

# **100 & 300 AREA UNIT MANAGERS MEETING (UMM) NOVEMBER 18, 2021**

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy  
under Contract 89303320DEM000030



**P.O. Box 1464  
Richland, Washington 99352**

# 100 & 300 AREA UNIT MANAGERS MEETING (UMM) NOVEMBER 18, 2021

R. E. Fox  
CH2M HILL Plateau Remediation Company

Date Published  
November 2021

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

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under Contract 89303320DEM000030

 **CPC** Co  
Central Plateau  
Cleanup Company  
**P.O. Box 1464**  
**Richland, Washington 99352**

**APPROVED**

*By Sarah Harrison at 7:26 am, Feb 01, 2022*

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Release Approval

Date

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**100 & 300 AREA UNIT MANAGERS MEETING**  
**NOVEMBER 18, 2021**

**FINAL MEETING MINUTES**

Electronic Distribution to:

Meeting Attendees  
Administrative Record  
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**100/300 AREA UNIT MANAGERS MEETING  
Attachments List  
November 18, 2021**

**Minutes of the 100/300 Area Unit Managers Meeting are attached. Minutes are comprised of the following:**

<b>Attachment 1</b>	<b>Agenda</b>
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<b>Attachment 5</b>	<b>300 Area River Corridor Soils Summary</b>
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<b>Attachment 7</b>	<b>Documents to the AR, Approved TPA CNs</b>
<b>Attachment 8</b>	<b>100-OL-1 Orchard Lands</b>
<b>Attachment 9</b>	<b>Action Items</b>
<b>Attachment 10</b>	<b>Appendix A - Hanford Groundwater Sampling Program: Missed, Deferred or Outstanding Sample Trips for CY2020</b>

**100/300 Area Unit Managers Meeting  
Agenda  
November 18, 2021**

**100 Area River Corridor Soils and Sludge & K Basin Summary** (Deborah Singleton/K. Evans)

**300 Area River Corridor Soils Summary** (B. Vannah)

**Groundwater Summary by O.U.**

- 100-K Area Groundwater (Ellwood Glossbrenner)
- 100-BC Area Groundwater (John Sands)
- 100-N Area Groundwater (Ellwood Glossbrenner)
- 100-D/H Areas Groundwater (Ellwood Glossbrenner)
- 100-F Area Groundwater (John Sands)
- 300 Area Groundwater (John Sands)
- Documents for the Administrative Record and Approved TPA Change Notices

**100-OL-1 – Orchard Lands** (Johns Sands)

**Action Items**

**Appendix A - Approved Groundwater Sample Event Disposition Concurrence Forms**

**Closing Comments**

- Sign concurrence to “Groundwater Summary by O.U.” and “Action Item List” if applicable

**100/300 Area Unit Managers Meeting  
Attendance List  
November 18, 2021**

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**100/300 Area Unit Managers Meeting  
Attendance List  
November 18, 2021**

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**100/300 Area Unit Managers Meeting  
Meeting Minutes Approval  
Groundwater Summary by O.U.  
November 18, 2021**

**SIGNATURES:**

In accordance with the Tri-Party Agreement Section 4.1, Project Manager Role, any agreements and commitments resulting from the meeting will be prepared and signed by all parties as soon as possible after the meeting. The undersigned indicate by their signatures (or their delegate's signature) that these meeting minutes reflect the actual discussion during this meeting. Signatures denote concurrence with the agreements and commitments resulting from this meeting and do not imply agreement with statements made during this meeting. Attachments to these meeting minutes are provided for informational purposes only.

**APPROVAL:** Anders J. Wiborg Digitally signed by Anders J. Wiborg  
Date: 2021.12.20 10:36:38 -08'00' **DATE:** \_\_\_\_\_  
**River Corridor Project Manager, DOE/RL**

**APPROVAL:**  **DATE:** 12/6/2021  
**Groundwater Project Manager, DOE/RL**

**APPROVAL:**  Digitally signed by Welsch, Kim (ECY)  
Date: 2021.12.27 08:48:44 -08'00' **DATE:** \_\_\_\_\_  
**Environmental Restoration Acting Project Manager, Ecology**

**APPROVAL:** LAURA BUELOW Digitally signed by LAURA BUELOW  
Date: 2022.01.12 07:17:10 -08'00' **DATE:** \_\_\_\_\_  
**100 Area Project Manager, EPA**

**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**

**RL-0041 100K Closure Project** – (Manny Lopez-Lopez, Kat Thompson)

**TPA Milestone M-016-143**, *Complete the interim response actions for 100 K Area within the perimeter boundary and to the Columbia River for Phase 2 actions. Phase 2 is defined in the 100 K Area RD/RA Work Plans.*

- **(9/30/24)** – At Risk – DOE RL is working with CPCCo on development of a new milestone proposal.

**Remediation and Waste Site Closure:**

- Received laboratory data and third-party data validation for the waste site 100-K-47:2 and 100-K-60:1 verification soil samples; started preparing the closeout documentation.
- Received laboratory data for the 100-K-79:7 verification soil samples. Third-party data validation requested.
- Completed the 116-KE-2 waste site reclassification form and remaining sites verification package and submitted documentation for inclusion into the Administrative Record. The site is partially backfilled.
- Continued demolition of steel pipe and concrete anchor block, and load out of waste from the 100-K-55:2, 100-K-56:3, and 100-K-96 waste sites.
- Completed excavation and load out of waste from the 100-K-79:8 waste site (east and west side of K Avenue).
- Received concurrence from DOE RL and EPA to classify the 100-K-133 Discovery Site as “Not Accepted”. Documentation is being routed for signature and will be submitted to the Administrative Record.

**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**



***100-K-79:8 West Excavation Complete***

**Ancillary Facility Deactivation and Demolition (D&D):**

- Continued load-out of large piping from 165KE powerhouse demolition.
- Completed 167K Cross-Tie Tunnel Demolition up to the east side of K-Avenue. Remainder of the tunnel slated to be used as bat habitat.
- Completed demolition preparation activities on 165KW and commenced demolition.

**100/300 Area Unit Manager Meeting  
100K Area Report  
November 18, 2021**



***165KW Demolition Progress***

**TPA Milestone M-093-27, Complete 105-KE and 105-KW Reactor Interim Safe Storage in Accordance with the Removal Action Work Plan.**

- (9/30/24) – At Risk – TPA Change package M-93-20-02 was approved 6/10/2020 and added three target dates. DOE RL is working with CPCCo on development of a new milestone proposal.

**105KE Interim Safe Storage (ISS) Progress:**

- Completed demolition of below grade building structures discovered during soil excavation.
- Soil excavation was completed in late October.
- Obtained soil gradient sampling results, and approved use of Pit 24 materials and 105KE overburden soil for compactible foundation backfill.
- Commenced foundation backfill operations.
- Structural steel for Safe Storage Enclosure was procured and received, awaiting fabrication.



**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**



*Excavation of West Side 105KE Completed*



*105KE ISS Foundation Backfill Operations*

**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**

**TPA Target Date M-093-27-T01**, *Initiate earthwork for construction of the 105-KE Safe Storage Enclosure.*

- **(9/30/2021)** – Complete – This target date was completed on September 7, 2021 by initiating the earthwork in support of the 105-KE Reactor Safe Storage Enclosure construction. Earthwork includes excavating and stockpiling clean soil and packaging contaminated soil from existing terrain around the 105-KE Reactor Building to prepare the area for installation of the engineered fill pad.
- CPCCo sent completion letter (CPCC-2104461) to DOE on 9/20/21.

**TPA Target Date M-093-27-T02**, *Complete preparation of the 105-KW Reactor Building for Interim Safe Storage by removing liquids and accessible hazardous and controlled materials in accordance with the Removal Action Work Plan.*

- **(DATE – TBD)** - This target date will be satisfied by removing liquids and accessible hazardous and controlled materials from the deactivated and decommissioned portions of the 105-KW Reactor Building. Asbestos that is deemed stable and outside the Surveillance and Maintenance tour path, primarily at heights or asbestos cement wall/ceiling panels, will remain in place during the interim safe storage period.
- DOE RL is working with CPCCo on development of a milestone proposal.

**TPA Target Date M-093-27-T03**, *Initiate earthwork for construction of the 105-KW Safe Storage Enclosure.*

- **(DATE – TBD)** - This target date will be satisfied by initiating the earthwork in support of the 105KW Reactor Safe Storage Enclosure construction. Earthwork includes excavating and preparing the area around the 105KW Reactor Building for installation of the engineered fill pad.
- DOE RL is working with CPCCo on development of a milestone proposal.

**TPA Milestone M-016-181**, *Complete deactivation, demolition and removal of 105-KW Fuel Storage Basin*

- **(9/30/23)** – At Risk – DOE RL is working with CPCCo on development of a new milestone proposal.

**Garnet Filter Media Retrieval (GFMR) Progress:**

- Completed Garnet Filter Media transfers into Sludge Transport and Storage Container (STSC) #3, performed leak testing and completed shipment to T Plant.
- Reached end point in all Garnet Filter Vessels with final transfers of media into STSC #4. STSC #4 will continue to be used for the removal of ECRTS Sand Filter media in the 105KW Annex.

**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**



***STS Trailer and Cask with STSC #3 leaving 100K***

**Vertical Pipe Casing (VPC) Progress:**

- Performed pre-Hazard Review Board (HRB) on the VPC loading/operations work package with the Operations team. Incorporated comments received during the review and prepared for the upcoming HRB meeting.
- Completed design of modified filter bags that will be loaded into the VPC filter assembly during VPC loading/debris transfer operations. Procured unmodified bags and started preparing contract to modify and fill the bags with zeolite.
- Completed engineering for grating modifications in the basin to accommodate installation of the top grout sections of the VPCs. Grating modifications are needed to complete the installation due to the greater height of the top grout sections.
- VPC fabrication contractor completed fabrication of the VPC #4 sections, modified the VPC grout sections to install new water discharge ports, and fabricated one additional VPC filter basket assembly.
- Developed plans to perform a third and final VPC augering test at the Bauer facility in Texas. The test will be performed to evaluate performance of a minor modification to the auger tool that will knockdown blended grout to prevent overflow.
- Filled the practice VPC in Texas with simulated high dose debris and pumped grout into the VPC through the lower grout port. Grout will cure for approximately 1 year before the last auger test is performed.



**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**



*Filter Basket Assembly (top piece in photo) fit up test with VPC Debris Section*



*Filling practice VPC with grout at Contractor's facility in Texas*

**100/300 Area Unit Manager Meeting  
100K Area Report  
November 18, 2021**



*Temporary placement of knockdown paddle on VPC Auger Tool*

**Debris Management and Sampling Progress:**

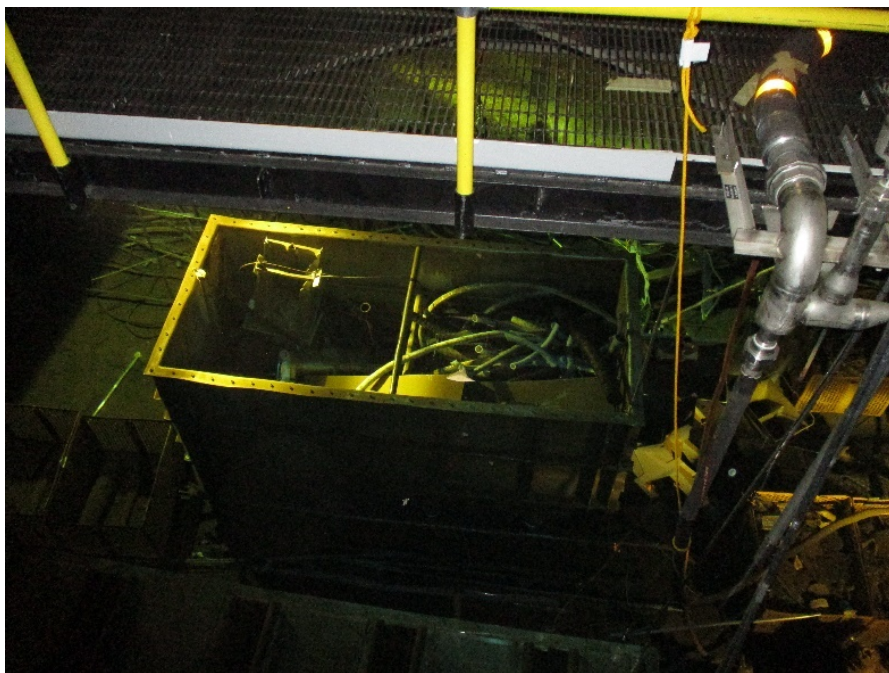
- Completed workability review and incorporated final comments and updates into the VPC, basin floor, and NLOP sampling work package in preparation for the HRB work package review meeting.
- Completed final operations familiarization with the sample cart and sample handling process.
- Resumed performance of ID and Document activities, including cutting and staging of hose segments and pole tools lying on the basin floor.
- 222S lab completed preparations and mockup activities with sample bottles and drums in preparation for receipt of floor, NLOP and VPC samples. Also completed background counts in Room 3 in preparations for NDA equipment to perform NDA on collected basin samples.
- Supported pole tool and basin pool familiarization for D&D workers at MASF. D&D workers will aid Operators in the basin for upcoming deactivation and debris management activities.



**100/300 Area Unit Manager Meeting  
100K Area Report  
November 18, 2021**



*Operator familiarization with sample bottles, bottle handling tool, and shielded drum*



*Hose loading into Engineered Containers*

**100/300 Area Unit Manager Meeting  
100K Area Report  
November 18, 2021**



***D&D Worker Training on Pole Tools at MASF***

**Transfer Cask Assembly (TCA) Disposition Progress:**

- Continued engineering for accessing, removing outer lids/cover, opening inner shielded lids, and removing the residual contents of the two Transfer Cask Assemblies (TCAs).
- Developed Atilla model to help determine expected dose rates when the two TCA shielded lids are opened. NDA group is in the process of quantifying the anticipated source term in each TCA, which is an input to the model.



***TCA-2 located within the 105KW Fuel Transfer System Annex***



**100/300 Area Unit Manager Meeting**  
**100K Area Report**  
**November 18, 2021**

**105KW Basin Stabilization Systems Progress:**

- Awarded contract and held kickoff meeting for fabrication of the Dewatering and Filtration System (DEW) and Wetting and Fixative System (WFS) equipment.
- Performed fixative application/sprayer testing at MASF to help develop design specifications.
- Finalized design for installation of the Stabilization Systems (i.e., DEW, WFS, camera system and grouting system).
- Issued the Request for Proposal for fabrication of three dewatering tankers and received contractor proposal. The technical evaluation process was started in preparation for contract award.
- Submitted the basin water waste profile to Effluent Treatment Facility (ETF) for review/acceptance.
- Started development of the Stabilization Systems installation and support contract Scope of Work.

**105KW System Deactivation and Demolition Prep Progress:**

- Started development of engineering packages to deactivate the first set of building and process systems in preparation for KW Building, Annex and Basin demolition.
- Continued skid-mounted substation installation activities, including installation of the substation pad, installation of overhead conduit and cable trays leading into 105KW, building door modifications, and placement of the skid-mounted substation on the new pad southwest of 105KW.



***Conduit tray installation for routing power from the Skid-Mounted Substation to 105KW***



**100/300 Area Unit Manager Meeting  
100K Area Report  
November 18, 2021**



***CDF pour for construction of substation pad***



***Skid-mounted substation placed onto constructed pad with crane***

- Finished incorporating comments into the 105KW Demolition RD/RAWP and returned to DOE RL.

**TPA Milestone M-016-186, *Initiate soil remediation under the 105-KW Fuel Storage Basin.***

- (12/31/23) – At Risk – DOE RL is working with CPCCo on development of a new milestone proposal.

**TPA Milestone M-016-00C, *Complete all response actions for the 100 K Area***

- (9/30/24) – At Risk – DOE RL is working with CPCCo on development of a new milestone proposal.

**300 Area River Corridor Soils Summary**  
**300 Area Unit Manager Meeting**  
**November 18, 2021**

**300 Area ROD Scope** – (Ben Vannah)

**TPA Milestone M-016-85A**, *Complete remote excavation of the 300-296 waste site in accordance with an approved RD/RA Work Plan, (11/30/2025)* – On Schedule

Performing the following activities in preparation for remote excavation of the highly contaminated soil beneath the 324 Building B-Cell, and grout in place in the adjacent hot cells (A, C, D) for disposal.

**324 Building Equipment Installation:**

- N/A

**Safety and Environmental Documents:**

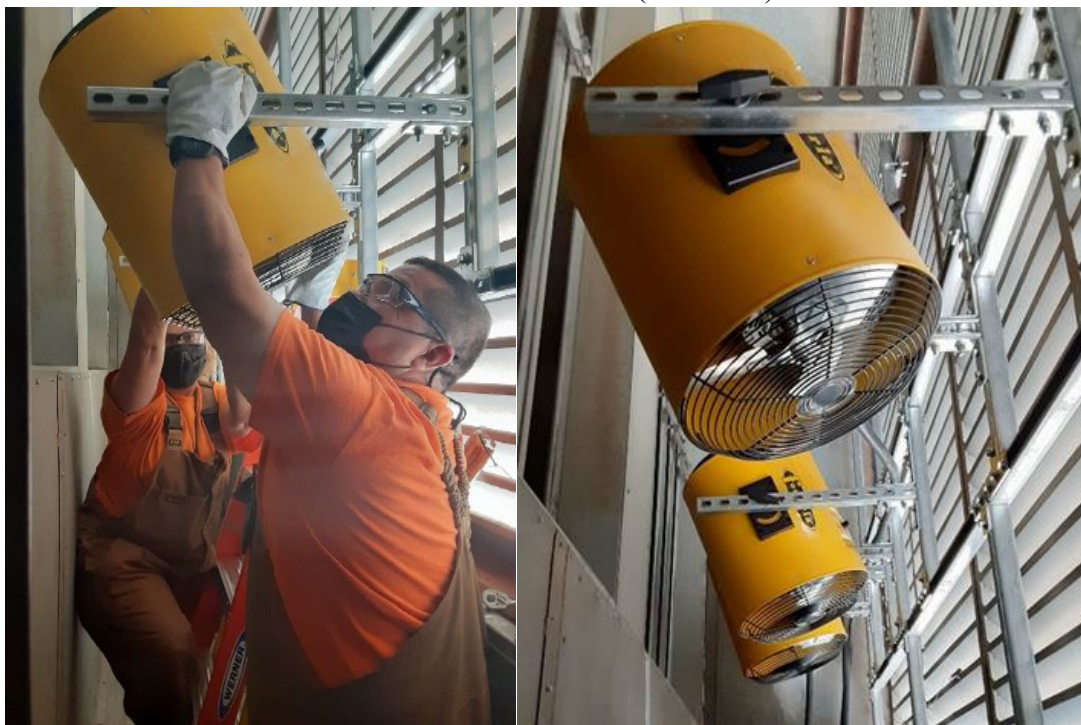
- The 324 Building Safety Basis FY22 annual update is issued and in implementation

**Equipment Procurement & Fabrication:**

- Equipment Delivered
  - N/A
- Continued Design and procurement
  - Airlock 7.5 Ton Crane is 93% designed by PaR systems
  - 324 Building BTH Indexing Hook contract has been awarded
  - A-Cell Lower and Upper Replacement Dam has been awarded and is currently in fabrication

**324 Activities:**

- Completed 324 Primary Electric Heat Conversion (9/21/2021)
  - Installed electric heater in Room 147 (10/20/2021)
  - Installed last electric heater in Room 146 (11/4/2021)



Installing Heaters for the Electric Heat conversion

**300 Area River Corridor Soils Summary**  
**300 Area Unit Manager Meeting**  
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**Structural Modifications:**

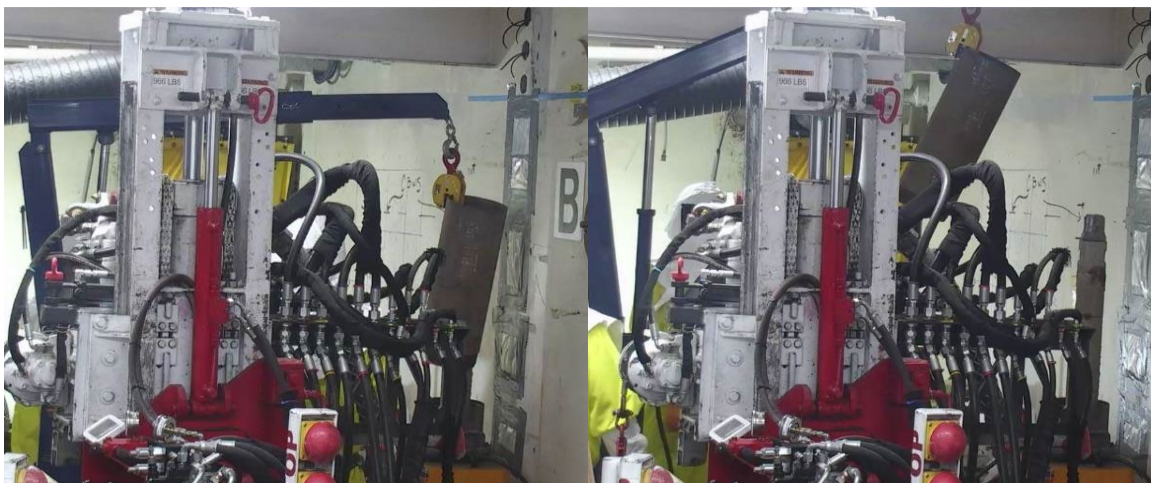
- Completed waste load out of Room 18
  - Waste Drums
  - Removed pieces of Casing
- Room 18 Micropiles
  - Casing for Borehole #6 backpulled
  - Utilized auto-torque tool to unthread casing (10/8/2021)
  - Removed 9 pieces of casing at Borehole #6 and replaced with new casing to ensure easy unthreading (10/8/2021)
  - Consolidated the RWP for the Drilling package and the RWP for the Grouting package into one RWP
  - Re-drilled Borehole #6
  - Grouted Borehole #6
  - Moved drill rig over Borehole #11
  - Backpulled and removed 6 pieces of casing at Borehole #11
  - Began re-drilling Borehole #11
  - Grouted Borehole #11 (11/4/2021)
- North Shoring
  - Backfilled North shoring trench
  - Removed stem wall
  - Set up drilling equipment to add additional vertical micropile shoring
- Continued low hazard cell sealing



**300 Area River Corridor Soils Summary**  
**300 Area Unit Manager Meeting**  
**November 18, 2021**



Drill Rig Set Up in Room 18



Casing Manipulation in Room 18



**300 Area River Corridor Soils Summary**  
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**November 18, 2021**



Jacks backpulling casing from borehole



Auto-Torque Tool at Demonstration

**300 Area River Corridor Soils Summary**  
**300 Area Unit Manager Meeting**  
**November 18, 2021**



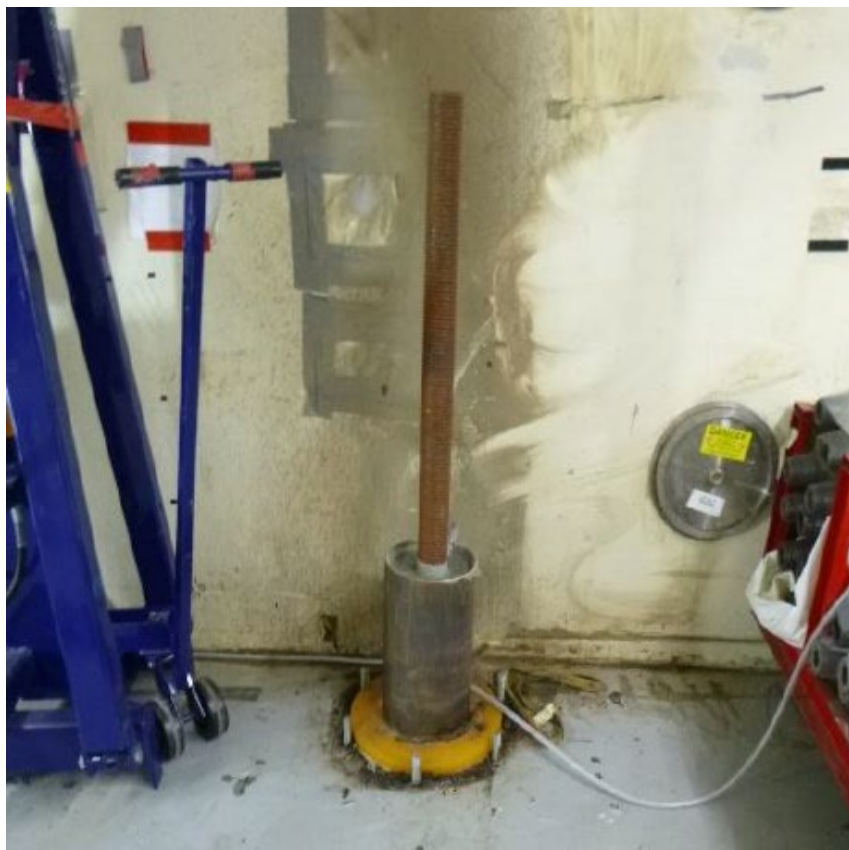
Auto-Torque Tool in use in Room 18



Installation of micropile steel core



**300 Area River Corridor Soils Summary**  
**300 Area Unit Manager Meeting**  
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Completed Micropile at Borehole #6 Location

**Mockup:**

- Continued REA proficiency training
- Completed B-Cell Filter Fram Replacement Testing
- Initiated REA Demo/Recovery Tool Training
- Mobilized equipment for Offset Lifting Tool Training (11/3)
- Practiced utilizing new distance barrier for future REC waste shipment in 9x5x5 boxes

**300 Area River Corridor Soils Summary  
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9x5x5 Distance Barrier Practice

- **Cell Cleanout:** Hot Cell Operations
  - Completed team review of HRB packet for A-04/A-06 (10/19)
- Most activities delayed to January 2022, due to insufficient RCT resources.
  - Obtained 8 PFP RCTs and 7 newly trained RCTs in September.

**Resumption Activities:**

- Continued CA/HCA Training
- Continued Room 18 Training
- Continued Airlock Training



HCA Training at the Mockup



Room 18 Training at the Mockup



**300 Area River Corridor Soils Summary  
300 Area Unit Manager Meeting  
November 18, 2021**



Airlock Training at the Mockup

**Upcoming Activities:**

- Continue drilling and/or grouting micropiles in Room 18
- Begin North Shoring additional vertical micropile drilling.

**TPA Milestone M-016-85, Complete Remedial Actions for 300-296 and Disposition for 324 Bldg. and Ancillary Bldgs. (11/30/2030) – On Schedule**

Milestone Description: *Complete remedial actions for 300-296 waste site in accordance with RD/RA Work Plan for 300-FF-2 Soils (DOE/RL-2014-13-ADD1) and disposition for the 324 Building and Ancillary Buildings in accordance with the Removal Action Work Plan (DOE/RL-2004-77). Completion of facility disposition is defined as the completion of deactivation, decontamination, decommissioning, and demolition in accordance with the removal action work plan.*

**TPA Milestone M-016-86, Complete Remedial Actions for 618-11 Burial Ground in accordance with DOE/RL-2014-13-ADD1. (9/30/2021) – To Be Missed**

Milestone Description: *Complete remedial actions for 618-11 Burial Ground in accordance with RD/RA Work Plan for 300-FF-2 Soils (DOE/RL-2014-13-ADD1).*

**Safety and Environmental Documents:**

- TPA Change request package for M-016-86 was disapproved by EPA not taking any action. DOE-RL is disputing.

Data Date = 10-24-21 Page 1 of 1 © Oracle Corporation

**100/300 Area Unit Managers Meeting  
Groundwater Summary by OU  
September – October, 2021 Data  
November 18, 2021**

**100-K Area Groundwater Operable Unit**

EPA Lead

RL – E. Glossbrenner, CPCCo – E. Macdonald, J. Lynn

**CERCLA Process Implementation:**

- Revision 1 of 100-KR-4 groundwater monitoring SAP (DOE/RL-2013-29) began in May 2021 and is in-process. Revision 1 was sent to EPA review and comments were received in October 2021. EPA comment disposition is in-progress.
- 100-KR-4 FS and RI comment resolution is in-progress and a total of four comment packages have been sent to EPA for concurrence. The comment resolution process has been extended into FY22.
- EPA, Ecology, and DOE project managers have had multiple discussions on the potential application of technical impracticability (TI) waivers for the strontium-90 MCL at the 100-K and 100-N areas. These discussions included input from TI waiver coordinators at EPA Region 10 and EPA OSRTI, and presentations with Tribal Nations and ODOE staff for input. The project managers have agreed that, for the particular conditions at 100-K and 100-N, the anticipated attenuation timeframes to achieve the MCL (up to approximately 300 years) can be considered reasonable in the context of an MNA remedy as a component of alternatives in the FSs, subject to the continued CERCLA remedy evaluation and selection process. As such, DOE is no longer pursuing TI waiver documentation, is making corresponding adjustments to the FS reports, and does not intend to include TI waivers as part of the draft proposed plans.

**183.1 KE Headhouse Soil Flushing**

- The 100-KR-4 Explanation of Significant Difference (ESD) for the 183.1 KE Headhouse Soil Flushing was completed and signed on September 28, 2021.
- DOE/RL-2021-31, *183.1 KE Headhouse Soil Flushing Sampling and Analysis Plan*, has been drafted and review comments from RL been received. The SAP is anticipated to be sent to EPA for review in November 2021.

**183.1 KW Headhouse Soil Flushing and Rebound Study**

- The KW rebound study began in June 2021. Samples are being collected monthly for select wells and data is being provided to RL and EPA via email status update as data is received. Figure K-1 shows Cr(VI) concentration data collected up through the end of October 2021 for key monitoring wells.

**RPO and Drilling**

- EPA review comments for DOE/RL-2019-16-ADD1, *100-KR-4 Groundwater Operable Unit Well Installation Sampling and Analysis Plan, Addendum 1: Wells 199-K-241, 199-K-242, and 199-K-243* were received in October 2021. Comments have been dispositioned and are at EPA for review.
- Re-alignment of wells 199-K-208 and 199-K-238 began in late August 2021, however the work has been delayed due to contracting issues. KX P&T extraction well 199-K-208 will be converted to a monitoring well, and current monitoring well 199-K-238 will be converted to an extraction well.

**Monitoring & Reporting:**

- The following are missed sampling events during September and October:
  - Well 199-K-186 is not accessible due to D&D activities and is expected to be inaccessible through the fall 2021 low river stage months. August sampling was cancelled and October paperwork will also be cancelled.
  - The scheduled triannual sampling of Aquifer Tube AT-K-3-S in August was delayed until September 1, 2021. During the September attempt, the aquifer tube did not produce water. The aquifer tube has been inspected and after further review, the collected data from the paired aquifer tubes indicate that AT-K-3-M

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and AT-K-3-D appear to be damaged as well. The August and October events will be cancelled and the aquifer tubes will be repaired at a future date.

**Remedial Actions & System Modifications:**

- Figures K-2 through K-4 present the monthly volume of groundwater treated and mass of hexavalent chromium removed through October 2021. The observed decrease in treatment capacity at the KR4 P&T system (Figure K-2) is attributed to the repair of distributors inside several IX resin vessels. The decrease at the KW P&T system (Figure K-3) is a result of P&T wells being shutdown to support a rebound study at the 183.1KW Headhouse. The decrease at the KX P&T system (Figure K-4) is a result of a failed pump, which has been repaired, and in-progress repair of several IX resin vessels.
- Figure K-5 illustrates the monthly average pumping rates for operating extraction wells across the 100-KR-4 OU P&T systems.
- The volume of groundwater treated, and mass of Cr(VI) removed for the 100-K P&T systems (KX, KR-4, and KW) during July and August are:

Month	Gallons Treated (millions)	Hexavalent Chromium Removed (kg)
September	32	1.1
October	27	1.0
Totals	<b>59</b>	<b>2.2</b>

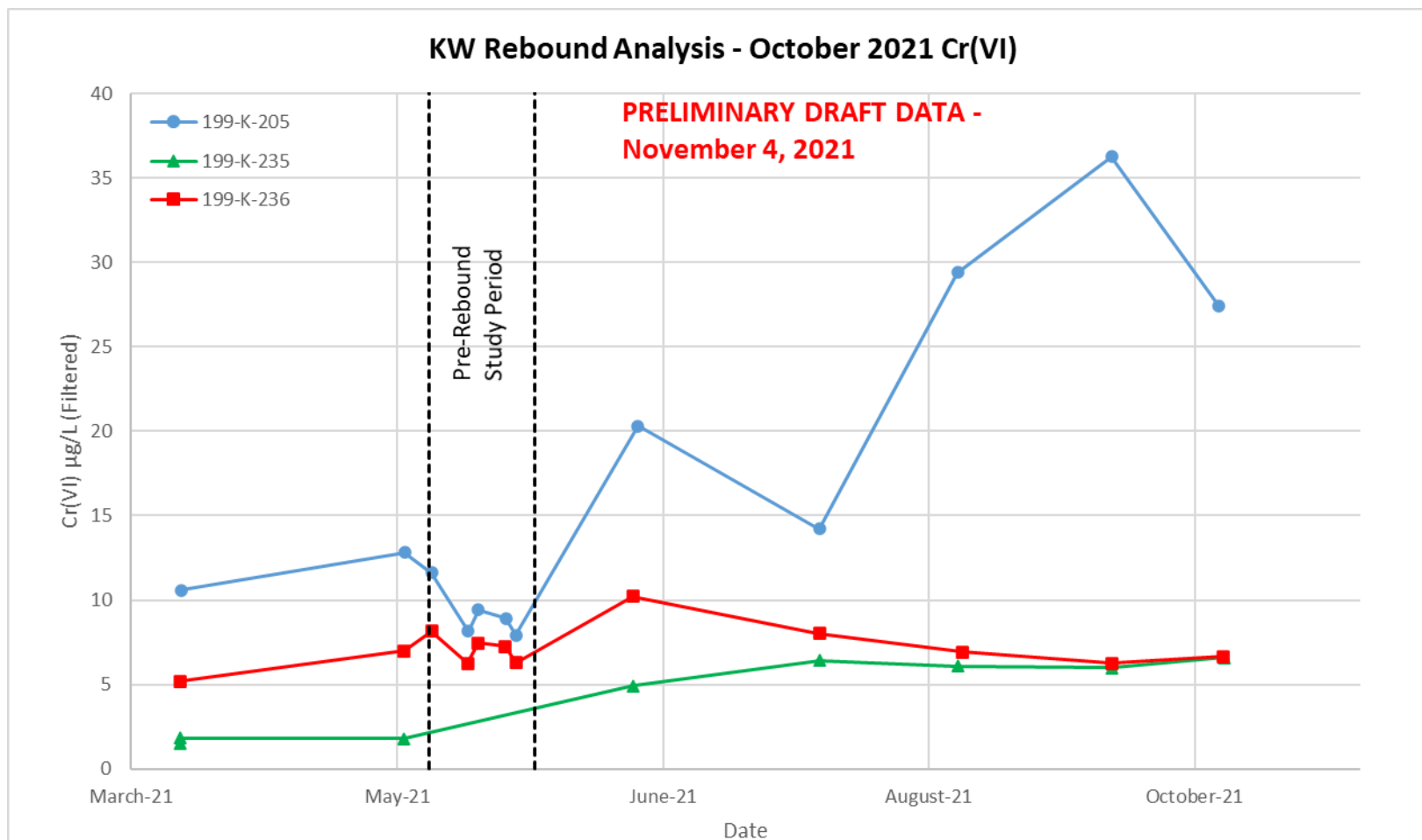
- FY 2021 (October 2020 through September 2021) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
KR4	86	1.1
KW	84	2.9
KX	225	9.4
Total	<b>395</b>	<b>13.3</b>

- FY 2022 (October 2021) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
KR4	6	0.1
KW	5	0.2
KX	16	0.7
Total	<b>27</b>	<b>1.0</b>

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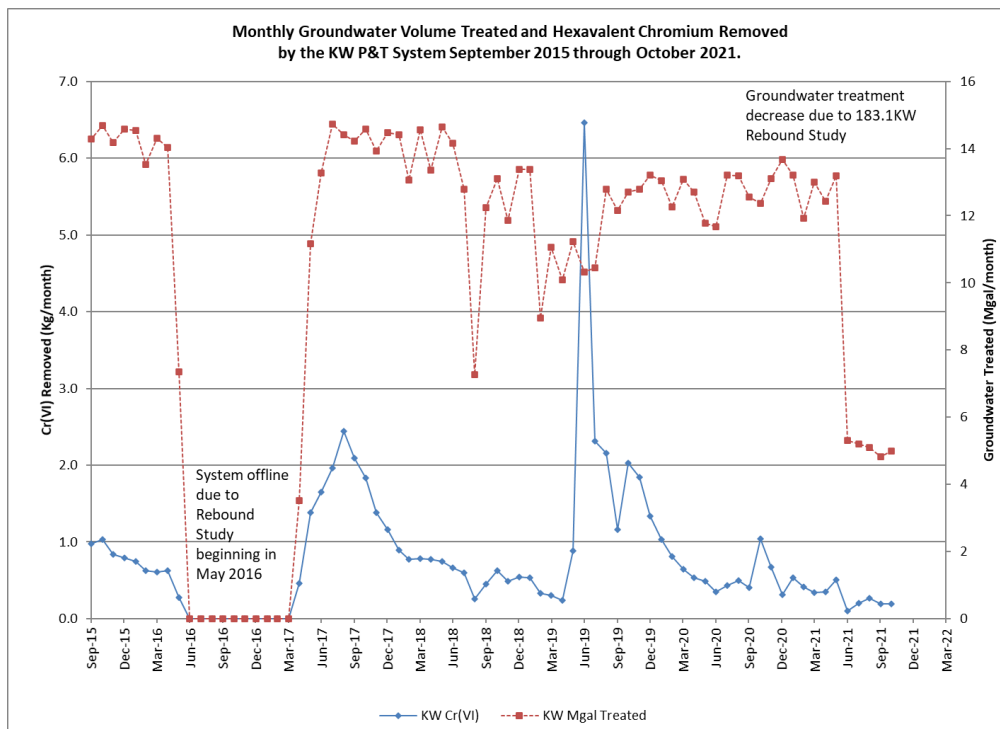
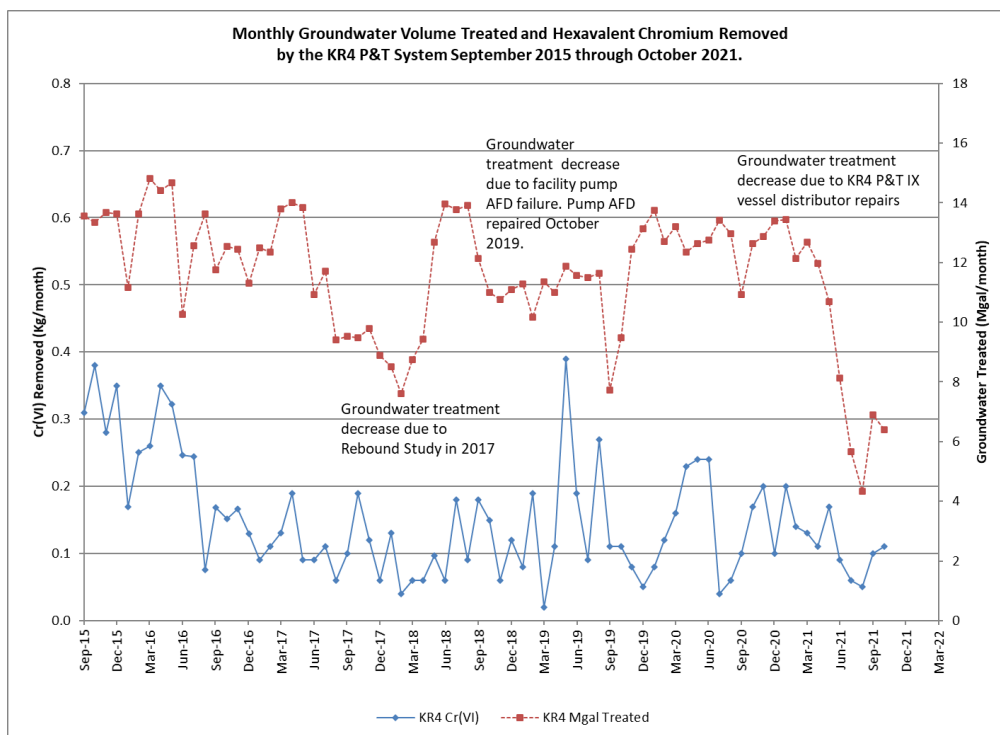


# 100/300 Area Unit Managers Meeting

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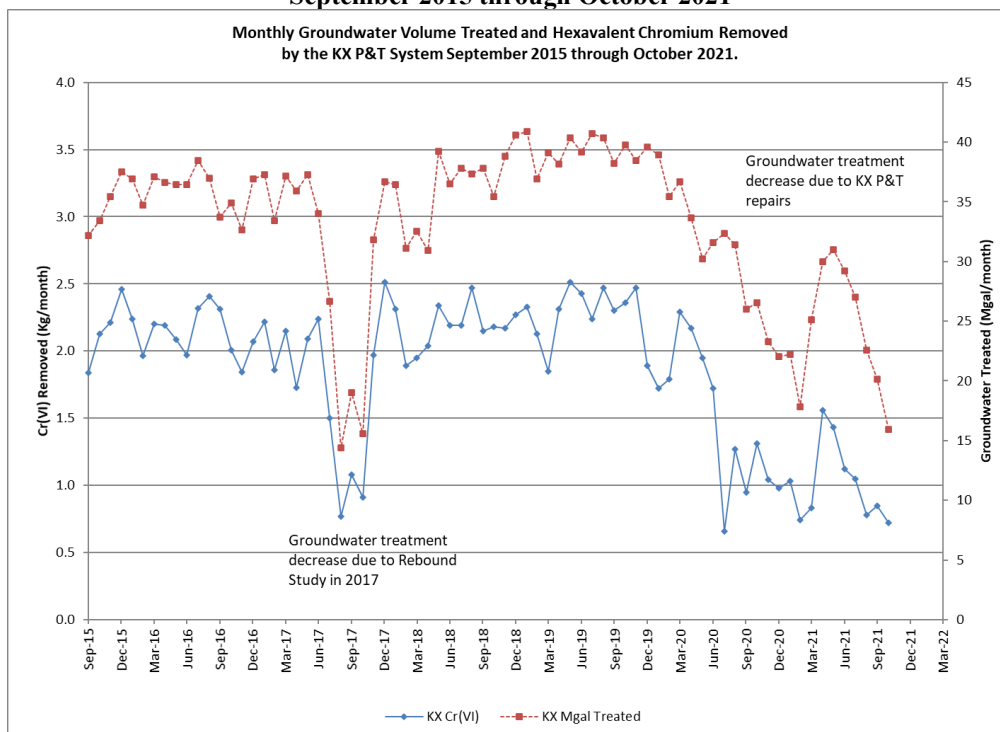
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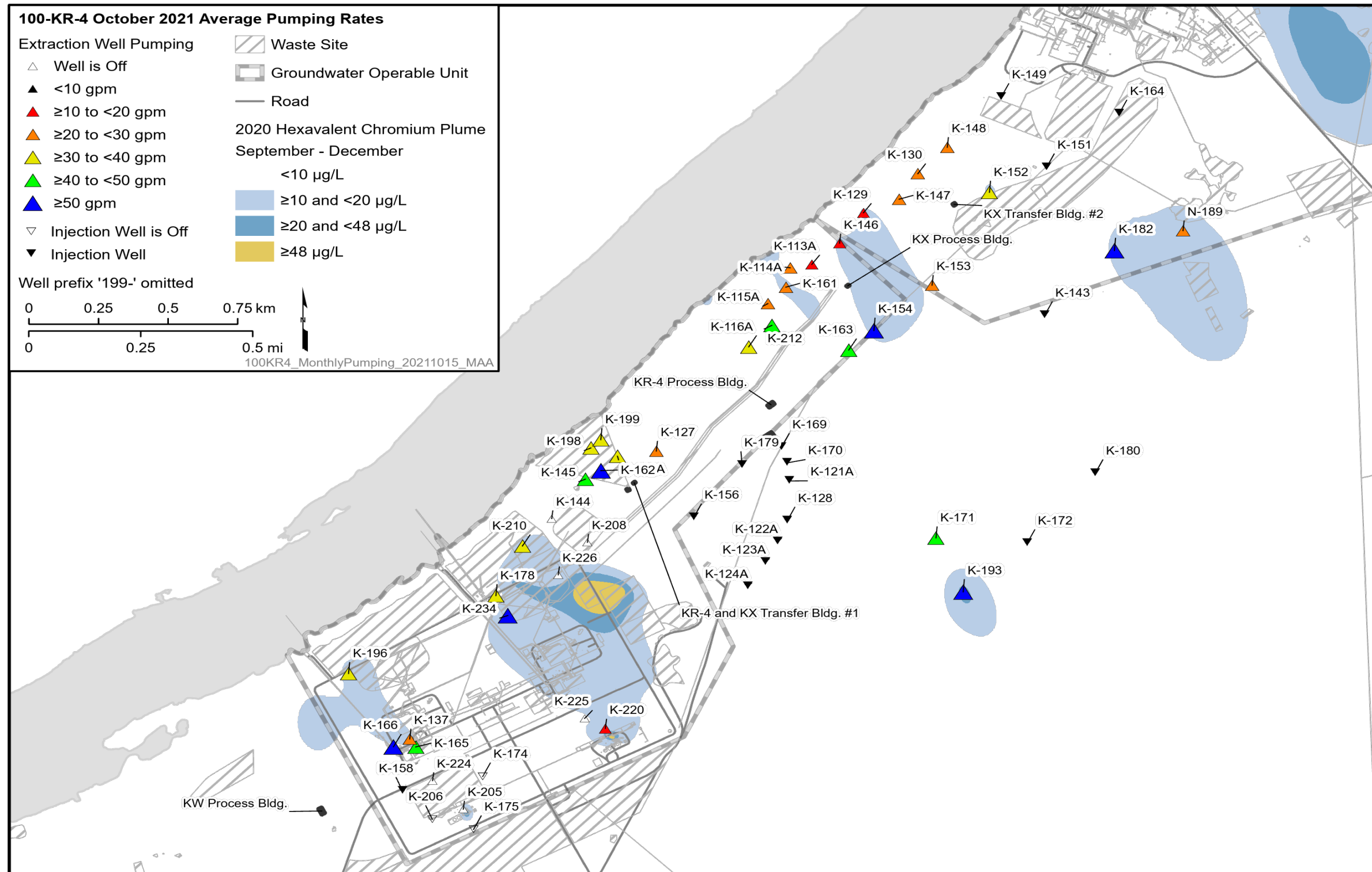
**September 2015 through October 2021**



**Figure K-4. Monthly Cr(VI) removed, and groundwater volume treated by KX P&T September 2015 through October 2021**



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**Regulatory Agency Comments:** None



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**100-BC Area Groundwater Operable Unit**

EPA Lead

RL – J. Sands, CPCCo – E. Macdonald, M. Hartman

**CERCLA Process Implementation:**

- ROD was completed and signed on September 28, 2021.
- CPCCo is developing the RD/RAWP.

**Monitoring & Reporting:**

- 22 of 23 aquifer tubes and hyporheic sampling points were sampled as scheduled in September. Tube C6135 did not yield water when sampling was attempted. Samplers will try again in November.
- Cr(VI) concentrations in many of the aquifer tubes and hyporheic sampling points declined in September
- All 29 wells in the monitoring network were sampled as scheduled in October. Data have not yet been received.
- 100-BC water levels were measured in 35 wells in September.

**Regulatory Agency Comments: None**

**100-N Area Operable Unit**

Ecology Lead

RL – E. Glossbrenner, CPCCo – E. Macdonald, A. Lee

**CERCLA Process Implementation and Remedial Actions:**

- TPA CN-0821 was developed to change the schedule for reinjection of apatite and completion of the PRB from what was included in the 100-NR-2 RD/RAWP (DOE/RL-2001-27). The TPA-CN has been updated to address Ecology concerns about the timing for completing build-out being consistent with the findings included in the most recent Draft B of the RI/FS. RL identified that further discussion is needed to coordinate the cultural review process before work to complete this CERCLA decisions is implemented.
- Comment resolution on the 100-N RI/FS is ongoing. RL provided ten comment response packages to Ecology for review/concurrence. Ecology has provided at least partial concurrence on nine of those ten packages. 286 comments have been closed and 95 responses are still in review.
- Seed viability testing for sagebrush, legumes, and forbes was completed in September as part of the mitigation actions identified in the Memorandum of Understanding for demolition of the 100-N P&T system. In October, tribal representatives were notified of the results of collectiong and testing.
- EPA, Ecology, and DOE project managers have had multiple discussions on the potential application of technical impracticability (TI) waivers for the strontium-90 MCL at the 100-K and 100-N areas. These discussions included input from TI waiver coordinators at EPA Region 10 and EPA OSRTI, and presentations with Tribal Nations and ODOE staff for input. The project managers have agreed that, for the particular conditions at 100-K and 100-N, the anticipated attenuation timeframes to achieve the MCL (up to approximately 300 years) can be considered reasonable in the context of an MNA remedy as a component of alternatives in the FSs, subject to the continued CERCLA remedy evaluation and selection process. As such, DOE is no longer pursuing TI waiver documentation, is making corresponding adjustments to the FS reports, and does not intend to include TI waivers as part of the draft proposed plans.

**Regulatory Agency Comments: None**

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**100-D/H Areas Groundwater Operable Unit**

Ecology Lead

RL –E. Glossbrener, CPCCo –E. Macdonald, T. Hammond

**CERCLA Process Implementation:**

- Regulator review of the Revision 1 Draft A RD/RAWP (DOE/RL-2017-13) is complete and is in clearance review following changes to the waste management section. After clearance review, the document will be sent to DOE for transmittal to Ecology for review.
- The Parent Drilling SAP Rev. 0 has been finalized and will be signed concurrently with the RD/RAWP.
- Parent rebound study SAP (DOE/RL-2021-23) will be sent back to Ecology with DOE's responses to comments along with Draft A of the 100-H North subarea rebound SAP (DOE/RL-2021-23-ADD1).
- TPA-CN-0915 against Well Drilling Sampling and Analysis Plan (DOE/RL-2013-35-ADD13) adding five RUM extraction wells to the FY 2021 drilling campaign was signed on September 3, 2021.
- Waste site reclassification forms are currently in the following stages of review; however, progress on the waste site reclassification forms has been postponed until FY22.
  - Package A – Ecology reviewing responses to their initial comments.
  - Package B – With Ecology for review.
  - Package C – With RL for review.

**Monitoring & Reporting:**

- Missed and Deferred Sampling Concurrence Form for September 2021 was signed by RL and the regulators on 11/1/2021. Eleven well sampling events were cancelled due to low water levels, pump failure, radio communications issue, bad level transducer, and realignments to injection wells. To date the pump and radio problems have been resolved.
- Anticipate there will be several cancelled samples for October 2021 due to a failed pump, a bad transducer that needs to be replaced, and low water levels associated with low river stage.
- The July and August cancelled samples were combined into a single Sampling Concurrence Form, which was signed by RL and regulators on 9/23/2021. Seven well sampling events were cancelled due to low water levels, well not sample ready, and realignments to injection wells. Two aquifer tube sampling events were cancelled due to broken aquifer tubes.

**Remedial Actions & System Modifications:**

- RUM extraction well 199-H3-33 was tied into the HX system on September 30, 2021.
- Unconfined aquifer extraction well 199-H1-51 was tied into the HX system on September 21, 2021.
- The volume of groundwater treated, and mass of Cr(VI) removed from the 100-HR-3 P&T systems during July and August are:

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Month	Gallons Treated (in millions)	Hexavalent Chromium Removed (kg)
September	46	3.7
October	44	3.4
Total	111	6.9

- FY 2021 (October 2020 through September 2021) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
DX	363	18.7
HX	321	37.8
Total	684	56.5

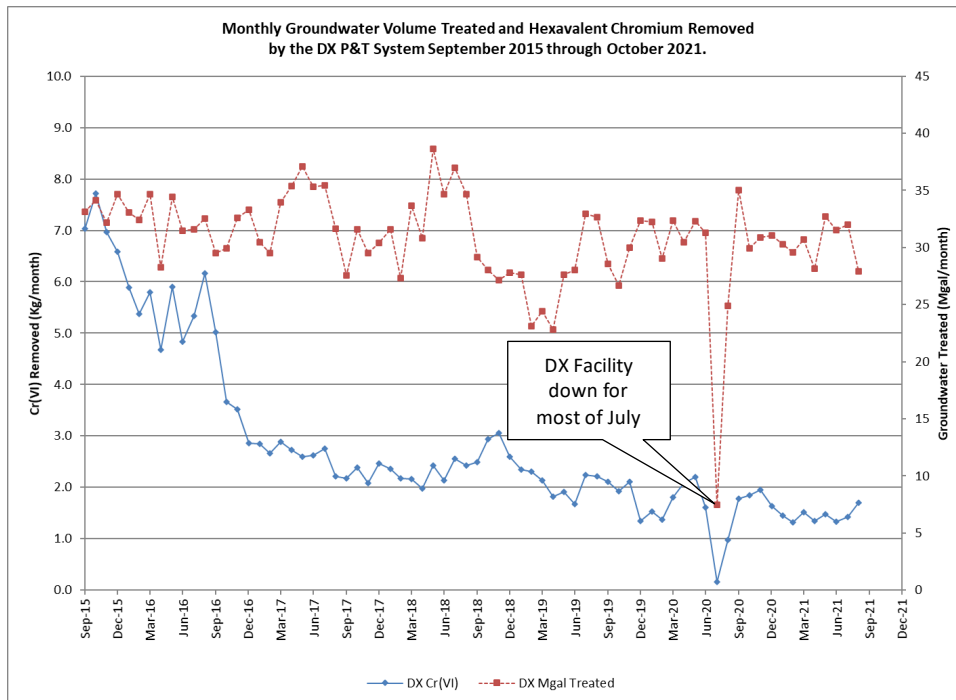
- FY 2022 (October 2021) P&T performance to date:

P&T System	Treated (mgal)	Removed (kg)
DX	25	1.2
HX	19	2.3
Total	34	3.5

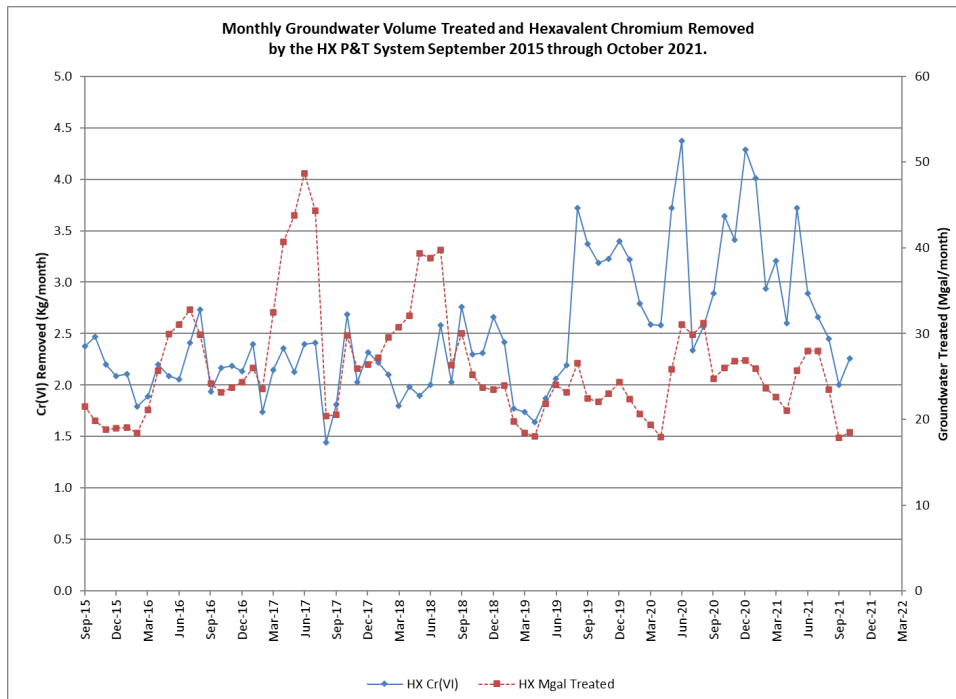
- Figure H-1 illustrates the monthly average pumping rates for operating extraction wells across the 100-HR-3 system. Summaries of the monthly Cr(VI) removed, and groundwater volume treated at DX and HX P&T systems are shown in Figures H-2 and H-3, respectively.



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**Figure H-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by DX P&T September 2015 through October 2021**



**Figure H-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by HX P&T September 2015 through October 2021**

**Regulatory Agency Comments: None**

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**100-F Area Groundwater Operable Unit**

EPA Lead

RL – J. Sands, CPCCo – E. Macdonald, M. Hartman

**CERCLA Process Implementation:**

- An Explanation of Significant Differences (ESD) to the 100-F/IU Record of Decision (ROD) was proposed to add 60 waste sites from 200-CW-3 and 200-OA-1 in the Outer Area and River Corridor to the 100-F/IU Final ROD. Because the Region 10 technical advisor is not supporting the ESD proposal, an alternate option has been identified to include 18 waste sites in the existing Remaining Sites Interim Action ROD. Actions required to support this option are being identified for discussion with DOE and EPA in November.

**Monitoring & Reporting:**

- 20 of 38 wells were sampled as scheduled in October. The other wells will be sampled in the coming weeks.
- 7 aquifer tubes are scheduled for sampling this fall.
- A TPA change notice will be developed to implement changes in the monitoring program that were recommended in the recent performance monitoring report.
- Two new wells are planned to be drilled in CY 2022 to replace old wells 199-F5-1 and 199-F5-6.

**Regulatory Agency Comments:** EPA expects DOE to draft a remedial action completion report for the ROD

**300 Area Groundwater Operable Unit**

EPA Lead

RL – J. Sands, CPCCo – E. Macdonald, S. Bendana, V. Rohay

**CERCLA Process Implementation:**

TPA-CN-0917 against 300-FF-5 Operable Unit Remedy Implementation Sampling and Analysis (DOE/RL-2014-42), signed in September 2021, extends quarterly sampling of thirteen monitoring wells in the enhanced attenuation area; extends quarterly sampling of eleven wells in the vicinity of well 399-6-3; adds quarterly monitoring of six wells downgradient of the 618-10 Burial Ground, and adds quarterly monitoring of seven wells in the vicinity of the 618-11 Burial Ground.

**Remedial Actions:**

- Nothing new to report.

**Monitoring & Reporting:**

**300 Area Industrial Complex:**

- The AEA sampling paperwork is in the field for the April 2021 sampling event. The well scheduled for September 2021 was successfully sampled. The next event is scheduled for November 2021.
- The next semiannual sampling event for the twenty-eight wells used to support calibration of the fate and transport model in the 300 Area Industrial Complex is scheduled for December 2021.
- The thirteen wells in the Stage B area were successfully sampled in September 2021. The next quarterly sampling event is scheduled for December 2021.
- The eleven wells used to evaluate elevated uranium concentrations observed at well 399-6-3 were successfully sampled in September 2021. The next quarterly sampling event is scheduled for December 2021.

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**618-10 Burial Ground/316-4 Crib:**

- The next sampling event is scheduled for November 2021.
- The next annual sampling event for AEA is scheduled for December 2021.

**618-11 Burial Ground (*RL - A. Wiborg*)**

- The CERCLA sampling paperwork is in the field for the October 2021 sampling event.
- The next AEA sampling event is scheduled for October 2022.

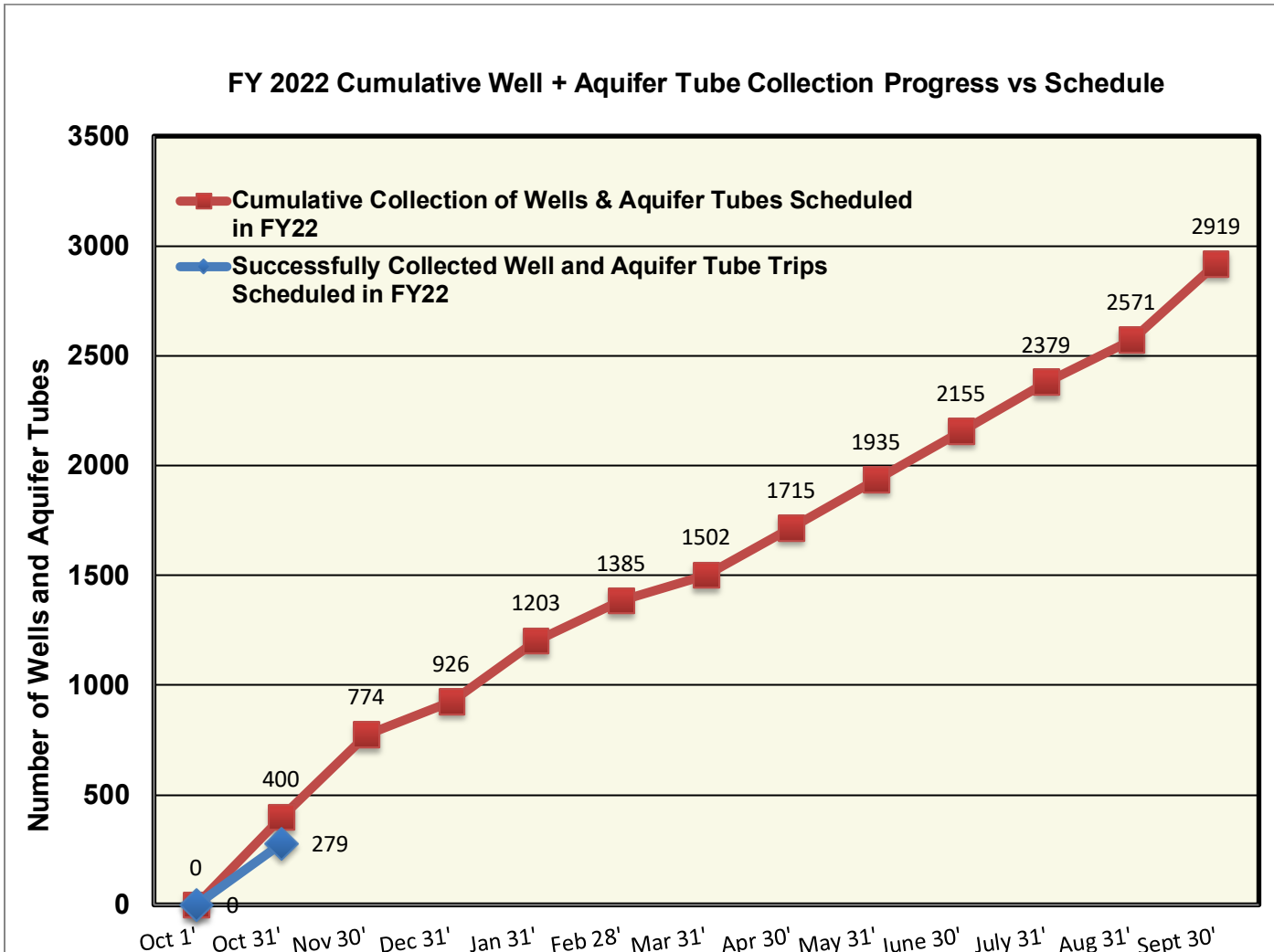
**300 Area Process Trenches (316-5) RCRA Monitoring:**

- The 8 RCRA wells is scheduled for September 2021 were successfully sampled. The next sampling event is scheduled for June 2022.

**Regulatory Agency Comments: None**

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**Hanford Annual Groundwater Sampling Program Performance**



**Regulatory Agency Comments:** None



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**Documents Submitted to the AR**

<b>Document Number</b>	<b>Title</b>	<b>Referencing Document</b>
ECF-100FR3-21-0087_R0	Statistical Evaluations in Support of 100-FR-3 Performance Monitoring Report, 2015 To 2020	Annual Report
ECF-300FF5-21-0023_R0	Calculation of Concentration Trends, Means, and Confidence Limits for Cis 1,2-Dichloroethene, Gross Alpha, Nitrate, Trichloroethene, Tritium, and Uranium in the 300-FF-5 Operable Unit Through CY 2020	Annual Report
ECF-300FF5-21-0121_R0	Calculation of Upper Confidence Limits for RCRA Monitoring at the 300 Area Process Trenches to Support the January - June 2021 Semi-Annual Reports	Semi-Annual Report
ECF-HANFORD-21-0116_R0	Calculation of Upper Confidence Limits for RCRA Monitoring at the 183-H Solar Evaporation Basins to Support The January - June 2021 Semiannual Report	Semi-Annual Report
SGW-65037-VA_R0	100-HR-3 Groundwater Operable Unit Remedial Action Objectives Evaluation, Calendar Year 2019	Annual Report
SGW-65138_R0	Hanford Site Interim Status RCRA Groundwater Quarterly Reports for the Combined Months of January Through March 2020 and April Through June 2020	RCRA Reporting Documents
SGW-66940_R0	100-NR-1 OU Bioventing Confirmation Sampling Data Usability Assessment	Annual Report
ECF-HANFORD-21-0010_R0	Calculation of Radiological Dose Based on Calendar Year 2020 Atomic Energy Act Groundwater Monitoring at Hanford	Annual Report
SGW-66702	300-FF-5 Operable Unit Remedial Action Performance Evaluation For 2020	CIE

**Regulatory Agency Comments:** None

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**Approved Change Notices**

<b>Number</b>	<b>Title</b>	<b>Description of Change</b>
TPA-CN-0915	DOE/RL-2013-35-ADD13, 100-HR-3 Groundwater Operable Unit Well Installation Sampling and Analysis Plan, Addendum 13: Wells 199-D2-14, 199-D1-1, 199-H1-51, 199-H3-33, 199-H3-34, and 199-H6-9, Rev. 0	DOE/RL-2013-35-ADD13 is amended to add five RUM extraction wells and related details in the well installation sampling and analysis plan.
TPA-CN-0917	DOE/RL-2014-42, 300-FF-5 Operable Unit Remedy Implementation Sampling and Analysis Plan, Rev. 0	DOE/RL-2014-42 is amended to extend quarterly sampling of 13 monitoring wells in the enhanced attenuation area for another year (FY 2022); extend quarterly sampling of 11 wells in the vicinity of well 399-6-3 for another year (FY 2022); add quarterly monitoring of 6 wells downgradient of the 618-10 Burial Ground for two years (FY 2022 and FY 2023); add monitoring of 7 wells in the vicinity of the 618-11 Burial Ground for two years (FY 2022 and FY 2023), and add field parameters for the two monitoring wells downgradient of the 324 Building.
TPA-CN-0911	DOE/RL-2013-49, 100-HR-3 Pump and Treat System Operations and Maintenance Plan, Rev. 1	This change notice amends DOE/RL-2013-49, Rev. 1, to update wells associated with the 100-HR-3 P&T systems from 2017 through the end of CY2019 and reduces the 100-HR-3 in-process sampling frequency for the IX resin vessels.

**Regulatory Agency Comments:** None

**Monthly Performance Report Assessment**

The DOE Project Managers have identified no outstanding issues with the preceding month's Environmental Performance Report for this scope.

**100/300 Area Unit Manager Meeting**  
**100-OL-1 – Orchard Lands**  
**November 18, 2021**

**100-OL-1 OU Scope** - *(John Sands, PNNL, Ecology)*

**Background**

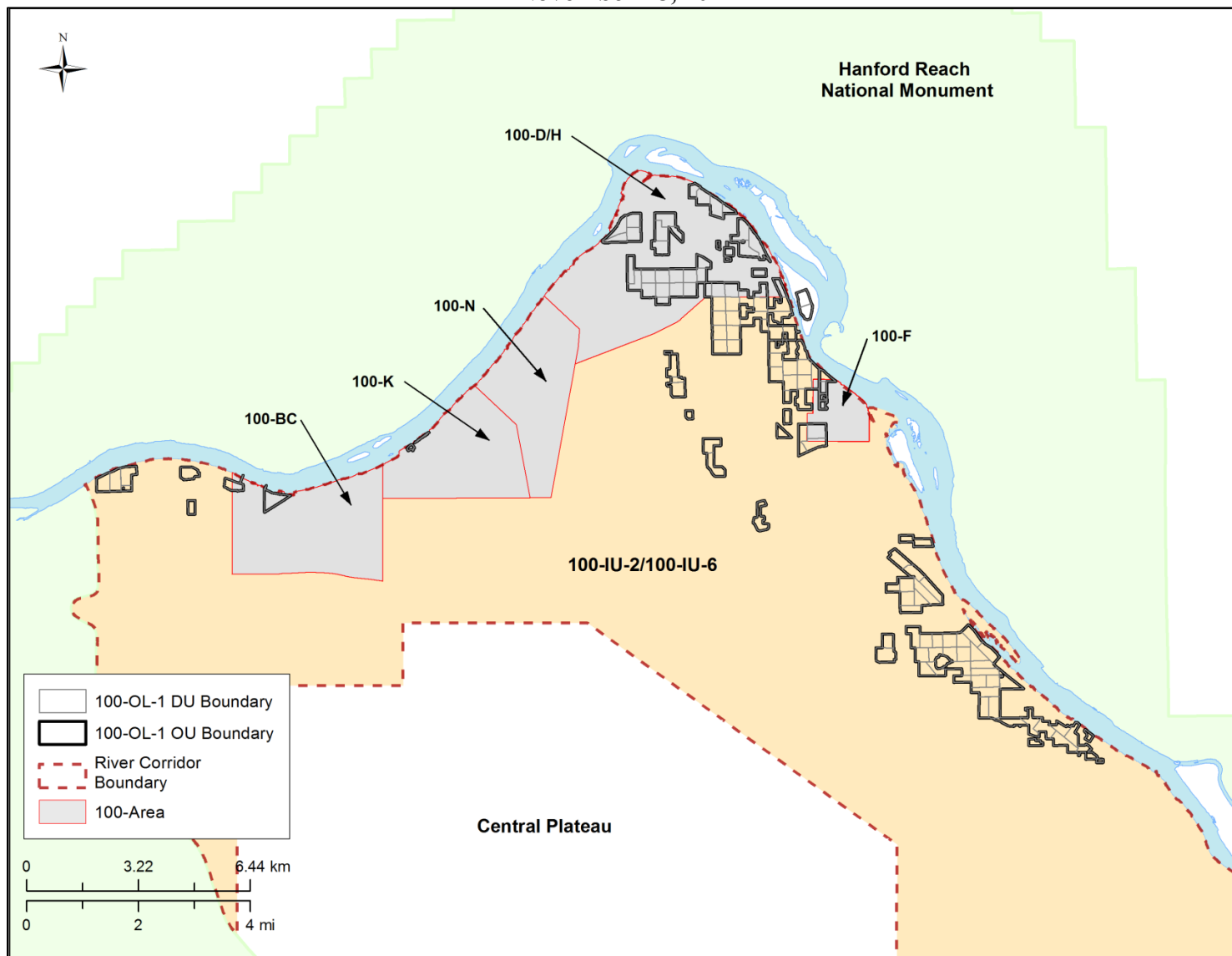
- 100-OL-1 OU covers 4,995 acres across the River Corridor, incorporating lands where former orchards used lead arsenate pesticide (Figure 1). Lead arsenate was the standard pesticide for controlling codling moths in many fruit trees from the 1890s through 1988. Some waste sites in the 100 Area contain relatively high lead and arsenic concentrations near the soil surface. 100-OL-1 OU was divided into 133 decision units (DUs) for the evaluation of lead and arsenic in the surface soils using a portable x-ray fluorescence (XRF) analyzer. The Remedial Investigation found:
  - There are 83 DUs (3,056 acres) that need no further action because the nature and extent of lead and arsenic soil concentrations in the DUs do not meet or exceed any criteria of the “3-part rule” (WAC 173-340-740(7)) for human health or ecological screening levels.
  - There are 9 DUs (362 acres) that do not meet or exceed any criteria of the “3-part rule” for the human health screening levels, but exceed ecological screening levels.
  - There are 41 DUs (1,578 acres) that meet or exceed some criteria of the “3-part rule” for the human health screening levels.

**Status**

M-015-96 – Submit 100-OL-1 RI Report and a CR to Establish a Date for the FS Report to Ecology by February 28, 2019 (complete)

- Draft A RI report submitted to Ecology for comments on September 7, 2017.
- Comments received from Ecology on Draft A RI Report on May 10, 2018.
- Draft B RI report submitted to Ecology for review on June 24, 2020.
- Ecology extended the completion date for their comment review period to November 18, 2021.
- M-015-97 – Submit the Draft A Feasibility Study Report to Ecology by August 31, 2021 (complete)
- Ecology extended the completion date for their comment review period to December 2, 2021 (21-NWP-177).

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100-OL-1 – Orchard Lands  
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**Figure 1. The 100-OL-1 OU and Associated Decision Units across the Hanford Site River Corridor**



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Action Items List  
November 18, 2021

CPCC-2106004  
ATTACHMENT 9

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
X	190		Bill Faught	CHPRC	Add note to operations performance graphics for P&T systems to indicate why the months performance was off trend.	Completed

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**Appendix A**

This contains all the Groundwater Sample Event Disposition Concurrence Forms approved in September and October.

**Regulatory Agency Comments: None**

## GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:

J. Lynn

OU/TSD/Waste Site/WMA/GW Interest Area:

100-KR-4

AEA/CERCLA/RCRA/Other:

CERCLA

## TABLE OF WELLS FOR DISPOSITION APPROVAL

Well	Scheduled Event (MM/YY)	Disposition (Canceled/Deferred Sample Event)	Justification	Document Driver (Document Containing Sample Requirements)
199-K-186	10/21	Canceled	Well remains blocked by D&D remedial excavation efforts with no access for sampling. The next sampling event is scheduled for high river stage in May 2022.	DOE/RL-2013-29, Rev.0
AT-K-3-S	08/21	Canceled	AT-K-3-S sampling attempted 9/1/2021 for August triannual event. Aquifer tube did not produce water. Inspection by well maintenance was completed in September; however, review of data for AT-K-3-M and AT-K-3-D indicate all three tubes are damaged. These three grouped tubes are proposed to be replaced.	DOE/RL-2013-29, Rev.0
AT-K-3-S	10/2021	Canceled	Canceled event due to damaged aquifer tube. Aquifer tube proposed to be replaced.	DOE/RL-2013-29, Rev.0
AT-K-3-M	10/2021	Canceled	Canceled event due to damaged aquifer tube. Aquifer tube proposed to be replaced.	DOE/RL-2013-29, Rev.0
AT-K-3-D	10/2021	Canceled	Canceled event due to damaged aquifer tube. Aquifer tube proposed to be replaced.	DOE/RL-2013-29, Rev.0

## APPROVALS

DOE:

Naomi Jaschke

Print First and Last Name

Naomi M. Jaschke

Digitally signed by Naomi M. Jaschke  
Date: 2021.11.10 19:24:38 -08'00'

Signature / Date

Regulator:

Roberto Armijo

Print First and Last Name

Armijo, Roberto

Digitally signed by Armijo, Roberto  
Date: 2021.11.12 08:10:05 -08'00'

Signature / Date

Regulator:

Print First and Last Name

Signature / Date

## GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:

J. Lynn

OU/TSD/Waste Site/WMA/GW Interest Area:

100-KR-4

AEA/CERCLA/RCRA/Other:

CERCLA

## TABLE OF WELLS FOR DISPOSITION APPROVAL

Well	Scheduled Event (MM/YY)	Disposition (Canceled/Deferred Sample Event)	Justification	Document Driver (Document Containing Sample Requirements)
199-K-186	08/21	Canceled	Well remains blocked by D&D remedial excavation efforts with no access for sampling. The next sampling event is scheduled for low river stage in October/November 2021.	DOE/RL-2013-29, Rev.0

## APPROVALS

DOE:

Michael Cline

Print First and Last Name

MICHAEL CLINEDigitally signed by MICHAEL CLINE  
Date: 2021.09.29 15:04:18 -07'00'  
Signature / Date

Regulator:

Roberto Armijo

Print First and Last Name

Armijo, RobertoDigitally signed by Armijo, Roberto  
Date: 2021.10.05 14:41:08 -07'00'  
Signature / Date

Regulator:

\_\_\_\_\_  
Print First and Last Name\_\_\_\_\_  
Signature / Date



**GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE**

Project Scientist:

Greg Thomas

OU/TSD/Waste Site/WMA/GW Interest Area:

200-BP-5

AEA/CERCLA/RCRA/Other:

CERCLA

**TABLE OF WELLS FOR DISPOSITION APPROVAL**

<b>Well</b>	<b>Scheduled Event (MM/YY)</b>	<b>Disposition (Canceled/Deferred Sample Event)</b>	<b>Justification</b>	<b>Document Driver (Document Containing Sample Requirements)</b>
299-E27-137B	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions. The anions were canceled due to hold time issues. Third quarter sample event collected on 7/26/21.	DOE/RL-2017-11
299-E33-10	NA	Cancel	Annual CERCLA requirement. The well longer provides access to the water table because of corroded iron metal collapsing into the well opening. Revision 1 of DOE/RL-2014-33 recommends removing this well from the network due to sufficient down gradient well coverage.	DOE/RL-2014-33
299-E33-3	NA	Cancel	Annual CERCLA requirement. The well is not accessible because of configuration of the well with respect to the subsidence zone. Attempts will be made to find alternative access routes that allows for sampling in future events.	DOE/RL-2014-33
299-E33-7	NA	Cancel	Annual CERCLA requirement. The well is not accessible because of configuration of the well with respect to the subsidence zone. Attempts will be made to find alternative access routes that allows for sampling in future events.	DOE/RL-2014-33
299-E33-341	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions. The anions were cancelled due to hold time issues. Third quarter sample event collected on 8/18/21.	DOE/RL-2017-11
299-E33-345	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Second quarter of 2021 could not be collected due to drilling of 200-DV-1 well 299-E33-269. Third quarter sample event collected on 7/29/21.	DOE/RL-2017-11
299-E33-36	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions, cyanide and free cyanide. The anions, cyanide and free cyanide were canceled due to hold time issues. Third quarter sample event collected on 7/26/21.	DOE/RL-2017-11
299-E33-37	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions, cyanide and free cyanide. The anions, cyanide and free cyanide were canceled due to hold time issues. Third quarter sample event collected on 7/28/21.	DOE/RL-2017-11

**GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE** (Continued)**TABLE OF WELLS FOR DISPOSITION APPROVAL**

<b>Well</b>	<b>Scheduled Event (MM/YY)</b>	<b>Disposition (Canceled/Deferred Sample Event)</b>	<b>Justification</b>	<b>Document Driver (Document Containing Sample Requirements)</b>
299-E33-39	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions, cyanide and free cyanide. The anions, cyanide and free cyanide were canceled due to hold time issues. Third quarter sample event collected on 7/28/21.	DOE/RL-2017-11
299-E34-10	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions. The anions were cancelled due to hold time issues. Third quarter sample event collected on 7/28/21.	DOE/RL-2017-11
299-E34-9	5-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. Shipping issue delayed sample arrival of anions. The anions were cancelled due to hold time issues. Third quarter sample event collected on 7/28/21.	DOE/RL-2017-11
13-S	10-1-2020	Cancel	Annual CERCLA sampling requirement. Aquifer tube could not be located. An evaluation to determine the need for replacement will be conducted.	DOE/RL-2014-33
699-50-59	4-14-2021	Cancel	Annual CERCLA sampling requirement. This well was impacted because the well is going sample dry. Groundwater samples for metals, cyanide, hexavalent chromium, iodine-129 and technetium-99 analysis could not be collected. The next sampling event is scheduled for April 2022 and sampling for all constituents will be attempted if sufficient water is present.	DOE/RL-2014-33
299-E33-345	2-1-2021	Cancel	Quarterly B Complex CERCLA Removal Action requirement. First quarter of 2021 could not be collected due to drilling of 200-DV-1 well 299-E33-269. Third quarter sample event collected on 7/29/21.	DOE/RL-2017-11

## GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE (Continued)

### APPROVALS

**DOE:**

Michael Cline

*Print First and Last Name*

MICHAEL CLINE

Digitally signed by MICHAEL CLINE  
Date: 2021.09.28 14:47:43 -07'00'

*Signature / Date*

**Regulator:**

*Print First and Last Name*



Digitally signed by Welsch, Kim (ECY)  
Date: 2021.09.28 15:06:42 -07'00'

*Signature / Date*

**Regulator:**

Craig Cameron

*Print First and Last Name*

Cameron, Craig

Digitally signed by Cameron, Craig  
Date: 2021.09.29 10:51:48 -07'00'

*Signature / Date*

## GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:

Mitchell Urlacher

OU/TSD/Waste Site/WMA/GW Interest Area:

200-PO-1

AEA/CERCLA/RCRA/Other:

CERCLA

## TABLE OF WELLS FOR DISPOSITION APPROVAL

Well	Scheduled Event (MM/YY)	Disposition (Canceled/Deferred Sample Event)	Justification	Document Driver (Document Containing Sample Requirements)
84-S	10/20	Cancel	Annual CERCLA sampling requirement. Aquifer tube was dry in December 2020 and sample could not be collected. Scheduled for sampling in October 2021.	DOE/RL-2003-04
86-S	10/20	Cancel	Annual CERCLA sampling requirement. Aquifer tube was dry in December 2020 and sample could not be collected. Scheduled for sampling in October 2021.	DOE/RL-2003-04
C6383	10/20	Cancel	Annual CERCLA sampling requirement. Aquifer tube could not be located in December 2020. Scheduled for sampling in October 2021 and if not found will be evaluated to determine the need for replacement.	DOE/RL-2006-59

## APPROVALS

DOE:

Michael Cline

Print First and Last Name

MICHAEL CLINE

Digitally signed by MICHAEL CLINE  
Date: 2021.09.28 14:48:33 -07'00'

Signature / Date

Regulator:

Print First and Last Name


Digitally signed by Welsch, Kim (ECY)  
Date: 2021.09.28 15:04:11 -07'00'

Signature / Date

Regulator:

Craig Cameron

Print First and Last Name

Cameron, Craig

Digitally signed by Cameron, Craig  
Date: 2021.09.29 10:52:30 -07'00'

Signature / Date



**GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE**

Project Scientist:  Art Lee	OU/TSD/Waste Site/WMA/GW Interest Area:  100-NR
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AEA/CERCLA/RCRA/Other:  CERCLA
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**TABLE OF WELLS FOR DISPOSITION APPROVAL**

<b>Well</b>	<b>Scheduled Event (MM/YY)</b>	<b>Disposition (Canceled/Deferred Sample Event)</b>	<b>Justification</b>	<b>Document Driver (Document Containing Sample Requirements)</b>
C6317	6/1/2021	Canceled	The June event was to sample during high river, which has past. Next sample event scheduled for September for low river period. Sr-90 and tritium concentrations have historically been less than the MCLs of 8 pCi/L and 20,000 pCi/L respectively (2020 sample results were 1.99 pCi/L and 10,300 pCi/L, respectively).	DOE/RL-2001-27
C6318	6/1/2021	Canceled	The June event was to sample during high river, which has past. Next sample event scheduled for September for low river period. Sr-90 and tritium concentrations have historically been less than the MCLs of 8 pCi/L and 20,000 pCi/L respectively (2020 sample results were 0.1 (U) pCi/L and 1,860 pCi/L, respectively).	DOE/RL-2001-27
C6319	6/1/2021	Canceled	The June event was to sample during high river, which has past. Next sample event scheduled for September for low river period. Sr-90 and tritium concentrations have historically been less than the MCLs of 8 pCi/L and 20,000 pCi/L respectively (2020 sample results were 1.48 (U) pCi/L and 820 pCi/L, respectively).	DOE/RL-2001-27
C6320	6/1/2021	Canceled	The June event was to sample during high river, which has past. Next sample event scheduled for September for low river period. Sr-90 concentrations fluctuate above and below the MCL of 8 pCi/L with river stage (2020 sample results were 1.65 (U) pCi/L and max detected was 14 pCi/L in 2013).	DOE/RL-2001-27
N116mArray-1A	6/1/2021	Canceled	Concentrations at the aquifer tube were below 8 pCi/L before the aquifer tube became damaged and could no longer be sampled (concentration was 4.4 pCi/L in 2017). Upgradient PRB monitoring wells 199-N-347 and 199-N-348 provide monitoring while aquifer tube replacements are planned/funded/scheduled.	DOE/RL-2001-27
N116mArray-3A	6/1/2021	Canceled	Line broken and not able to identify tube location; aquifer tube needs to be replaced. Nearby aquifer tube N116mArray-2A and upgradient PRB monitoring wells 199-N-123 and 199-N-146 provide monitoring while aquifer tube replacements are planned/funded/scheduled.	DOE/RL-2001-27

**GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE** (Continued)**TABLE OF WELLS FOR DISPOSITION APPROVAL**

<b>Well</b>	<b>Scheduled Event (MM/YY)</b>	<b>Disposition (Canceled/Deferred Sample Event)</b>	<b>Justification</b>	<b>Document Driver (Document Containing Sample Requirements)</b>
N116mArray-4A	6/1/2021	Canceled	No water to surface when attempted to sampled on June 22, 2021. The June event was to sample during high river, which has past. Next sample event scheduled for September for low river period. Well maintenance request submitted to check and repair aquifer tube.	DOE/RL-2001-27
N116mArray-8A	6/1/2021	Canceled	Line broken and not able to identify tube location; needs to be replaced. Sr-90 concentrations have historically been less than 8 pCi/L (max detected was 2.45 pCi/L in 2015). Nearby aquifer tubes provide monitoring of higher Sr-90 detected in upriver and downriver while aquifer tube replacements are planned/funded/scheduled.	DOE/RL-2001-27
NVP2-116.0	6/1/2021	Canceled	No water to surface when sampling attempted on June 22, 2021. The June event was to sample during high river, which has past. Next sample event scheduled for September for low river period. Well maintenance request submitted to check and repair aquifer tube.	DOE/RL-2001-27
199-N-167	6/1/2021	Canceled	Top of well screen separated from casing. Filter pack material continued to fall to well when attempted to sample on July 26, 2021. Cancel further sampling until well repairs can be attempted.	DOE/RL-2001-27 DOE/RL-2005-93

**APPROVALS****DOE:**Mike Cline

Print First and Last Name

**MICHAEL CLINE** Digitally signed by MICHAEL CLINE  
Date: 2021.09.13 09:39:11 -07'00'

Signature / Date

**Regulator:**Kim Welsch

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Digitally signed by Welsch, Kim (ECY)  
Date: 2021.09.13 10:06:32 -07'00'

Signature / Date

**Regulator:**Geoff Schramm

Print First and Last Name

Digitally signed by Schramm, Geoff  
Date: 2021.09.13 11:43:40 -07'00'

Signature / Date

**GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE**

Project Scientist:

Darrell Newcomer

OU/TSD/Waste Site/WMA/GW Interest Area:

100-HR-3 OU

AEA/CERCLA/RCRA/Other:

CERCLA

**TABLE OF WELLS FOR DISPOSITION APPROVAL**

<b>Well</b>	<b>Scheduled Event (MM/YY)</b>	<b>Disposition (Canceled/Deferred Sample Event)</b>	<b>Justification</b>	<b>Document Driver (Document Containing Sample Requirements)</b>
199-H4-4	5/1/2021	Canceled	P&T pump not running due to low water level. July 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
199-H4-64	5/1/2021	Canceled	Realigned from an extraction to a monitoring well in April 2021. Well was not ready for sampling following realignment. July 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
C7650	11/1/2020	Canceled	Aquifer tube broken with no ID tag. Attempted to repair this aquifer tube in Nov. 2020, but river stage was too high. July 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
199-H3-26	6/1/2021	Canceled	P&T pump not running due to low water level. August 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
199-H1-32	8/1/2021	Canceled	P&T extraction well realigned to injection well in June 2021. August 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
199-H1-33	8/1/2021	Canceled	P&T extraction well realigned to injection well in May 2021. August 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
199-H3-4	8/1/2021	Canceled	P&T extraction well realigned to injection well in April 2021. August 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
199-H4-80	8/1/2021	Canceled	P&T extraction well realigned to injection well in May 2021. August 2021 outstanding list.	DOE/RL-2013-30, Rev. 0
C6278	11/1/2019	Canceled	Broken aquifer tube awaiting repair. August 2021 outstanding list.	DOE/RL-2013-30, Rev. 0

## GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE (Continued)

### APPROVALS

**DOE:**

Mike Cline

*Print First and Last Name*

MICHAEL CLINE

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Date: 2021.09.23 05:56:59 -07'00'

*Signature / Date*

**Regulator:**

Kim Welsch

*Print First and Last Name*



Digitally signed by Welsch, Kim (ECY)  
Date: 2021.09.23 08:03:15 -07'00'

*Signature / Date*

**Regulator:**

Laura Buelow

*Print First and Last Name*

Buelow, Laura

Digitally signed by Buelow, Laura  
Date: 2021.09.23 08:48:38 -07'00'

*Signature / Date*

## GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:

Darrell Newcomer

OU/TSD/Waste Site/WMA/GW Interest Area:

100-HR-3 OU

AEA/CERCLA/RCRA/Other:

CERCLA

## TABLE OF WELLS FOR DISPOSITION APPROVAL

Well	Scheduled Event (MM/YY)	Disposition (Canceled/Deferred Sample Event)	Justification	Document Driver (Document Containing Sample Requirements)
199-D5-20	8/1/2021	Canceled	P&T pump not running due to low water level.	DOE/RL-2013-30, Rev. 0
199-D8-88	9/1/2021	Canceled	P&T pump not running due to excessive drawdown. Troubleshooting needed to fix tuning.	DOE/RL-2013-30, Rev. 0
199-H1-39	9/1/2021	Canceled	P&T pump not running due to low water level.	DOE/RL-2013-30, Rev. 0
199-H1-46	9/1/2021	Canceled	P&T pump not running due to low water level.	DOE/RL-2013-30, Rev. 0
199-H3-25	9/1/2021	Canceled	P&T pump not running due to pump/motor failure. The adjustable frequency drive needs troubleshooting.	DOE/RL-2013-30, Rev. 0
199-H3-9	9/1/2021	Canceled	P&T pump not running due to radio communication issue.	DOE/RL-2013-30, Rev. 0
199-H4-4	9/1/2021	Canceled	P&T pump not running due to bad level transducer that needs to be replaced.	DOE/RL-2013-30, Rev. 0
199-H4-74	9/1/2021	Canceled	P&T pump not running due to low water level.	DOE/RL-2013-30, Rev. 0
199-H1-34	9/1/2021	Canceled	Realigned to an injection well in May 2021.	DOE/RL-2013-30, Rev. 0
199-H4-77	9/1/2021	Canceled	Realigned to an injection well in May 2021.	DOE/RL-2013-30, Rev. 0
199-H4-84	9/1/2021	Canceled	Dry well	DOE/RL-2013-30, Rev. 0

## APPROVALS

DOE:

Mike Cline

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MICHAEL CLINE

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Date: 2021.11.01 07:43:30 -07'00'

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Regulator:

Kim Welsch

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Date: 2021.11.01 14:33:04 -07'00'

Signature / Date

Regulator:

Laura Buelow

Print First and Last Name

Buelow, Laura

Digitally signed by Buelow, Laura  
Date: 2021.11.02 13:13:45 -07'00'

Signature / Date