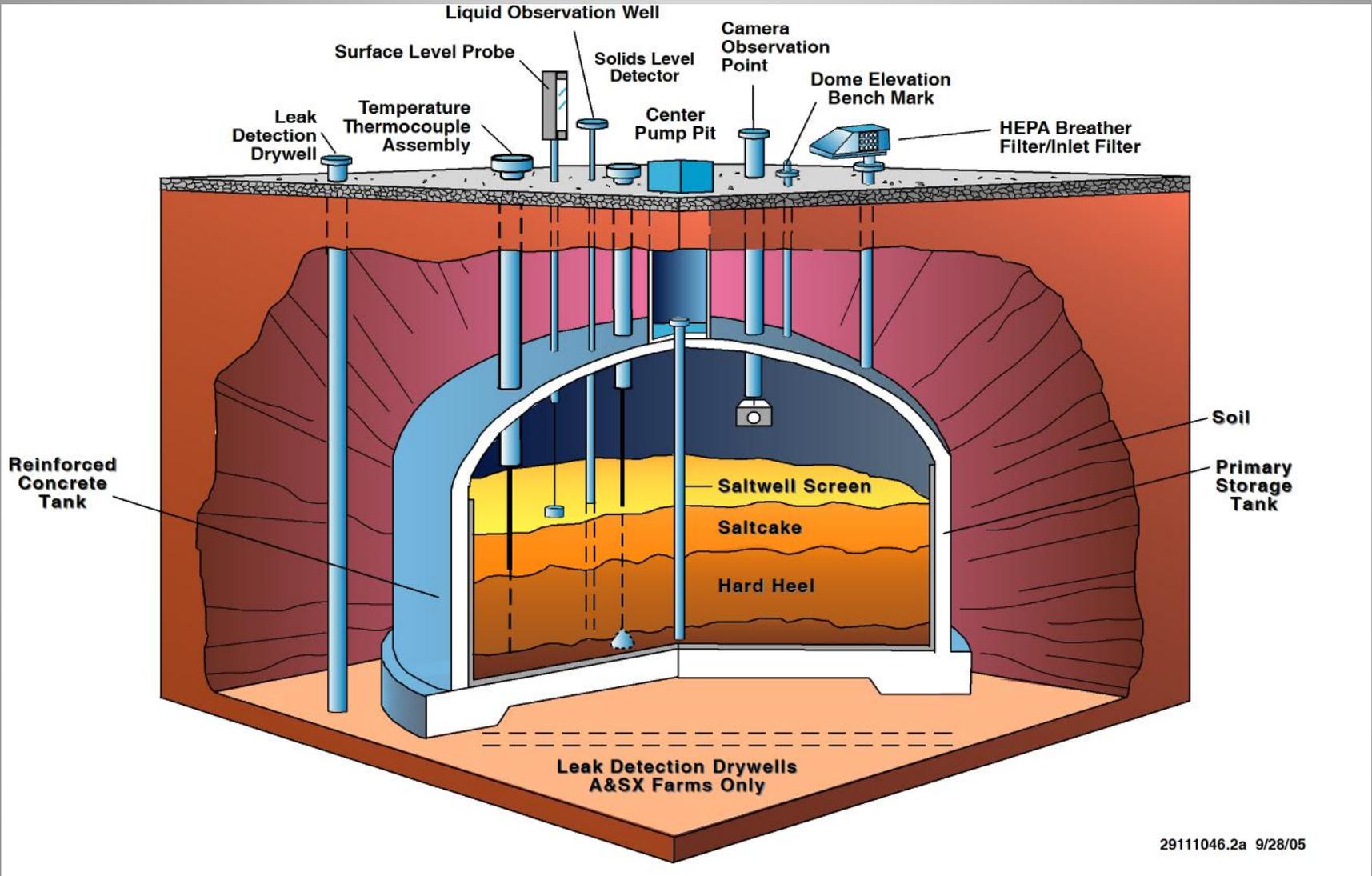


Foamed Pit Cover Block – B-200



Surface Water Run-on Berm

SST Monitoring



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Monitoring Instruments

■ Honeywell Enraf

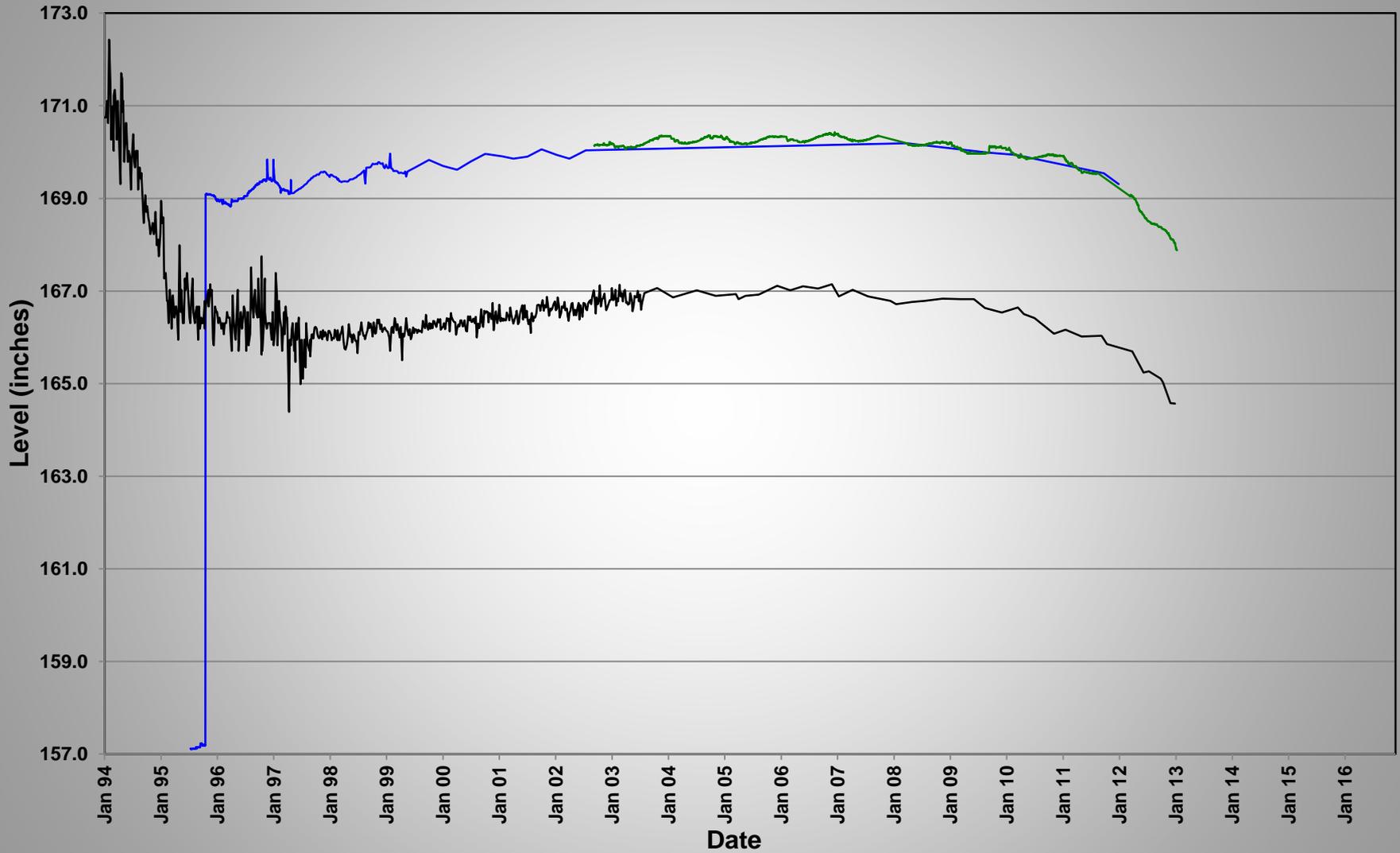
- All tanks equipped for intrusion and/or leak detection
- Displacer attached to measuring wire lowered in tank
- Measuring drum, force transducer and servo motor above grade
- Measurement accuracy very good for liquid surface
- Solid or semi-solid waste surfaces are non uniform and can make trending of measurement data difficult

■ Liquid Observation Well (LOW)

- Approximately half of all SSTs equipped for intrusion and/or leak detection
- Tube with a capped end is permanently installed in tank
- Neutron radiation probe lowered into tube from above grade
- Depth of waste scanned for change in neutron counts indicating a liquid level

Retrieval Date: 01/10/2013
Start Date: 01/01/1994
End Date: 01/10/2013

T-111 Surface Level



Confirmed Liquid Level Decrease on Single-Shell Tank T-111

1994 View from Inside Tank T-111 Prior to Interim Stabilization

- T-111 was classified as an assumed leaker in 1979
- In February 1995, interim stabilization was completed
- Estimate loss of liquid from this tank ranges from 150 to 300 gallons over the course of a year



Single-Shell Tank Level Decrease Evaluation

- **All 149 tanks screened for further evaluation**

- Both negative and positive trends identified

- **Evaluation plans developed**

- Level decrease plan issued in March

- **Initial evaluations**

- Tank conditions
- Evaporation
- Interim stabilization or LOW installation

- **Further evaluations and investigations prioritized**



High Priority Evaluations

- **Initial evaluation could not explain decrease**
 - Low waste temperature
 - Gas release not expected
- **T-111**
 - Visual inspection confirmed level decrease
- **Other priority tanks**
 - Visual inspections scheduled



Path Forward

- **Visual Inspections of B-203,B-204,T-203,T-204 and TY-105**
 - Along with inspections of tanks showing signs of possible intrusion
- **Making necessary changes to monitoring program so that subtle trends in data are evaluated sooner**
- **Working to accelerate retrieval of waste from tanks believe to be Contact-Handled (CH) Transuranic (TRU)**