



Waste Disposal Authority

# SAVANNAH RIVER SITE F AND H AREA TANK FARMS NRC ONSITE OBSERVATION VISIT FEBRUARY 2-3, 2016

SRR-CWDA-2016-00009, Revision 1





# Savannah River Site F and H Area Tank Farms NRC Onsite Observation Visit

*We do the right thing.*

## February 2, 2016

SRR-CWDA-2016-00009, Revision 1

# Agenda: 2/2/2016

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NRC F-Tank Farm and H-Tank Farm Onsite Observation			
Tuesday, February 02, 2016			
Start	End	Topic	Location
8:00	8:45	Badging/Travel	Meet 703-46A
8:45	9:00	Opening Remarks & Inbrief	705-1C, Room 34 A-B
9:00	9:30	<u>Status Update</u> -H and F Tank Farm -Tank Closure Documentation	705-1C, Room 34 A-B
9:30	11:00	<u>Technical Discussions [4]</u> -Tank 16 Grouting Operations (Update Since July 2015 OOV) -Tank 12 Grouting Operations	705-1C, Room 34 A-B
11:00	12:30	Lunch	766-H
12:30	2:30	H-Tank Farm Field Observation (Tanks 16 & 12)	H-Tank Farm
2:30	3:30	<u>Technical Discussions [3]</u> -NRC Technical Review Report: Tank 16 Inventory Documentation (ML15301A830)	705-1C, Room 34 A-B
3:30	4:15	NRC Internal Review	705-1C, Room 34 A-B
4:15	4:45	NRC Outbrief	705-1C, Room 34 A-B
4:45	5:00	Travel/NRC Depart	703-46A

(#) - Activity number from  
NRC Observation Guidance  
[ML15356A590]

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NRC F-Tank Farm and H-Tank Farm Onsite Observation			
Wednesday, February 03, 2016			
Start	End	Topic	Location
8:00	8:30	Badging/Travel	Meet 703-46A
8:30	8:45	Inbrief	705-1C, Room 34 A-B
8:45	9:45	<u>Technical Discussions [1,2]</u> -Status: Real Waste Testing -NRC Comments on FY2015 Test Report (SRNL-STI-2015-00446) -Status: Other DOE Research/Analyses -NRC Update on Research/Analyses	705-1C, Room 34 A-B
9:45	11:00	<u>Technical Discussions [3,5]</u> -Action Item 12 Follow-up (7/2015) -NRC Technical Review Report: Tank 16 Special Analysis (ML15301A710)	705-1C, Room 34 A-B
11:00	12:00	Lunch	766-H
12:00	1:30	<u>Technical Discussions [3]</u> -Tank 12 Closure Module -Tank 12 Special Analysis	705-1C, Room 34 A-B
1:30	2:00	NRC Internal Review	705-1C, Room 34 A-B
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2:45	3:00	Travel/NRC Depart	703-46A

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[ML15356A590]



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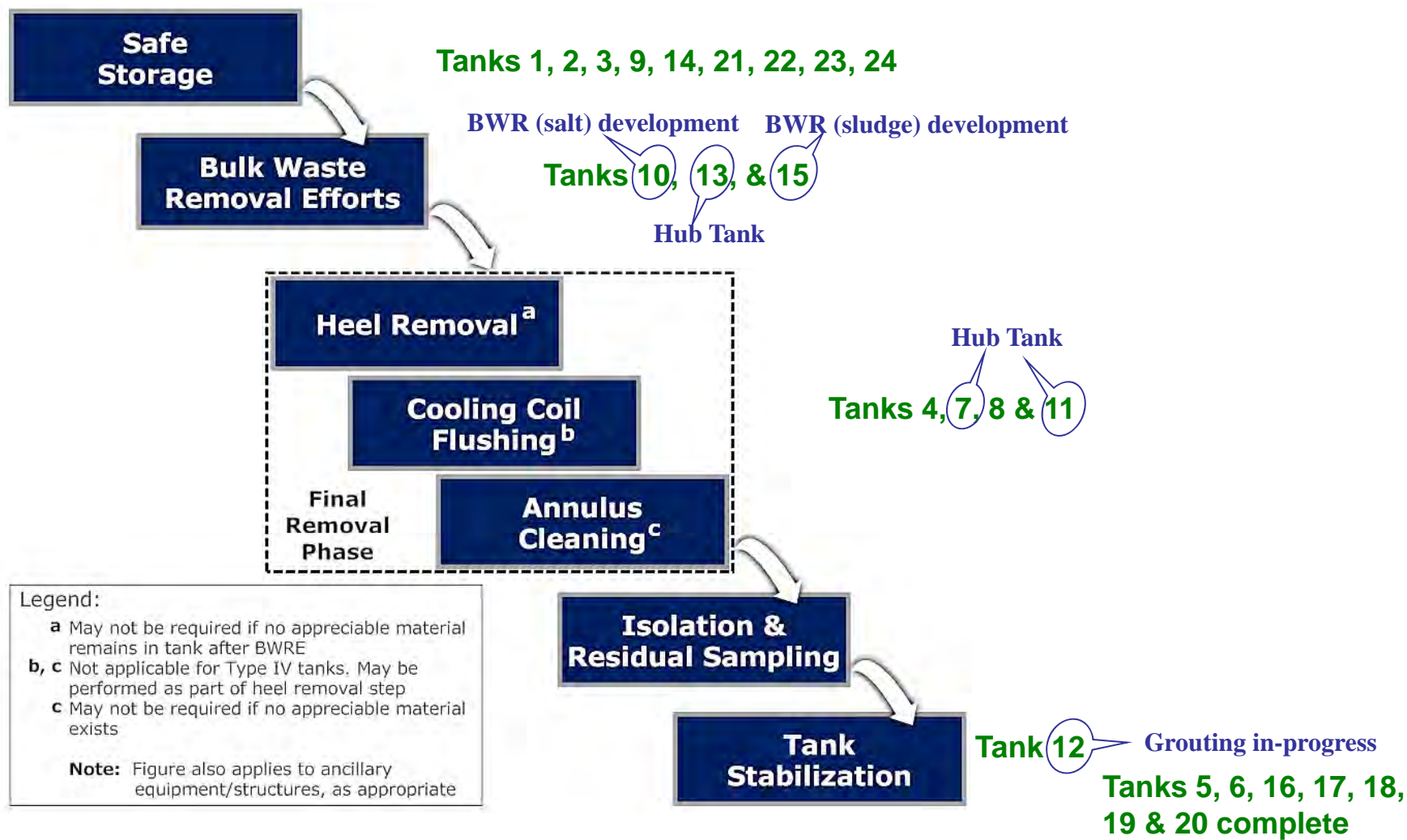
## Activities

1. Discuss the status of the high-level waste tank residual solids sample leaching experiments and the NRC comments on SRNL-STI-2015-00446.
2. Discuss other on-going DOE research or analyses to MFs listed in the NRC staff's combined monitoring plan.
3. Discuss Technical reviews of Tank 16 Final Inventory Documentation (ML15301A830), Tank 16 Special Analysis (ML15301A710), and Tank 12 Closure Module and Special Analysis.
4. Discuss Tank 16 and Tank 12 Grouting Operations.
5. Discuss the DOE response to follow-up action 12 from July 2015 OOV (SRR-CWDA-2015-00117), related to assignment of pore water chemistry in the CZ.

*[ Onsite Observation Guidance for February 2-3, 2016, Monitoring Visit to the Savannah River Site, F and H Area Tank Farms, ML15356A590. ]*

# Status: Tank Closure Progression

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- June 2015: Initiated Grouting of Tank 16
- July 2015: First Joint F and H Tank Farm Onsite Observation Visit
  - *The U.S. Nuclear Regulatory Commission July 28-29, 2015 Onsite Observation Visit Report for the Savannah River Site Combined F and H-Tank Farm Closure (Docket No. PROJ0734) [ML15239A628]*
- August 2015: Approval-Tank 12 Closure Module and Associated References
  - *Industrial Wastewater Closure Module for Liquid Waste Tank 12H, H-Area Tank Farm, Savannah River Site, SRR-CWDA-2014-00086 Rev. 0 [ML15153A375]*
  - *Utilized Tank 16 Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site, SRR-CWDA-2014-00106 Rev. 1 [ML15058A394]*

- September 2015: Completed Grouting of Tank 16
- October 2015: NRC Combined Monitoring Plan Issued
  - *U. S. Nuclear Regulatory Commission Plan for Monitoring Disposal Actions Taken by the U. S. Department of Energy at the Savannah River Site F-Area and H-Area Tank Farm Facilities in Accordance with the National Defense Authorization Act for Fiscal Year 2005 [ML15238A761]*
- November 2015: NRC Technical Review Report - Tank 16 Inventory
  - *Technical Review of Final Inventory Documentation for Tank 16H at the Savannah River Site [ML15301A830]*



- **November 2015: NRC Technical Review Report - Tank 16 Special Analysis**
  - *Technical Review of "Tank 16H Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site", SRR-CWDA-2014-00106 Rev. 1, February 2015 [ML15301A710]*
- **December 2015: Approval -Addendum to the Tank 12 Closure Module and Associated References**
  - *Addendum to the Industrial Wastewater Closure Module for Liquid Waste Tank 12H H-Area Tank Farm, Savannah River Site, SRR-CWDA-2014-00086, Revision 0, May 2015, Rev. 0 [ML15294A364]*
    - *Utilized Tank 12 Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site, SRR-CWDA-2015-00073 Rev. 1 [ML15294A360]*
- **January 2016: Initiated Grouting of Tank 12**

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### ■ Action Items

1. DOE to provide NRC an electronic copy of presentation material including action items and attendance rosters. [SRR-CWDA-2015-00095, Revision 1] (Complete: [ML15239A622] )
2. DOE to provide NRC an electronic copy of *Release of Radionuclides from Tank Waste Residual Solids*, SRNL-MS-2015-00116. (Complete: [ML15260A853] )
3. DOE to provide NRC a copy of the FY2015 summary report on tank waste residual solids testing when available.  
(Complete: SRNL-STI-2015-00446 [ML15324A143] )
4. DOE to provide NRC a copy of the FY2015 summary report on lysimeter testing when available.  
(Complete: SRRA021685-000007 [ML15324A142] )
5. DOE to provide information on lessons learned/procedure changes relative to the rejected Tank 6 grout truck. (Discuss - Current Visit)

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### ■ Action Items

6. DOE to provide the NRC a copy of the Grout Drop Testing Report.  
(Complete: RPT-5539-EG-0016 [ML15239A622] )
7. NRC to set up a telecon to discuss ongoing NRC grout testing relative to Tank Farm Grout. (To Be Scheduled)
8. DOE to provide SCDHEC with copies of the Tank 16 Grouting Strategy, Closure Assurance Plan, and Subcontractor Surveillance Plan. (Complete: 8/11/2015 e-mail from S. Ross )
9. DOE to provide the NRC with responses to Tank 16 Closure Module comments related to NRC General Comment #5 (Inventory).  
(Complete: U-ESR-H-00128 [ML15247A154] )
10. DOE to provide NRC video/photos of in-tank evaluation to determine placement locations for final bulk fill of primary tank and associated lessons learned.  
(Complete: SRR-CWDA-2015-00170 [ML15352A211] )

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## ■ Action Items

11. DOE to provide NRC video of grout flow into annulus duct inlet ventilation ports. (Complete: SRR-CWDA-2015-00170 [ML15352A211] )
12. DOE to provide NRC information on how pore water chemistry is assigned to case selection (GoldSim Probabilistic)  
(Complete: SRR-CWDA-2015-00117 [ML15247A138] - Follow-up Discussion 2/3/16)
13. DOE to include photos from Tank 16/12 field observation in Revision 1 of this presentation. (Complete: [ML15223B059] )
14. DOE to provide NRC video of Tank 16 grout operations (full video) (Complete: SRR-CWDA-2015-00170 [ML15352A211] )
15. DOE to provide NRC latest revisions of H & F Tank Farm FARMS reports.  
(Complete: SRR-FSH-2014-0014 [ML15247A100] & SRR-FSH-2014-0015 [ML15247A084] )

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2/2 am

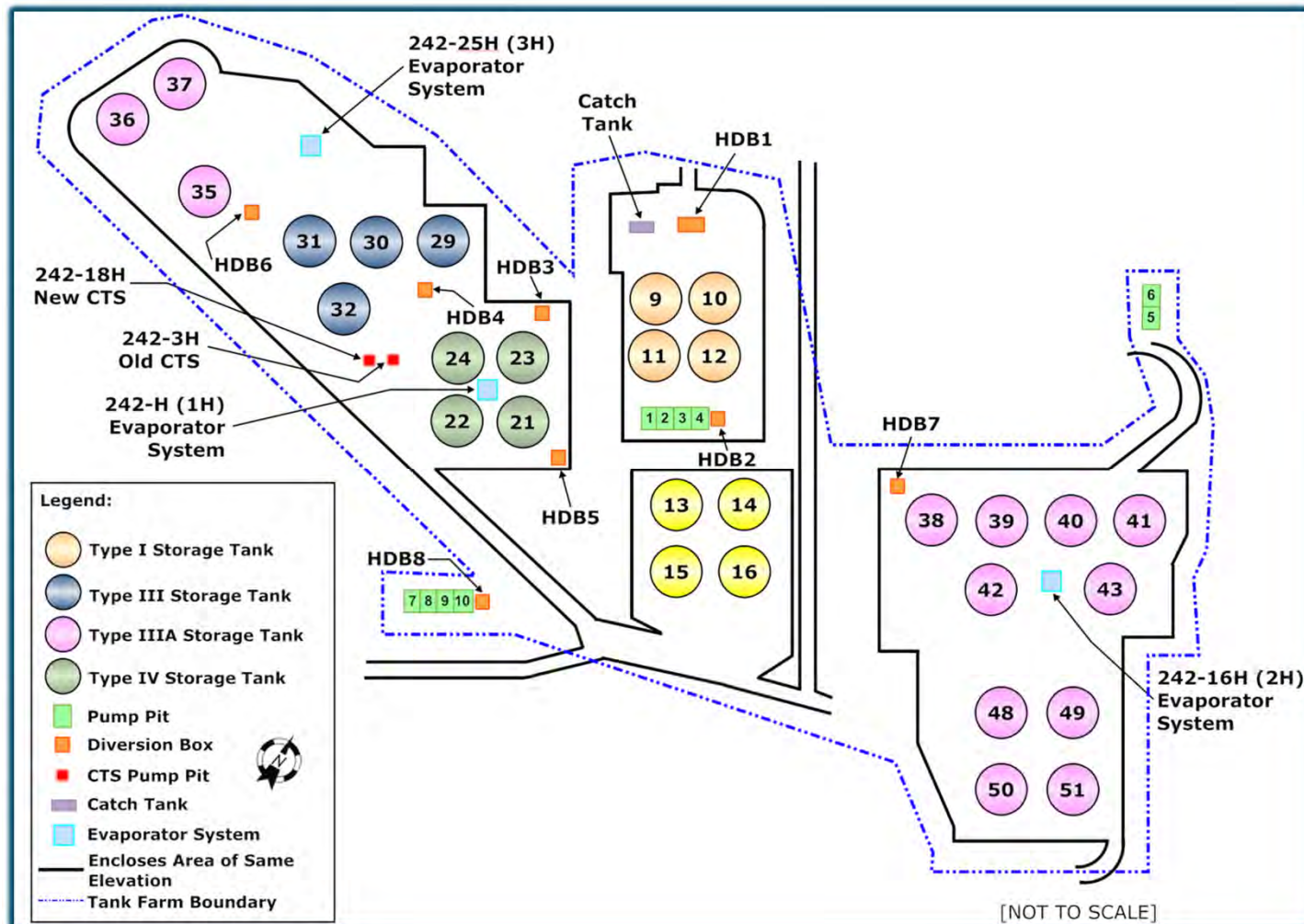
- Discuss Action Item 5 from July 2015 OOV
- (4) - Discuss Tank 16 and Tank 12 Grouting Operations

[ Onsite Observation Guidance for February 2-3, 2016, Monitoring Visit to the Savannah River Site, F and H Area Tank Farms, ML15356A590. ]



# H-Tank Farm

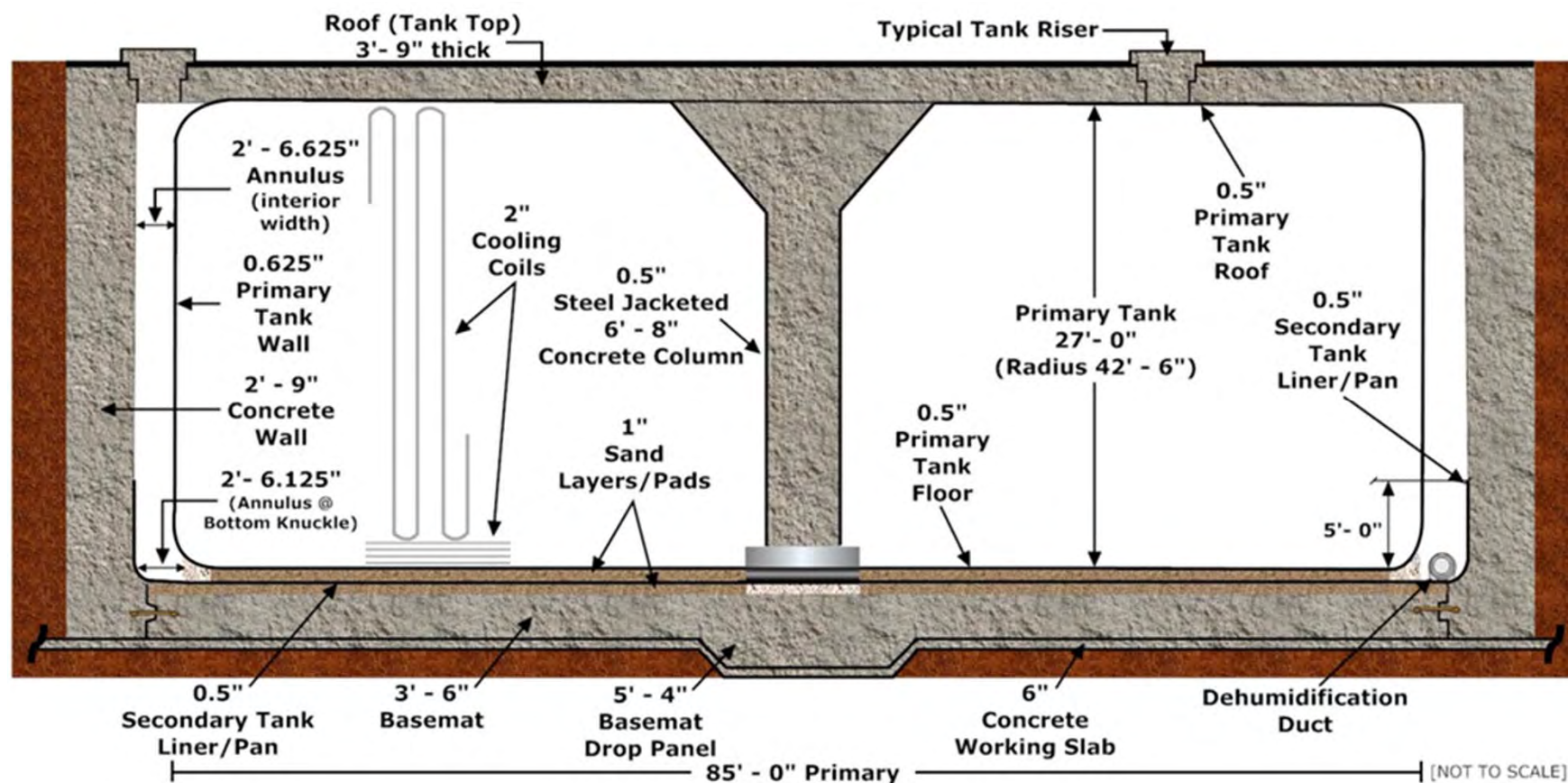
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# Tanks 16 Grouting

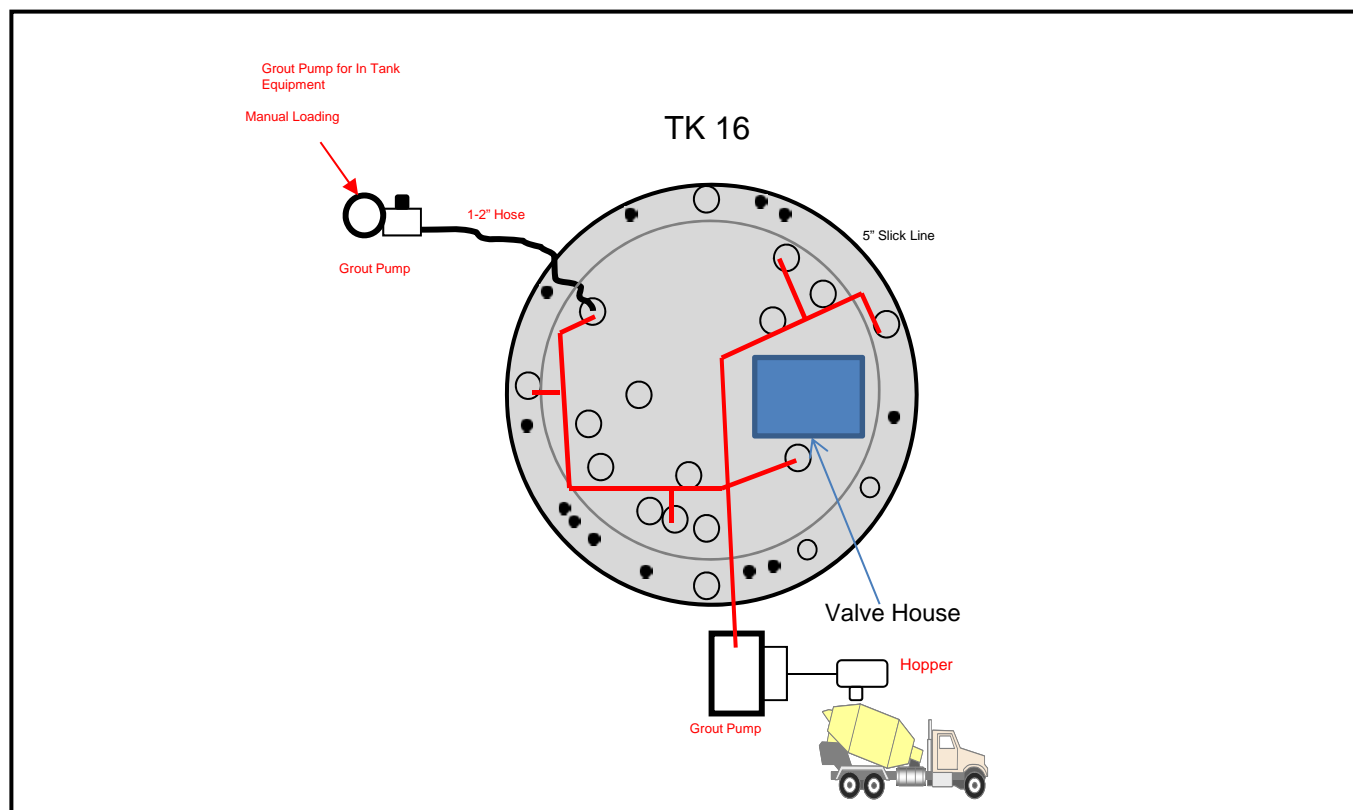
*We do the right thing.*

## Typical Type II Tank



# Tanks 16 Grouting Equipment

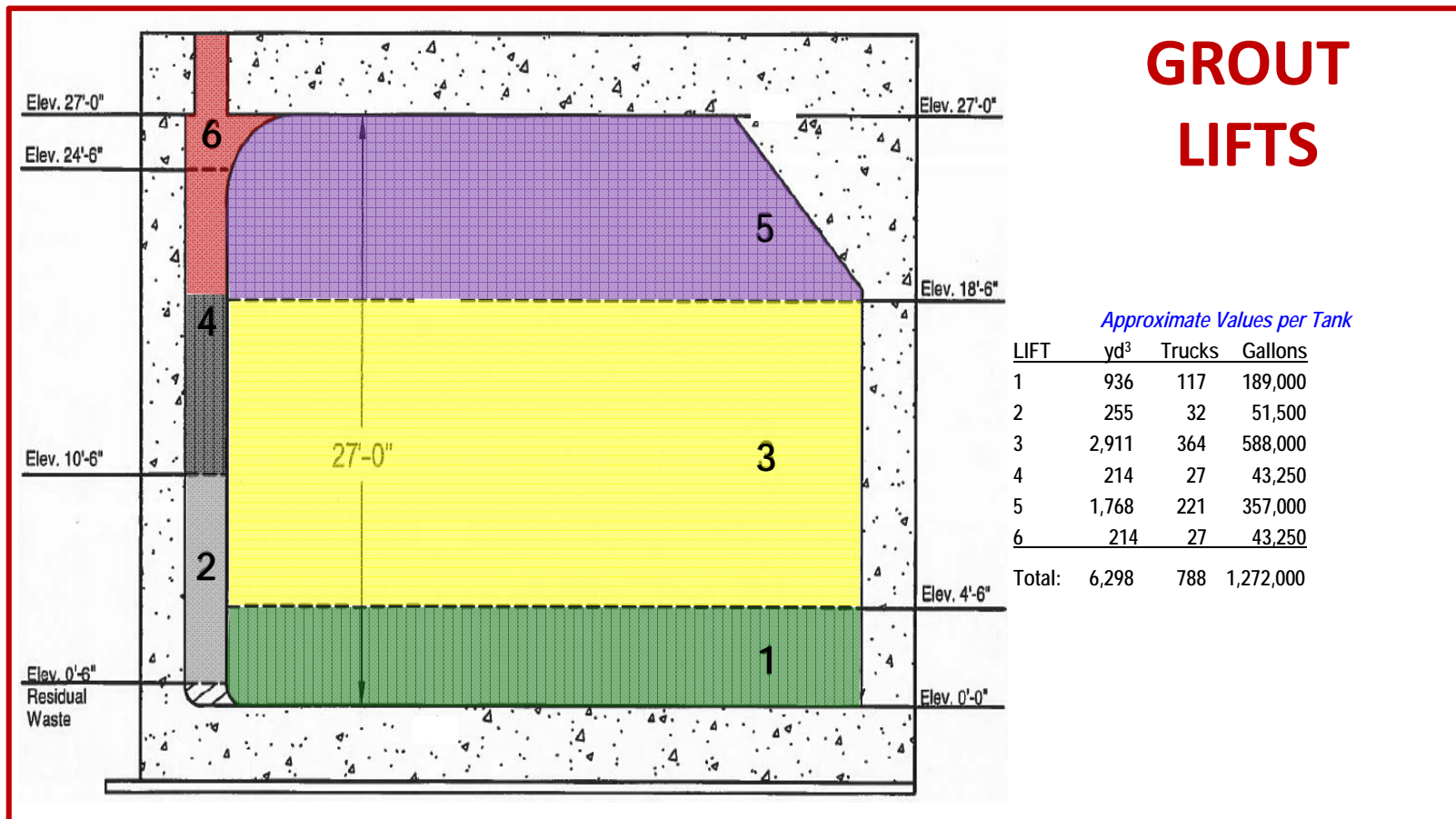
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Slickline will be arranged to one primary tank riser or annulus riser at a time using fittings. Actual slickline routing per field instruction. Routing shown is for illustration only.

# Tanks 16 Grouting Strategy

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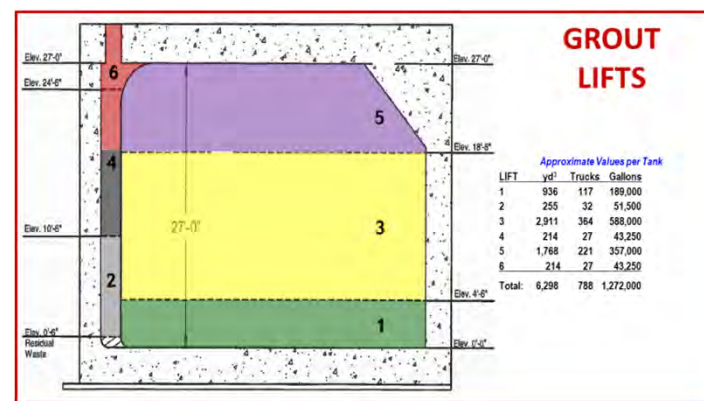
# Tanks 16 Grouting

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June-15							July-15						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6				1	2	3	4
		Lift-1		Lift-1						Lift-3			
7	8	9	10	11	12	13	5	6	7	8	9	10	11
	Lift-1		Failed Coil	Lift-1 & 2 <sup>2</sup>				Lift-3	Lift-4	Lift-5	Lift-5		
14	15	16	17	18	19	20	12	13	14	15	16	17	18
	Lift-2 & 3	Lift-3	Lift-3	Lift-3				Lift-5	Lift-5	Lift-5			
21	22	23	24	25	26	27	19	20	21	22	23	24	25
	Lift-3	Lift-3	Lift-3	Lift-3				Lift-5	Lift-5				
28	29	30					26	27	28	29	30	31	
	Lift-3	Lift-3						Eval. R1&3		Eval. 3'-6"			
August-15							September-15						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1			1	2	3	4	5
									Lift-6	Lift-6 <sup>3</sup>	Lift-5 <sup>3</sup>		
2	3	4	5	6	7	8	6	7	8	9	10	11	12
											Lift-5 <sup>3</sup>		
9	10	11	12	13	14	15	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28	29	30			
30	31												
	Lift-5												
Days Tank 16 primary tank received grout							Days Tank 16 failed cooling coils received grout						
Days Tank 16 annulus received grout							Days Tank 16 intact cooling coils received grout						
Days Tank 16 riser(s) received grout							Days Tank 16 in tank equipment received grout						

## Tank 16 Grouting Calendar<sup>1</sup>

SRR-CWDA-2015-00170, Rev. 0  
[ML15352A211]



Note: 9/3/2015 should reference note #4 below.  
SRR-CWDA-2015-00170 will be re-issued with correction as Revision 1.

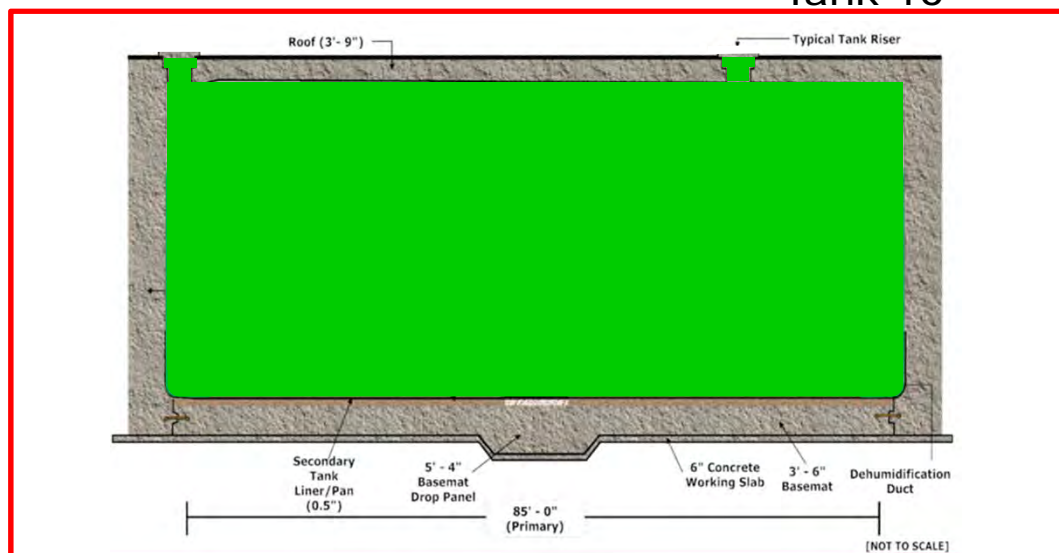
- <sup>1</sup> Video is available and provided for all dates noted in red.
- <sup>2</sup> Footage of grout entering the annulus ventilation duct can be found starting at 12:21 on 6/11/2015. (DVD Chapter: 5 L2 LP)
- <sup>3</sup> Last four trucks switched to clean cap grout.
- <sup>4</sup> Primary tank bulk fill completed with clean cap grout.
- <sup>5</sup> Annulus fill completed with clean cap grout.



# Status Tank 16

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Tank 16

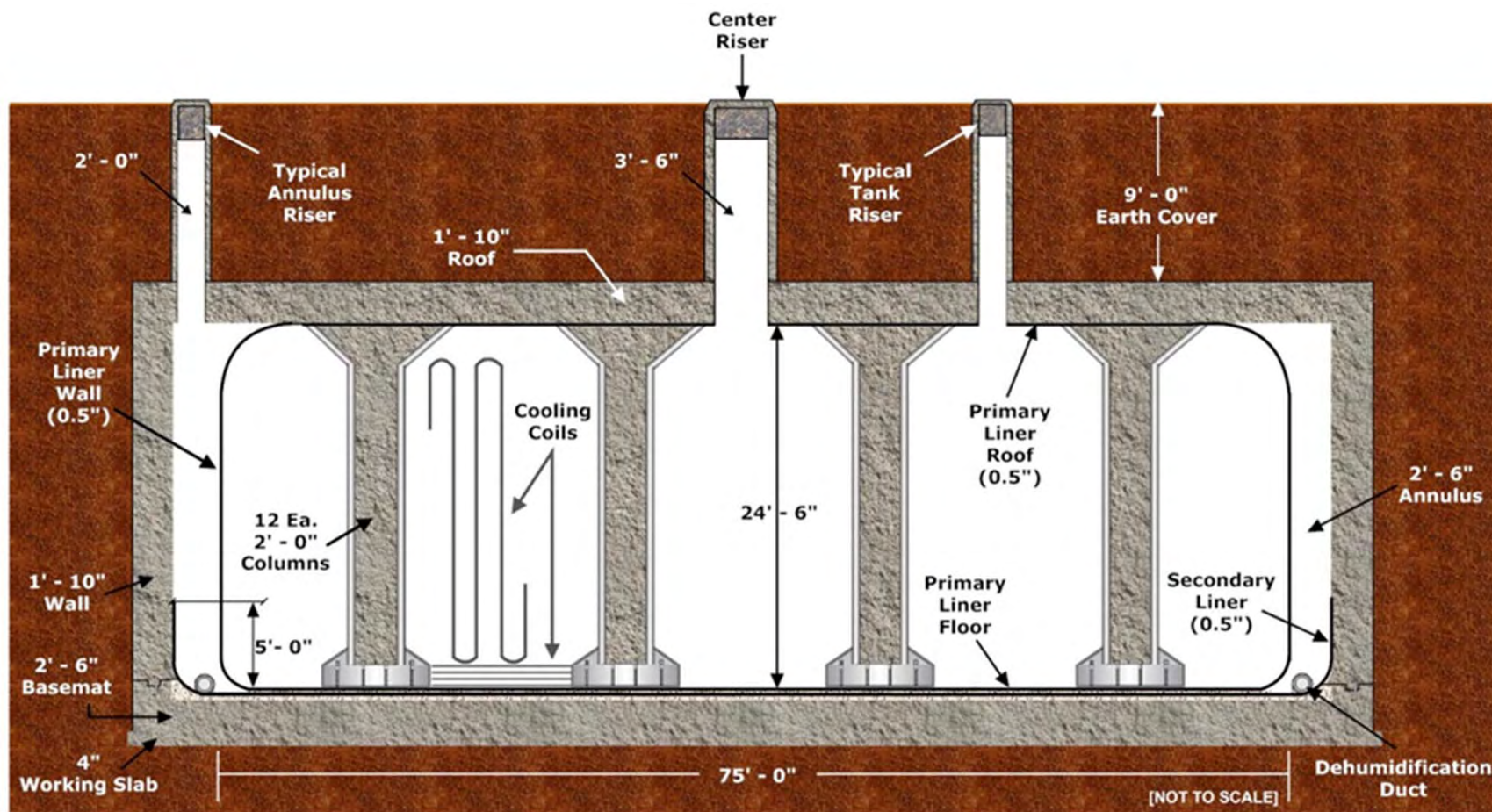


- Grouting Initiated 6/2/2015
- Grouting Completed 9/22/2015
  - Total Bulk Fill Grout = ~1.25 Mgal
  - > 800 Trucks
- Development of Tank 16 Final Configuration Report is in-Progress
  - Summary of Tank 16 Grouting activities including:
    - Bulk Fill Summary
    - Annulus Bulk Fill Summary
    - Equipment Fill Summary
    - Cooling Coil Grouting Summary
    - Riser Fill Summary
  - Anticipated Issuance 2Q CY2016
    - Tank 16 Final Configuration Report will be provided to NRC when issued

# Tanks 12 Grouting

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## Typical Type I Tank



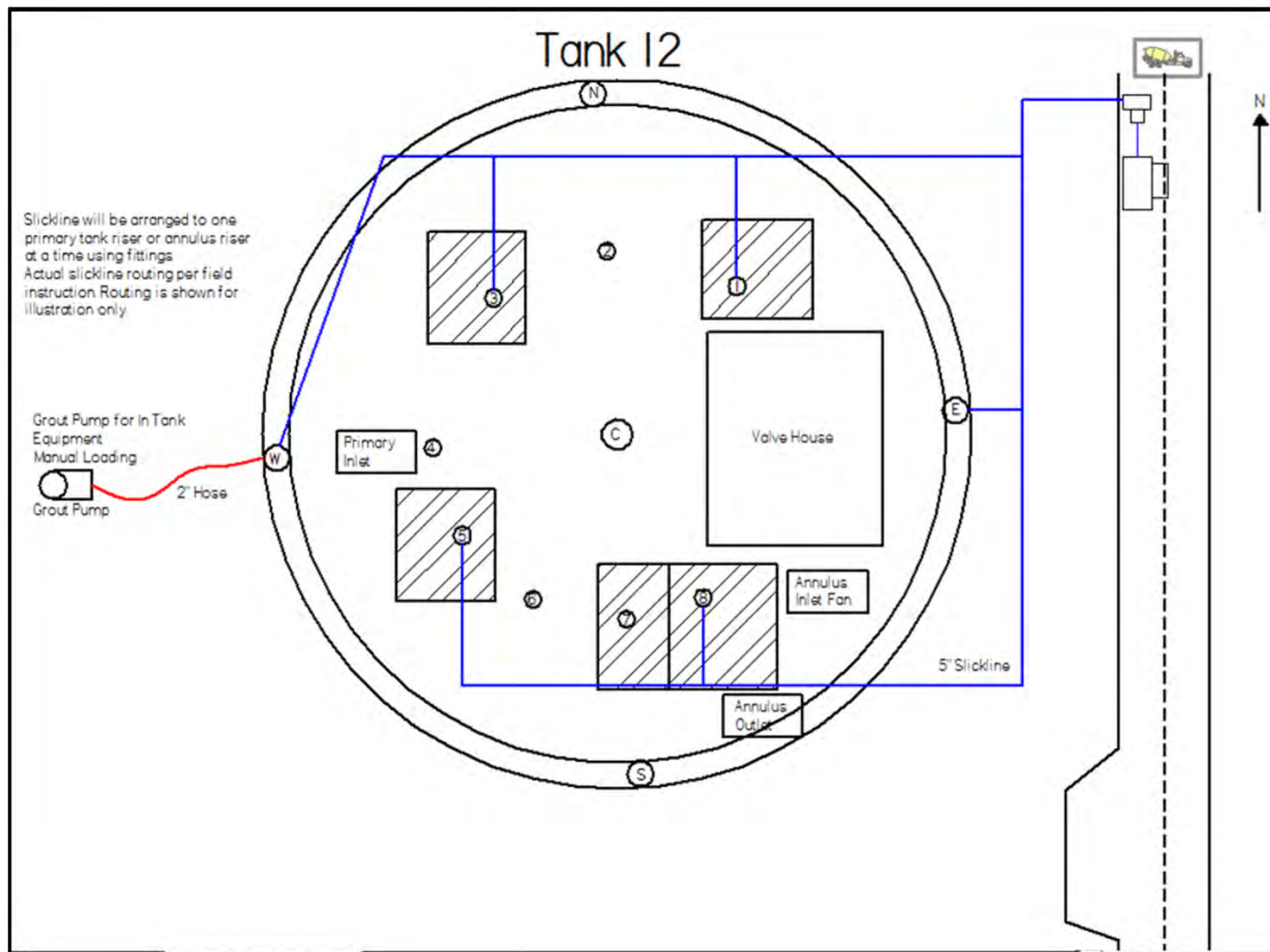
## Tanks 12 Grouting Strategy

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- Bulk Grout delivery option same as previous tanks
  - Vendor trucks from off-site.
- Bulk fill grout formula same as Tanks 16
  - Slump flow working range 26-30 inches.
  - Specification: *Furnishing and Delivering of Tank Closure Grout*, C-SPP-F-00055 Rev. 4 [ML13238A090]
    - Supplier Deviation Disposition Request: Grade 120 versus Grade 100 Blast Furnace Slag
- Equipment fill grout formula same as previous tanks
  - Formulation: *Tanks 18 and 19-F Equipment Fill Grout Material Evaluation and Recommendations*, SRNL-STI-2011-00592 [ML13238A041]
- Cooling coil fill grout formula same as previous tanks
  - Formulation: *Closure of HLW Tanks - Formulation for a Cooling Coil Grout*, WSRC-STI-2008-00172 [ML13238A046]

# Tanks 12 Grouting Equipment

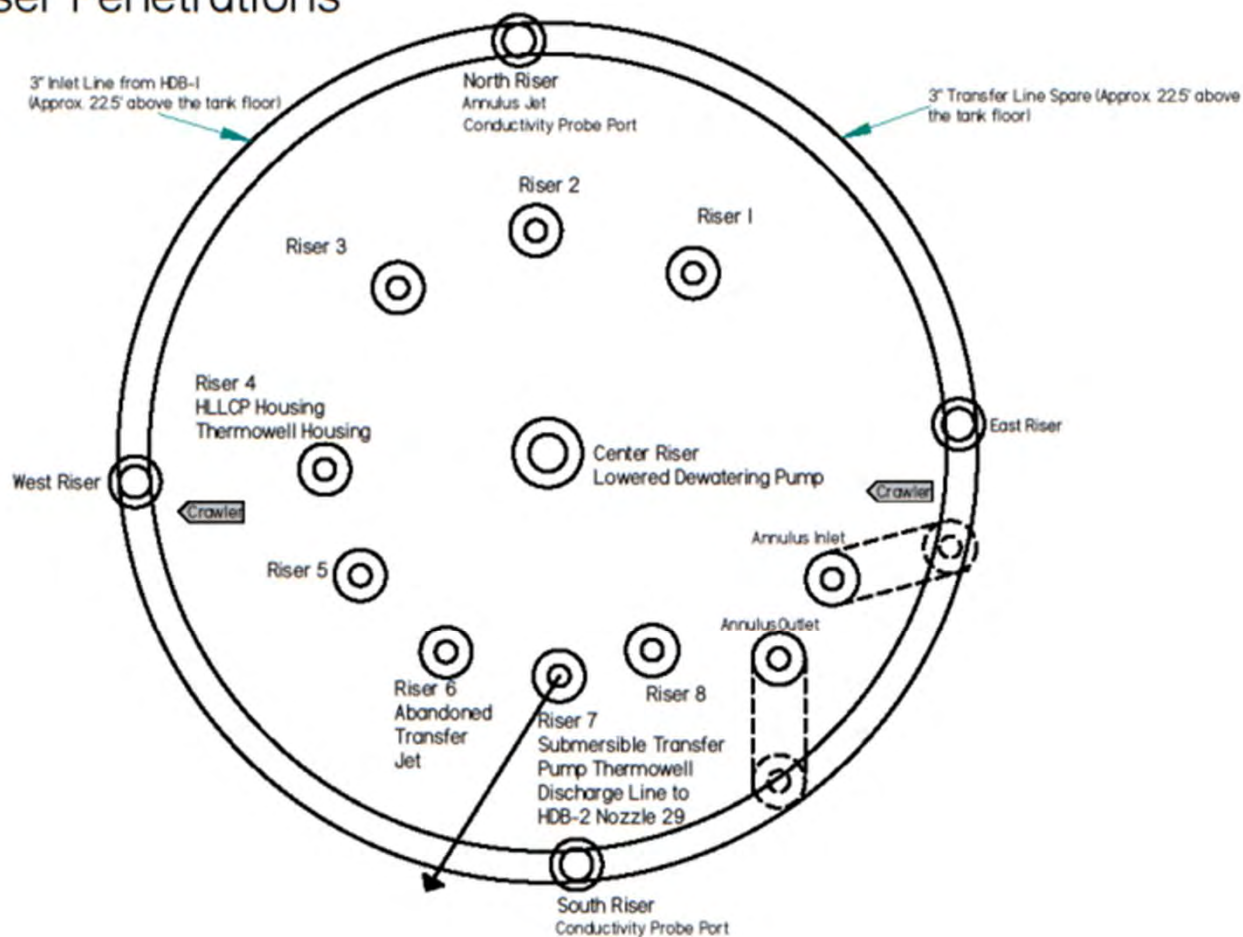
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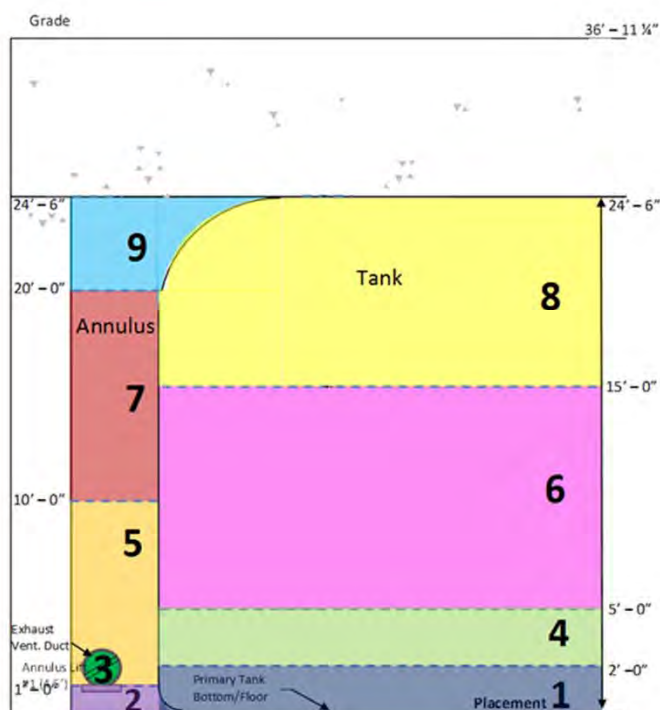
## Tank 12 Riser Penetrations





# Tanks 12 Grouting Strategy

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## GROUT LIFTS

### Approximate Values per Tank

LIFT	yd <sup>3</sup>	Trucks	Gallons
1	322	40	65,000
2	23	3	4,500
3	32	4	6,500
4	483	60	97,500
5	203	25	41,000
6	1,610	201	325,000
7	225	28	45,500
8	1,530	191	309,000
9	101	13	20,500
<b>Total:</b>	<b>4,529</b>	<b>565</b>	<b>914,500</b>

# Tank 12 Bulk Fill Grout Pump

*We do the right thing.*



# Grout Testing Protocol

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## Grout Truck Arrival and Check-in:

- Every Truck
  - Batch Tickets (Multiple Verifications)
    - Grout mix
    - Timing < 90 minutes
    - Revolutions < 300
    - Point of delivery water additions
- Daily
  - First Batch & at least one truck after first 100 cubic yards
    - Molding Cylinders (7)
    - Compressive Strength (7 and 28 days)
    - Slump flow
    - Temperature
    - Unit weight/yield
    - Bleeding of grout
    - Air Content
- Additional testing frequency as determined by Construction Discipline Engineer (CDE)

## Video of Grout Placement:

- Continuous during grout placement



# Annulus Grouting

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Tank 12H Annulus and Horizontal Ventilation Duct  
(West Riser, September 2012)

- Bulk fill grout will be used to fill annulus
- Grout introduced into annulus through the East and West Risers
- Initial filling of horizontal ductwork through vertical section of ductwork
- In parallel with bulk filling of the annulus, the vertical sections of annulus ventilation inlet duct will be filled all the way to grade level with grout.

## Cooling Coil Fill

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- Cooling coil grout is prepared using a commercial grout skid
- Dry ingredients are premixed at vendor facility and delivered in a Super Sack®
- SRR personnel batch a fixed amount of water with the contents of the Super Sack® (i.e., dry materials) and mix the contents
- Pump is used to meter grout into cooling coils
- Totalizer at flow meter provides real time quantity of grout added
- Intact cooling coils will be grouted from the coil inlet. When grout is visually detected at cooling coil outlet, additional grout shall be introduced for a prescribed volume
- Grout/flush water interface volume from intact coils will be collected and disposed of separately
- Coils having guillotine failure were previously flushed, coils will be grouted from each end (inlet and outlet) into the waste tank

# Equipment Fill

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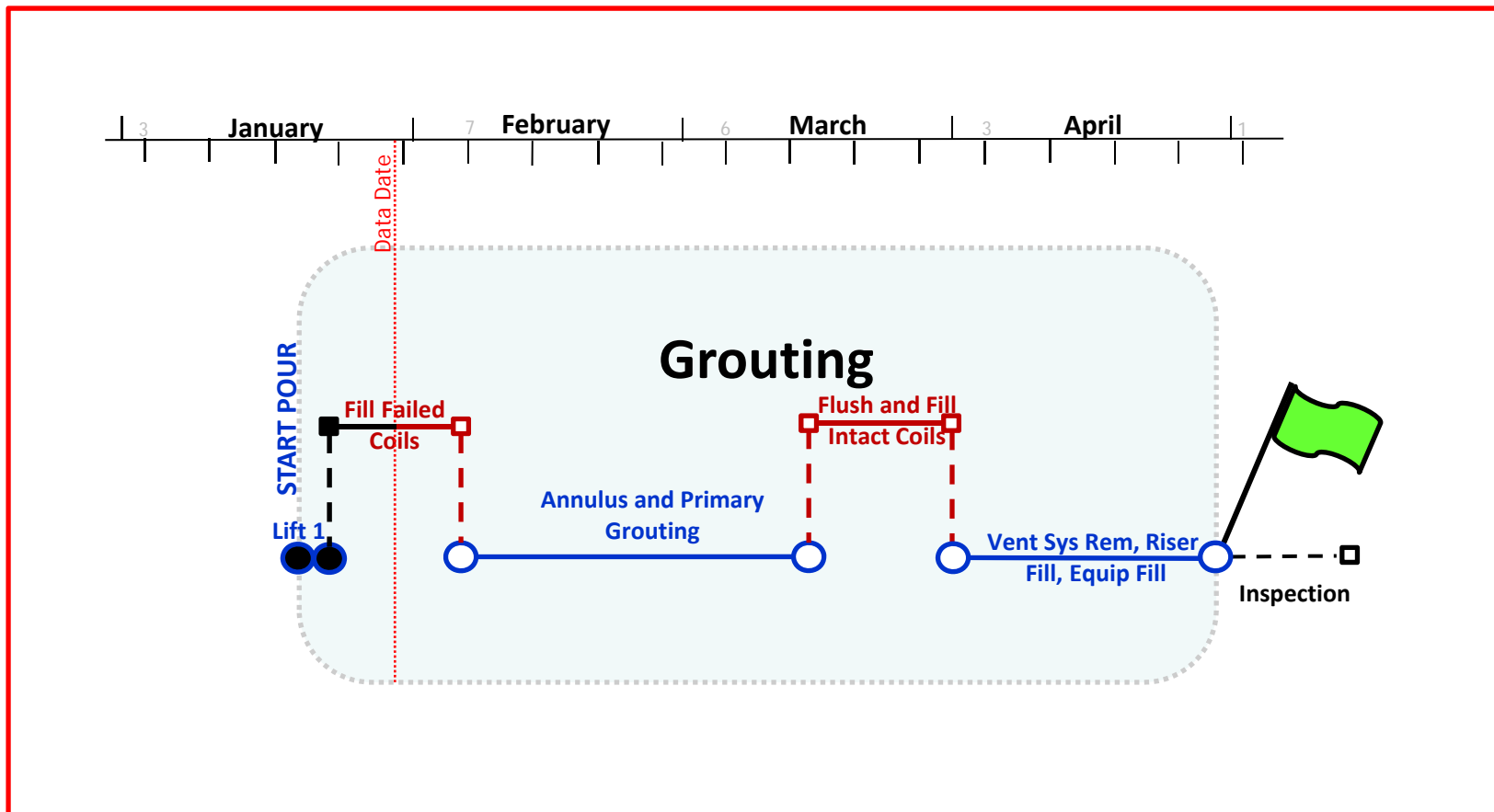


- Equipment fill grout will be prepared in small batches
- SRR personnel pre-mix dry ingredients by weight
- Water is combined with the dry materials as required, mixture is allowed to hydrate with low shear mixer
- High shear mixer engaged to finish grout mixing and thin the grout
- Grout is metered into equipment by gravity via hose and funnel
- Equipment has high point vent that collects overflow indicating filling complete



# Tanks 12 Grouting Schedule

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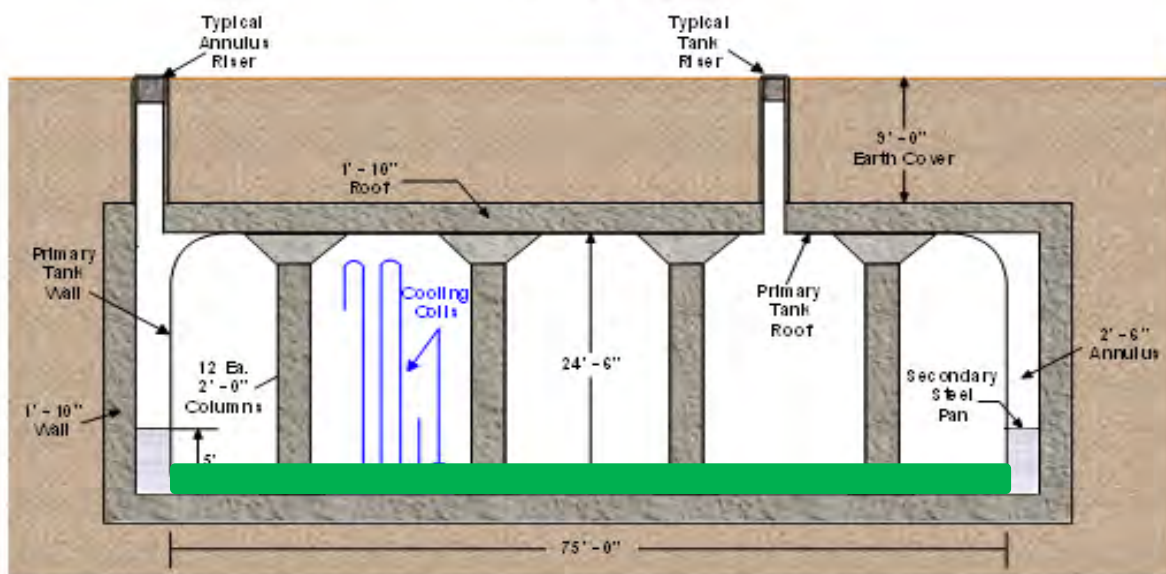
# Tanks 12 Grouting Status

(As of 1/29/2016)

*We do the right thing.*

- Grouting Initiated 1/19/2016 (Lift 1)
- Lift 1 Complete 1/20/2016 (~64 kGal)
- Initiated Grouting of Failed Cooling Coils 1/26/2016 (in-progress)
  - 28 Failed Coils for Tank 12

## Tank 12 Bulk Fill - 7 % Complete



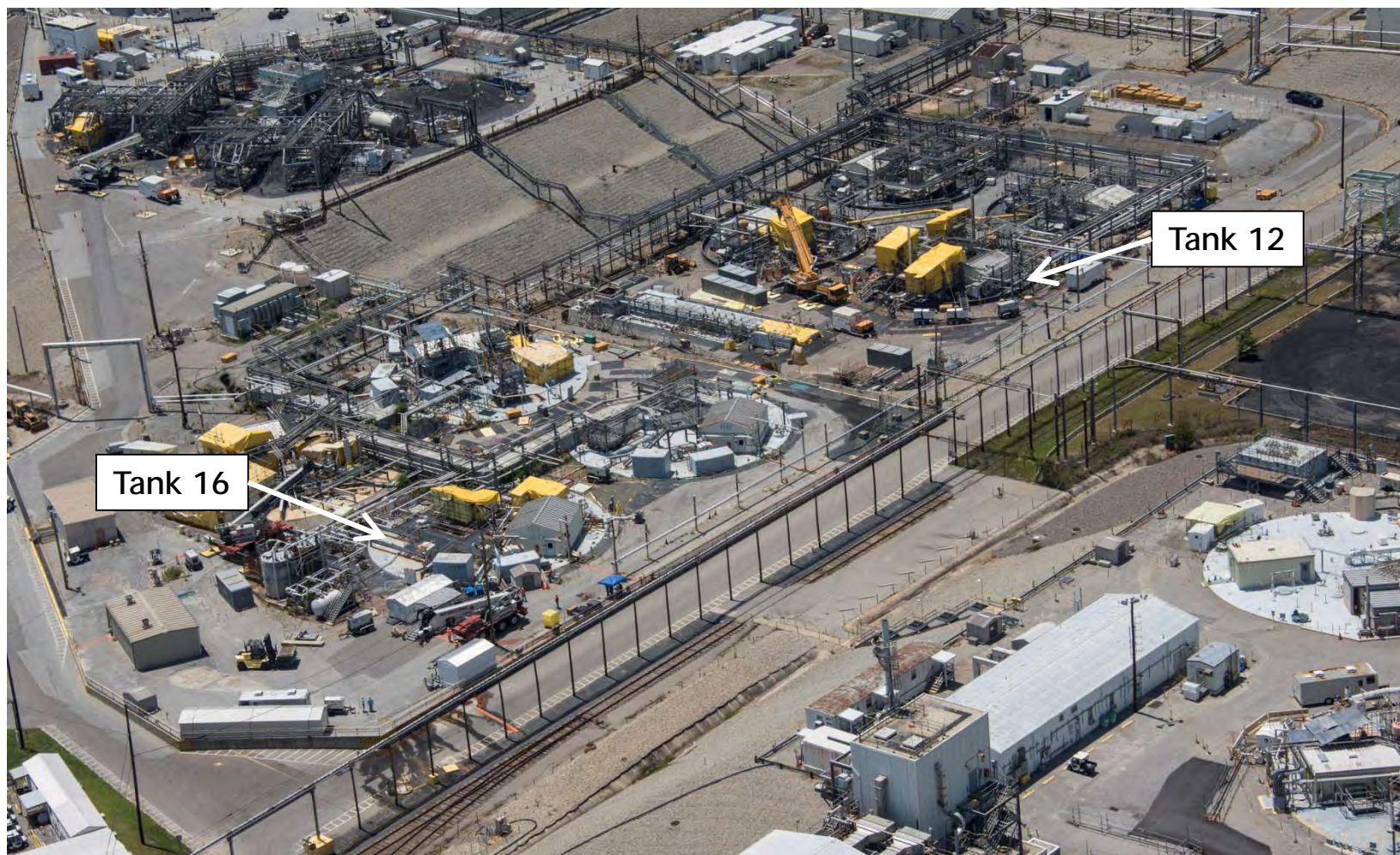
## H-Tank Farm Field Observations

- Tank 16 & 12 Grouting Area Overview
- Field Observation Briefing
- Depart for Lunch
- Field Observation (Tanks 16 & 12)



# Tanks 16 & 12

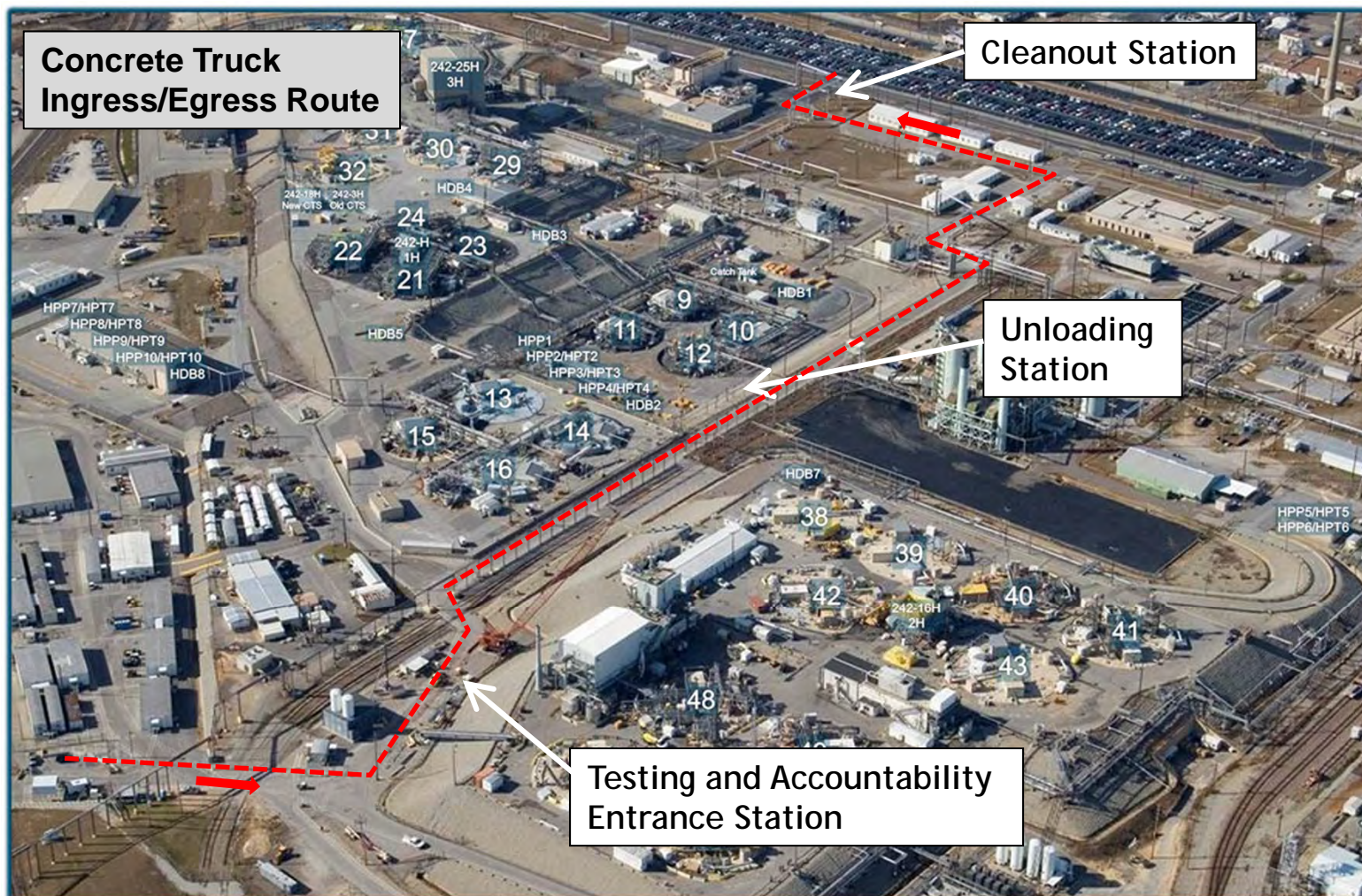
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# Tanks 16 & 12 Bulk Grout Fill

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## Tank 16 & 12 Field Observation

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- H-Tank Farm is a property protection area, no security escorts required for uncleared personnel within area.
- Personnel involved in tour should stay in contact with designated SRS personnel in order to provide instruction in the event of a need to shelter or evacuate the work area.
- During grouting operations, Grout Test area and truck unloading area is considered a construction work zone.
- Construction work zones at a minimum require hard hat, side shield safety glasses and sturdy work shoes.
- Personnel requiring access to these work areas will attend a safety briefing and sign safe work permit for applicable work package(s).
- In addition to requiring standard Personal Protective Equipment for a construction work zone, the area around the grout pump is designated as requiring hearing protection.
- Uncured grout is highly alkaline. In the event that grout comes in contact with skin or clothing, you will be directed to nearest eye wash/safety shower for flushing.
- No areas on tour path requires sign in on a Radiological Work Permit (RWP) or wearing of rad dosimetry.

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- 2/2 pm {
- (3) - Discuss Technical Review of Tank 16 Final Inventory Determination

[ Onsite Observation Guidance for February 2-3, 2016, Monitoring Visit to the Savannah River Site, F and H Area Tank Farms, ML15356A590. ]

- November 2015: NRC Technical Review Report - Tank 16 Inventory
  - *Technical Review of Final Inventory Documentation for Tank 16H at the Savannah River Site* [ML15301A830]
    - Various Tank 16 Inventory related documents reviewed
    - Considered: *Tank 16 - Responses to NRC Comments on Closure Module*, U-ESR-H-00128 [ML15247A154]

## NRC Daily Outbrief

- NRC Staff Outbrief
- Action Items captured



# Savannah River Site F and H Area Tank Farms NRC Onsite Observation Visit

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## February 3, 2016

SRR-CWDA-2016-00009, Revision 1



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NRC F-Tank Farm and H-Tank Farm Onsite Observation			
Wednesday, February 03, 2016			
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9:45	11:00	<u>Technical Discussions [3,5]</u> -Action Item 12 Follow-up (7/2015) -NRC Technical Review Report: Tank 16 Special Analysis (ML15301A710)	705-1C, Room 34 A-B
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2:45	3:00	Travel/NRC Depart	703-46A

(#) - Activity number from  
NRC Observation Guidance  
[ML15356A590]

# Technical Discussion Topics

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2/3 am

- (1) - Discuss status of the high-level waste tank residual solids sample leaching experiments and the NRC comments on SRNL-STI-2015-00446
- (2) - Discuss other on-going DOE research or analyses relevant to MFs listed in the NRC staff's combined monitoring plan
- NRC update on research and analyses
- (5) Discuss DOE response to follow-up action 12 from July 2015 OOV
- (3) Discuss Technical Review of Tank 16 Special Analysis

[ Onsite Observation Guidance for February 2-3, 2016, Monitoring Visit to the Savannah River Site, F and H Area Tank Farms, ML15356A590. ]

# Status: Tank Waste Residual Solids Testing

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Date	Activity	Document Title	SRS Document Number / NRC Accession Number
May 2013	NRC Issued Technical Review Report	<i>Technical Review: Waste Release and Solubility Related Documents Prepared by United States Department of Energy to Support Final Basis for Section 3116 Determination for The F-Area Tank Farm Facility at Savannah River Site. Project No. PROJ0734.</i>	ML12272A082
June 2013	DOE Issues Experimental Plan	<i>Task Technical and Quality Assurance Plan for Determining the Radionuclide Release from Tank Waste Residual Solids.</i>	SRNL-RP-2013-00203, Rev. 0 (ML13253A221)
November 2013	NRC Staff Provides Comments	<i>November 2013 NRC Staff Comments on SRNL-RP-2013-00203, Rev. 0.</i>	ML15153A385 / ML15153A393
March 2014	DOE Provides Status Update during FTF Onsite Observation Visit	<i>Radionuclide Release from Tank Waste Residuals Solids.</i>	SRNL-STI-2014-00117 (ML14101A111) Visit Report-(ML14106A573)
April 2014	DOE Updates Experimental Plan	<i>Task Technical and Quality Assurance Plan for Determining the Radionuclide Release from Tank Waste Residual Solids.</i>	SRNL-RP-2013-00203, Rev. 1 (ML14148A068)
September 2014	DOE Issues FY2014 Testing Summary Report	<i>Determining the Release of Radionuclides from Tank Waste Residual Solids.</i>	SRNL-STI-2014-00456 (ML15147A543)
February 2015	DOE Updates Experimental Plan	<i>Task Technical and Quality Assurance Plan for Determining the Radionuclide Release from Tank Waste Residual Solids.</i>	SRNL-RP-2013-00203, Rev. 2 (Provided as pre-visit doc. for 7/2015 OOV)
7/28/2015	Status Update During July 2015 HTF & FTF OOV	<i>Release of Radionuclides from Tank Waste Residual Solids.</i>	SRNL-MS-2015-00116 (ML15260A859) Visit Report- (ML15239A612)
September 2015	DOE Issues FY2015 Testing Summary Report	<i>Determining the Release of Radionuclides from Tank Waste Residual Solids. FY2015 Report</i>	SRNL-STI-2015-00446 (ML15324A143)
October 2015	DOE Updates Experimental Plan	<i>Task Technical and Quality Assurance Plan for Determining the Radionuclide Release from Tank Waste Residual Solids.</i>	SRNL-RP-2013-00203, Rev. 3
2/3/2016	Status Update During February 2016 HTF & FTF OOV	<i>Release of Radionuclides from Tank Waste Residual Solids: Actual Waste Testing with Tank 18 Residuals</i>	SRNL-MS-2016-00012 (To be provided as follow-up Action Item)

- **FY2016 Performance Assessment Maintenance Plan**
  - *Savannah River Site Liquid Waste Facilities Performance Assessment Maintenance Program - FY2016 Implementation Plan, SRR-CWDA-2015-00152 [ML16013A350]*

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## ■ Lysimeter Testing

- Fiscal Year (FY) 2015 experimental work provided in *Determination of Constituent Concentrations in Field Lysimeter Effluents - FY15 Final Report* [ML15324A142]
- On-going (FY 2016) experimental work will be summarized in an FY 2016 final report.
  - Final report will be provided to NRC when available.





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## ■ Revise Geochemical Data Package

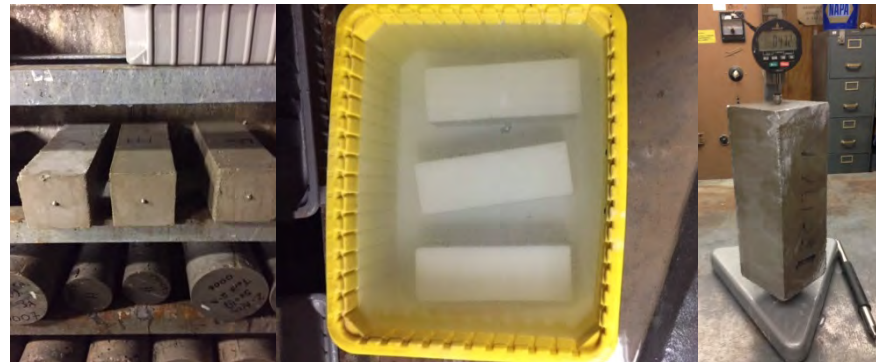
- *Geochemical Data Package for Performance Assessment Calculations Related to the Savannah River Site*, SRNL-STI-2009-00473 [ML113320386]
  - Last revision March 2010
  - Update in-progress to integrate available information since last revision

## ■ Radioiodine $K_d$ Distributions

- FY2016 testing utilizing radioiodine to distinguish between iodine present in SRS soils and dry materials and the intended iodine spike added to establish iodine  $K_d$

## ■ Tank Grout Shrinkage Testing

- Initiated shrinkage testing of tank bulk fill grout per ASTM C-157, *Standard Test Method for Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete*



Tank 16 Bulk Fill Grout Samples

# HTF Type I and Type II Tank Special Analysis

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- **HTF Type I and Type II Tank Special Analysis (SA)**

- Forward looking SA that will provide data on potential impacts associated with various areas of model and final configuration uncertainty.
- The SA will include the following subjects:
  - HTF Type I and Type II Tanks Inventory Update
  - Variable Flow Case Simulations
  - Additional GoldSim Sensitivity Analyses
  - Alternate Fast Zone Analysis Update

## ■ CNWRA Reports (September 2015)

- *Tank Grout Water Conditioning Tests - Status Report* [ML15302A081]
- *Feasibility Study of Acoustic Emission Monitoring for Cracking of Waste-Stabilizing Tank Grout and Saltstone - A progress Report* [ML15302A066]
- *Saltstone Leaching Experiments Status Report* [ML15302A086]

- Follow-up Action Item #12 from July 2015 Visit
  - (12) DOE to provide NRC information on how pore water chemistry is assigned to case selection (GoldSim Probabilistic)
  - Information provided to NRC September 2015
    - SRR-CWDA-2015-00117 [ML15247A138]

# Tank 16 Special Analysis

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- **April 2015: Tank 16 Special Analysis**
  - *Tank 16 Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site, SRR-CWDA-2014-00106 Rev. 1 [ML15058A394]*
  
- **November 2015: NRC Technical Review Report - Tank 16 Special Analysis**
  - *Technical Review of "Tank 16H Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site", SRR-CWDA-2014-00106 Rev. 1, February 2015 [ML15301A710]*



- 2/3 pm {
- (3) - Discuss Tank 12 Closure Module & Special Analysis

[ Onsite Observation Guidance for February 2-3, 2016, Monitoring Visit to the Savannah River Site, F and H Area Tank Farms, ML15356A590. ]

- June 2015: Tank 12 Closure Module and Associated References
  - *Industrial Wastewater Closure Module for Liquid Waste Tank 12H, H-Area Tank Farm, Savannah River Site, SRR-CWDA-2014-00086 Rev. 0 [ML15153A375]*
  - Utilized *Tank 16 Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site, SRR-CWDA-2014-00106 Rev. 1 [ML15058A394]*
  - NRC Staff comments provided to SCDHEC [ML15181A389]

- **October 2015: Addendum to the Tank 12 Closure Module and Associated References**
  - *Addendum to the Industrial Wastewater Closure Module for Liquid Waste Tank 12H H-Area Tank Farm, Savannah River Site, SRR-CWDA-2014-00086, Revision 0, May 2015, Rev. 0 [ML15294A364]*
    - Utilized *Tank 12 Special Analysis for the Performance Assessment for the H-Tank Farm at the Savannah River Site, SRR-CWDA-2015-00073 Rev. 1 [ML15294A360]*
    - NRC Staff comments provided to SCDHEC & SCDHEC response to comments provided [ML15362A511]
    - *Dataset for the Tank 12 Special Analysis Modeling, SRR-CWDA-2015-00164 [ML15338A168]*

## NRC Observation Visit Outbrief

- NRC Staff Outbrief
- Action Items Captured
- Closing Statements



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## ■ Action Items

1. DOE to provide NRC an electronic copy of presentation material including action items and attendance rosters. [SRR-CWDA-2016-00009, Revision 1]
2. DOE to provide NRC a copy of Revision 1 to *Action Item Follow-up in Support of U.S. Nuclear Regulatory Commission Onsite Observation Visit on July 28-29, 2015*, SRR-CWDA-2015-00170, when issued.
3. DOE to provide NRC a copy of the Tank 16 Final Configuration Report when issued.
4. DOE to provide NRC an electronic copy of *Release of Radionuclides from Tank Waste Residual Solids: Actual Waste Testing with Tank 18 Residuals*. [SRNL-MS-2016-00012]

## ■ Action Items

5. DOE to provide NRC date/information for the rejected Tank 6 grout truck (ref. Action Item #5 from 7/2015 OOV).
6. DOE to provide NRC five accepted and five rejected batch tickets from Tank 16 grouting. Batch ticket from 8/31/2015 to be included.
7. DOE to provide NRC documentation on the Grade 120 blast furnace slag evaluation.
8. DOE to provide NRC a copy of the Tank 12 Grouting Strategy, Closure Assurance Plan, and Subcontractor Surveillance Plan.
9. DOE to provide NRC video of auger contact with waste during annulus sampling (including a location where ventilation duct was cut).

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## ■ Action Items

10. DOE to provide NRC a copy of *Task Technical and Quality Assurance Plan for Determining the Radionuclide Release from Tank Waste Residual Solids*, SRNL-RP-2013-00203, Rev. 3.
11. NRC to provide DOE feedback on Tank 18 residual solids testing parameters:
  - Sample FTF-1 versus composite sample
  - CO<sub>2</sub> Scrubbing
  - Silica
12. DOE to provide FY2016 Performance Assessment Maintenance Plan to SCDHEC.
13. DOE to provide NRC a copy of the reference for Tank 16 Special Analysis use of a 1% gradient.

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## ■ Action Items

- 14. DOE to provide NRC additional information on triplicate sample analysis process (general).
- 15. DOE to provide NRC additional information relative to Tank 16 Special Analysis GoldSim model benchmarking (17,000-year peak).
- 16. DOE to provide NRC a copy of the Unreviewed Waste Management Question covering use of clean cap grout in Tank 16.



# Attendance Sheets

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NRC F-Tank Farm and H-Tank Farm Monitoring Visit  
Savannah River Site, Aiken, South Carolina  
February 2, 2016

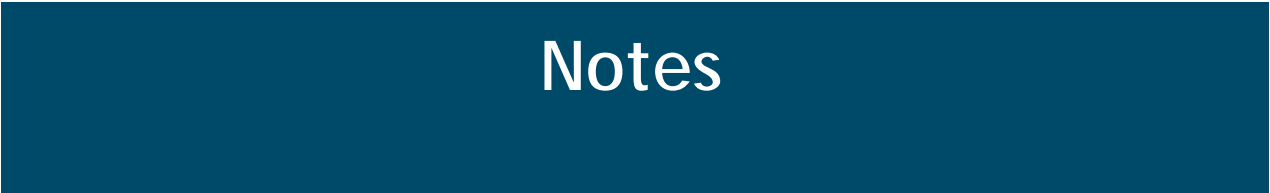
Name	Affiliation	Phone
LARRY ROMANOWSKI	SRR	
Leigh Beatty	SCDHEC	
Bob Davis	USRA	
Kent Rosenberger	SRR	
Sherri R. Ross	DOE-SR	
MAURICE HEATH	US NRC	
George Alexander	NRC	
Shaun Anderson	US NRC	
Leah Parks	US NRC	
Cynthia Barr	NRC	
Greg Arthur	SRR	
Dan Ferguson	DOE/ER	
Beth Moore	DOE/EM-11	
Mark Layla	SRR	
Jacob Schwinn	SCDHEC	
Justin Marble	DOE EM	
Timothy Meyers	DOE-ER-31	
Tim Coffield	SRR	
Jim Schafner	NRC (phone)	
Cynthia Dimmitt	SWRC (phone)	
Julie Song	DHEC (phone)	
Connie Lorenz	DOE EM-11 (phone)	
Barry Mullinax	SCDHEC	
Bruce Martin	SRR	
Joe Baran	SRR	

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NRC F-Tank Farm and H-Tank Farm Monitoring Visit  
Savannah River Site, Aiken, South Carolina  
February 3, 2016

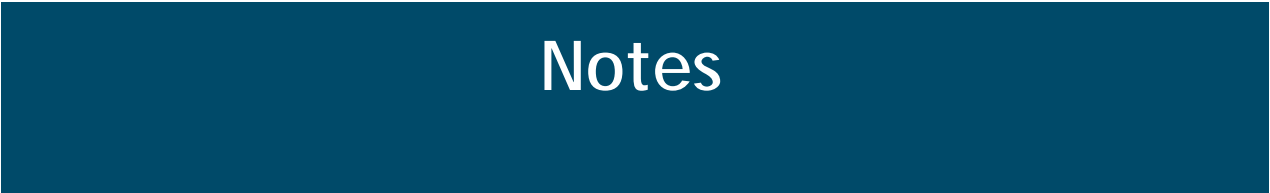
Name	Affiliation	Phone
LARRY ROMANOWSKI	SRR	
Kent Rosenberger	SRR	
Sherri R. Ross	DOE-SR	
Barry Mullinax	SCDHEC	
MAURICE HEATH	US NRC	
George Alexander	NRC	
Shaun Anderson	US NRC	
LEAH PARKS	USNRC	
Cynthia Barr	US NRC	
Leigh Beatty	SCDHEC	
Tim Coffield	SRR	
Mark Layla	SRR	
DAVID HOBBS	SRNL	
Bill King	SRNL	
Jacob Schwinn	SCDHEC	
Joe Pavencia	see	
Connie Lorenz	DOE-HQ (phone)	
Julie Song	SCDHEC (phone)	
Jim Schafner	NRC (phone)	
Gary Walker	CNWR (phone)	
Cynthia Dimmitt	CNWR (phone)	
Alan Puchot	CNWR (phone)	
Greg Arthur	SRR	
Justin Marble	DOE-HQ	
Steve Thomas	SRR	

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# Notes

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# Notes

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