CPCC-2204366
Revision 0

100 & 300 AREA UNIT MANAGERS MEETING (UMM) SEPTEMBER 15, 2022

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

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Date Published
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CPCCo
Central Plateau
Cleanup Company
P.O. Box 1464
Richland, Washington 99352

APPROVED
By Julia Raymer at 9:21 am, Nov 09, 2022

Release Approval Date

Approved for Public Release;
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100 & 300 Area Unit Managers Meeting
Agenda
September 15, 2022

Institutional Controls Presentation

Milestones and O.U. Status-July - August Data

- 100 Area River Corridor Soils and Sludge & K Basin Summary (Manny Lopez-Lopez)
- 300 Area River Corridor Soils Summary (Ben Vannah)
- 400 Area (Mark French)
- 100-OL-1 Orchard Lands (John Sands)
- 100-F Area Groundwater (John Sands)
- 300 Area Groundwater (John Sands)
- 100-BC Area Groundwater (John Sands)
- 100-K Area Groundwater (Ellwood Glossbrenner)
- 100-N Area Groundwater (Ellwood Glossbrenner)
- 100-D/H Areas Groundwater (Ellwood Glossbrenner)
- Hanford Annual Groundwater Sampling Program Performance
- River Corridor Milestone Status
- Documents for the Administrative Record and Approved TPA Change Notices

Action Items

Closing Comments

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

Appendix A - Approved Groundwater Sample Event Disposition Concurrence Forms

100/300 Area Unit Managers Meeting
Attendance List
Joined Via Microsoft Teams
September 15, 2022

NAME	ORGANIZATION	EMAIL
BAILEY, KAYCEE	DOE	KAYCEE.BAILEY@RL.DOE.GOV
BOYD, ALICIA	ECY	ALICIA.BOYD@ECY.WA.GOV
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EDWARDS, DANIEL	PNL	DANIEL.EDWARDS@PNNL.GOV
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HIGGINS, KATHLEEN	DOE	KATHLEEN.HIGGINS@RL.DOE.GOV
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JASCHKE, NAOMI	DOE	NAOMI.JASCHKE@RL.DOE.GOV
JOHANSON, JULIE	CPCC	JULIE_A_JOHANSON@RL.GOV
KRUZIC, MICHAEL	CPCC	MICHAEL_R_KRUZIC@RL.GOV
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MERKER, MARISSA	NEZ PERCE	MARISSAM@NEZPERCE.ORG
O'MARA, LAURA K	CPCC	LAURA_K_OMARA@RL.GOV
ROHLFING, DEANNA	HMIS	DEANNA_B_ROHLFING@RL.GOV
SANDS, JOHN	DOE	JOHN.SANDS@RL.DOE.GOV
SCHRAMM, GEOFF	EPA	SCHRAMM.GEOFF@EPA.GOV
SHOEMAKE, JOY	HMIS	JOY_SHOEMAKE@RL.GOV
SINGLETON, DEBORAH	CPCC	DEBORAH_G_SINGLETON@RL.GOV
SNYDER, DALE	CPCC	DALE_E_SNYDER@RL.GOV
VANNAH, BEN	DOE	BENJAMIN.VANNAH@RL.DOE.GOV
VIRGIN, JOHN	DOE	JOHN.VIRGIN@RL.DOE.GOV
WANG, LI	YN	LIWANGYN2017@GMAIL.COM
WELSCH, KIM	ECY	KIM.WELSCH@ECY.WA.GOV

100/300 Area Unit Managers Meeting
Meeting Minutes Approval
Groundwater Summary by O.U.
September 15, 2022

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: MARK FRENCH Digitally signed by MARK FRENCH Date: 2022.10.15 12:24:33 -07'00' **DATE:** _____
River Corridor Project Manager, DOE/RL

APPROVAL: MICHAEL CLINE Digitally signed by MICHAEL CLINE Date: 2022.09.28 10:42:25 -07'00' **DATE:** _____
Groundwater Project Manager, DOE/RL

APPROVAL: Digitally signed by Welsch, Kim (ECY) Date: 2022.10.25 14:48:59 -07'00' **DATE:** _____
Environmental Restoration Project Manager, Ecology

APPROVAL: Digitally signed by GEOFF SCHRAMM Date: 2022.10.25 13:52:14 -07'00' **DATE:** _____
100 Area Project Manager, EPA

CPCC-2204366

THE HANFORD SITE

2022 ANNUAL SITEWIDE INSTITUTIONAL CONTROLS ASSESSMENT

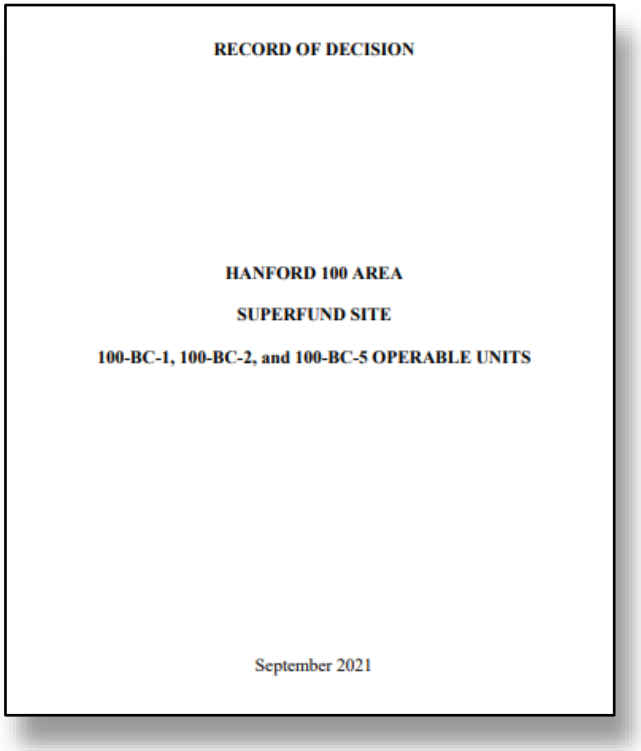
September 15, 2022

Outline

- Background: Requirements and Overview of Assessment
- Map of Assessment Areas
- Institutional Control (IC) Categories and Types
- 2022 Assessment Results for the Hanford Site

Institutional Controls

- Defined in CERCLA and RCRA decision documents
  - Consolidated in ***Sitewide Institutional Controls Plan For Hanford CERCLA Response Actions and RCRA Corrective Actions***, DOE/RL-2001-41, Rev. 10 (IC Plan)
    - Rev. 10 published in late 2022 to incorporate 100-BC Final Record of Decision (ROD), 200-BP-5 Operable Unit (OU) ROD, and 200-PO-1 OU ROD
    - IC Plan requires annual assessment of ICs


RECORD OF DECISION

HANFORD 100 AREA

SUPERFUND SITE

100-BC-1, 100-BC-2, and 100-BC-5 OPERABLE UNITS

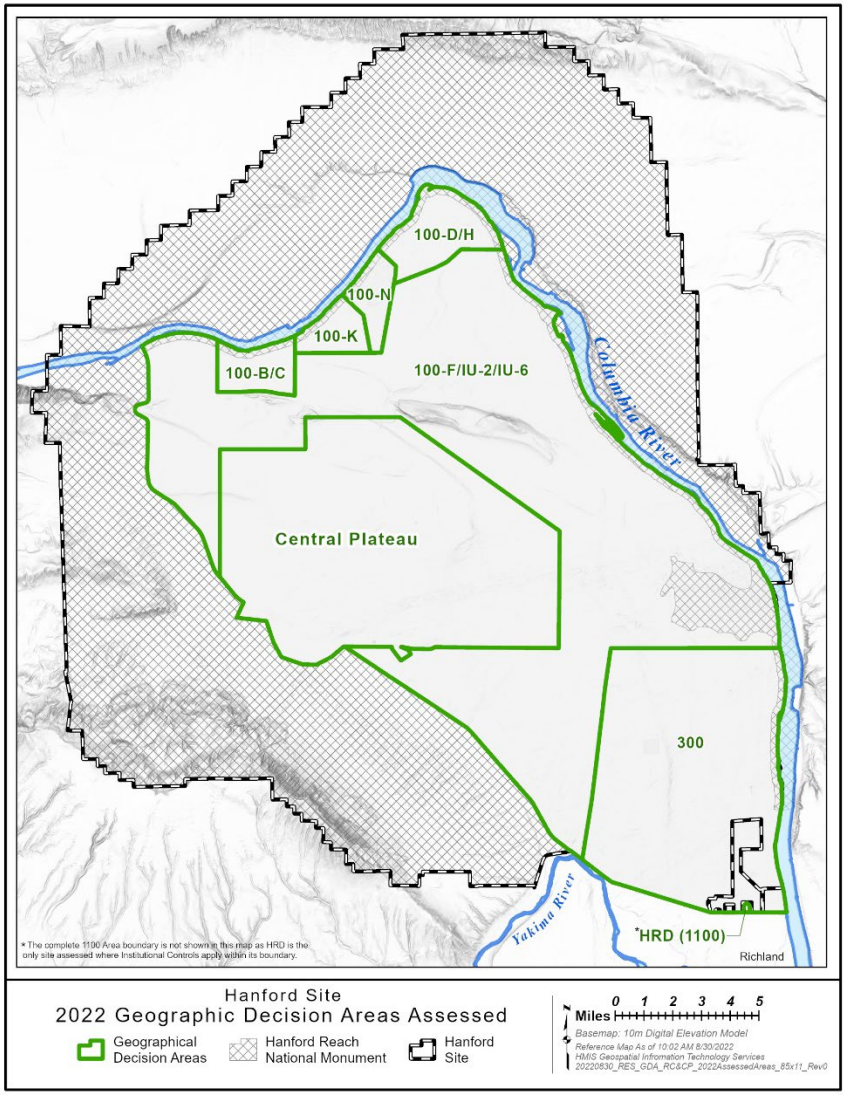
September 2021

HMIS 2022 Annual Assessment

- Completed reviews for applicable IC requirements listed in decision documents and updated IC Plan
- HMIS assessed 205 waste sites for compliance
  - Includes surveillance and maintenance of access and information controls for the Hanford Site
- HMIS compiles results from HMIS and OHCs and publishes an Annual Sitewide IC Assessment Report each fall[a]

[a] This report presents the observations and results of the institutional control (IC) assessment as required by 89303320DEM000031, Hanford Mission Essential Services Contract

Hanford Map of Assessed Areas



Institutional Control Categories & Types

Access Controls

- Warning Notices (i.e., signs)
- Entry and Access Restrictions
- Fencing

Land-Use Management

- Land-use and Real Property Controls
- Permit Process for Land Use
- Notice in Deed
- Water Infiltration Controls

Groundwater Use Management

- Groundwater-Use Controls

Barriers

- Maintenance of Engineered Controls

Warning notices, entry restrictions, and fencing in the 300 Area along the Columbia River during the FY 2022 IC assessment.

Information Controls

- Documentation of IC Requirements and their implementation
- Notifications (i.e., trespassing events)
- Evaluation and Reporting

2022 Assessment of ICs

Access Controls

Warning Notices

- Warning notices are in place to provide information on restrictions, access information, contact information and limit access to the site.
- "No Trespassing" signs along Hanford road perimeters provide information on restrictions and access information to limit access to the site.
- Approximately 3 "No Trespassing" signs along Highway 240 need replacement. Maintenance is scheduled for Fall 2022.
- River Sign Project this summer: 148 signs installed
  - Replaced 75 existing faded signs
  - Installed 22 missing signs
  - Installed 51 new posts and signs

"No Trespassing" signs located at the entrance of the Horn Rapids Landfill that also run along Horn Rapids Road. Request to replace worn out signs completed in FY 2022.

Entry and Access Restrictions & Fencing

- Active badging program and barricades are in place to control unauthorized entry
- Damaged fences were observed in 3 locations
  - Repairs were completed September 2022.

2022 Assessment of ICs

Land-Use Management

Land-Use and Real Property Controls

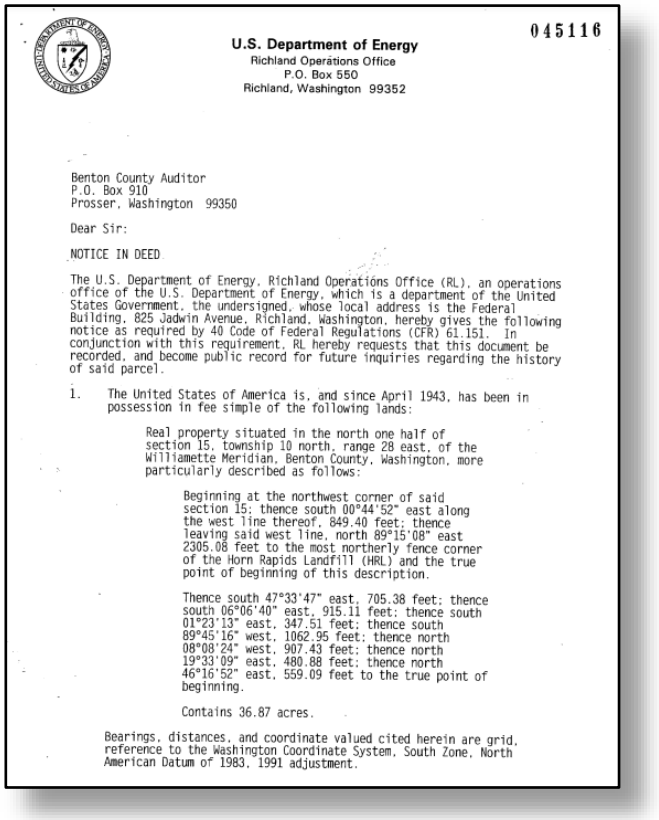
- No changes in land-use designations (e.g., industrial use) occurred in FY 2022 as confirmed by Land Management SMEs.
- Reviewed 33 Site Evaluations in FY 2022 to ensure land-use ICs are maintained

Permit Process for Land Use

- Approval is mandatory for Site Excavation Permits:
  - All (115 this FY) excavation permit applications were evaluated in FY 2022 for IC compliance

Notice in Deed

- Confirmed the record of the property documents restrictions that apply beyond change in ownership or management of the property for the Horn Rapids Landfill (HRD)[a]



045116

U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Benton County Auditor
P.O. Box 910
Prosser, Washington 99350

Dear Sir:

NOTICE IN DEED

The U.S. Department of Energy, Richland Operations Office (RL), an operations office of the U.S. Department of Energy, which is a department of the United States Government, the undersigned, whose local address is the Federal Building, 825 Jadwin Avenue, Richland, Washington, hereby gives the following notice as required by 40 Code of Federal Regulations (CFR) 61.151. In conjunction with this requirement, RL hereby requests that this document be recorded, and become public record for future inquiries regarding the history of said parcel.

1. The United States of America is, and since April 1943, has been in possession in fee simple of the following lands:

Real property situated in the north one half of section 15, township 10 north, range 28 east, of the Willamette Meridian, Benton County, Washington, more particularly described as follows:

Beginning at the northwest corner of said section 15; thence south 00°44'52" east along the west line thereof, 849.40 feet; thence leaving said west line, north 89°15'08" east 2305.08 feet to the most northerly fence corner of the Horn Rapids Landfill (HRL) and the true point of beginning of this description.

Thence south 47°33'47" east, 705.38 feet; thence south 06°06'40" east, 915.11 feet; thence south 01°23'13" east, 347.51 feet; thence south 89°45'16" west, 1062.95 feet; thence north 08°08'24" west, 907.43 feet; thence north 19°33'09" east, 480.88 feet; thence north 46°16'52" east, 559.09 feet to the true point of beginning.

Contains 36.87 acres.

Bearings, distances, and coordinate valued cited herein are grid, reference to the Washington Coordinate System, South Zone, North American Datum of 1983, 1991 adjustment.

[a]The only waste site this currently applies to is the HRD. Other decision documents contain ICs to apply deed restrictions when change in ownership or management of the property occurs.

Land-Use Management

Water Infiltration

- HMIS works with HMIS Environmental, CPCCo, and PNNL to ensure irrigation water is not released at waste sites where irrigation is prohibited
- HMIS coordinates with CPPCo and PNNL to assess waste sites each year in the 300 Area Industrial Complex with the enhanced recharge IC to evaluate controls in place minimize water infiltration
  - Maintain and look for ways to improve drainage systems and barriers in place (e.g., asphalt barriers) to support the enhanced recharge IC

Legacy WIDS site sign located at the north end of the 118-B-1 Burial Grounds waste site that has an institutional control to prohibit irrigation.

  - HMIS Post-Cleanup Surveillance & Maintenance facilitates regular 300 Area Hanford Contractor Interface meetings with Interface Management
  - Work with Hanford Fire, CPCCo, and PNNL to minimize impact of discharges from drinking water pipeline flushing / fire-hydrant tests

HMIS 2022 Assessment of ICs

Groundwater Use Management

Groundwater-Use Controls

- Wells to be drilled at Hanford are reviewed through the Site Excavation Permit Application process

Barriers

Maintenance of Engineered Controls

- Controls are in place to maintain the integrity of the cap at the Horn Rapids Landfill

Information Controls

Documentation of IC Requirements and their implementation

- Document and consolidated in ***Sitewide Institutional Controls Plan For Hanford CERCLA Response Actions and RCRA Corrective Actions***, DOE/RL-2001-41, Rev. 10 (IC Plan)

Notifications

- 2 reportable trespassing events on Hanford (October 2021 – August 2022)

Evaluation and Reporting

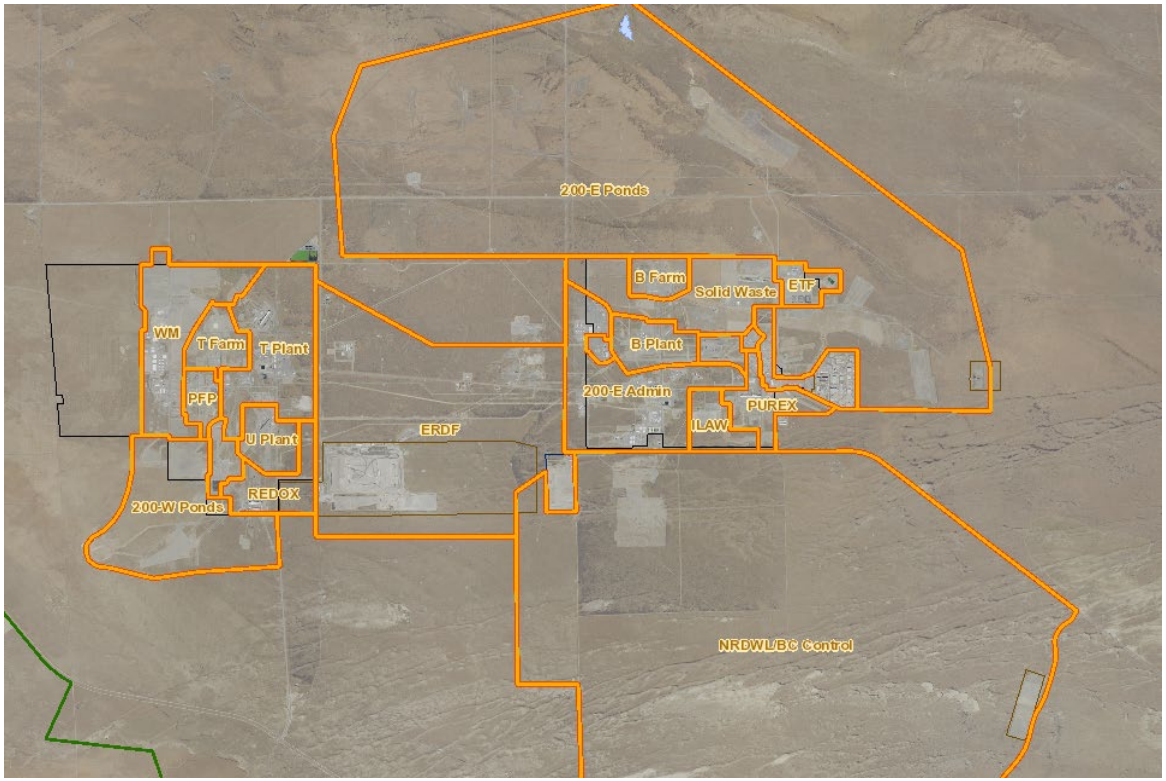
- Evaluations of ICs reported annually in September's Unit Manager's Meeting and Project Manager's Meeting and the Sitewide IC Assessment due each November


CPCC-2204366
CAUTION
UNDERGROUND
RADIOACTIVE MATERIAL
AREA
Entry Requirements:
Prior to Excavating
Contact Radiological
Control Organization

CPCCo 2022 Assessment of ICs

ICs Assessed in 200 Area

- 200-ZP-1 Groundwater Operable Unit
- 200-UP-1 Groundwater Operable Unit
- 221 – U Facility
- 200-CW-5 and 200-PW-1/3/6
- Environmental Restoration Disposal Facility (ERDF)
- 100/200 Areas Remaining Sites (200 North Area)



CPCCo 2022 Assessment of ICs

Access Controls

Entry and Access Restrictions, Warning Notices, and Fencing

- Entry and access restrictions are in place at all CPCCo sites. Active badging and barricades are in place to control unauthorized entry.
- Warning notices (i.e. signs) are in place to provide information on restrictions, access information, and contact information.
- Fencing is in place and maintained to limit access.

Taken south of B farm (200-DV-1 OU)

CPCCo 2022 Assessment of ICs

Land-Use Management

Permit Process for Land Use

No changes in land-use designation occurred in FY 2022. Site Excavation Permits are mandatory for all excavations for IC compliance at CPCCo.

Water Infiltration Controls

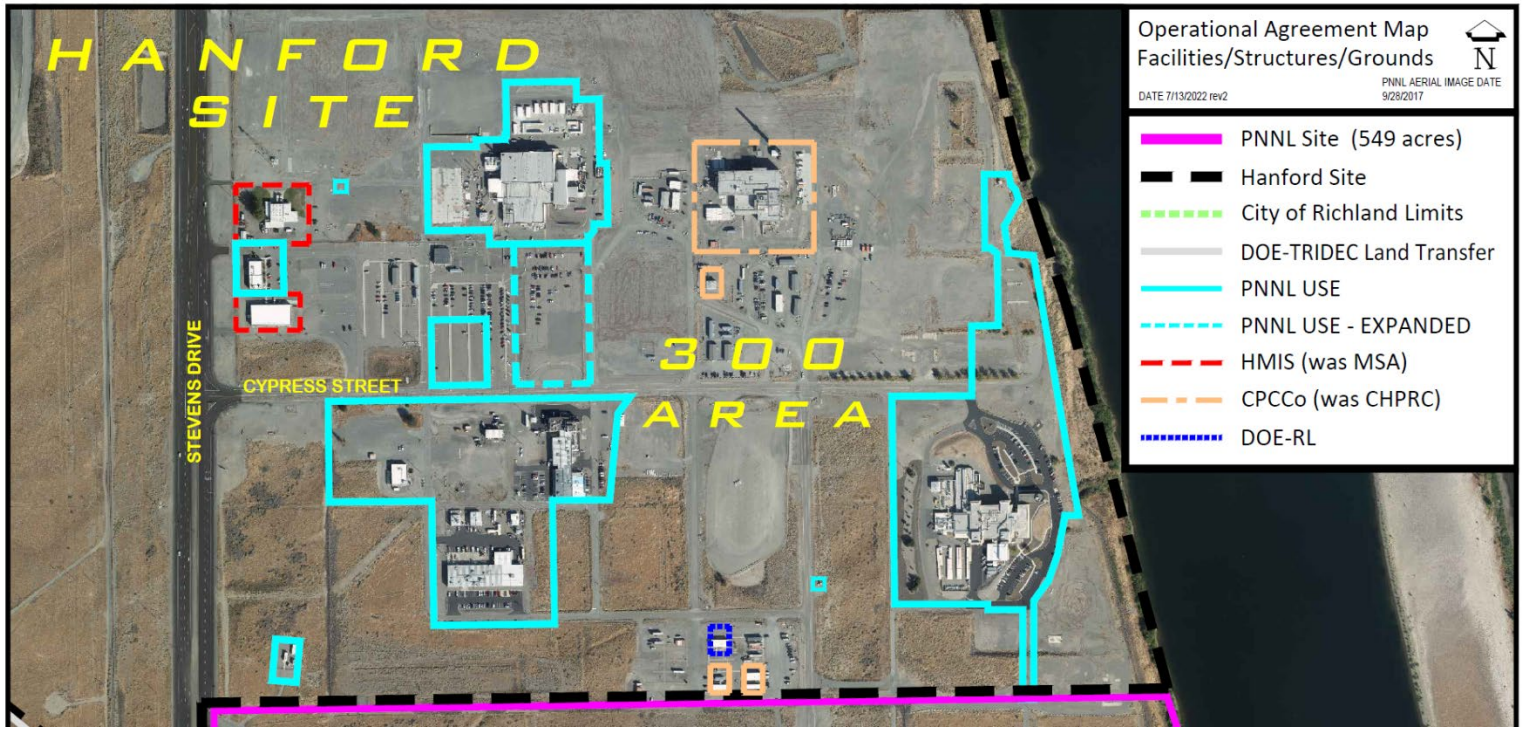
CPCCo worked with Hanford Fire Department to minimize impacts of discharges from fire-hydrant tests to minimize water infiltration and recharge volumes to the IC.

Ground Water Use Management

- No unauthorized groundwater wells were drilled.

Taken south of 289TB
(23rd and Albany) (200-ZP-1 OU)

PNNL – 300 Area Operations



PNNL – 300 Area Operations

Access Controls

Warning Notices, Entry and Access Restrictions, and Fencing

- Site access signage/fencing maintained by HMIS, building signage and prox badge access controls at entrances to all PNNL operated facilities.

Land-Use Management

Water Infiltration Controls

- Eliminated irrigated areas around PNNL 300A operated facilities several years ago, with exception of the tree line on the west side of 331 Building.
- Conduct periodic building washdowns (e.g., dust, spider webs, etc.).
    - Instantaneous, daily and annual flows limited to meet ST-4511 State Waste Discharge Permit.
    - Performed late spring through fall to maximize evaporation and minimize infiltration.

300 Area Fire Station stopped irrigating the lawn and eventually removed the lawn at southeast end near the now interim stabilized 300-5 waste site and took 300-01 Fire Hydrant out of service to remove any potential for enhanced recharge.

Groundwater Use Management (Continued)

Groundwater-Use Controls

- Continued flushing of 300A drinking water lines in FY22 to maintain chlorine levels for operational 300A facilities, flushing on average ~2-3 times per week (less in winter).

- Discharge locations coordinated with HMIS Long Term Stewardship and CPCCo groundwater programs.

300A Drinking Water Line Flushing - PNNL

Hydrant Number / Location	Max Flow (GPM)	Max Duration (min)	Discharge Area (sqft)	WIDS Sites Near Potentially Affected Area
FH-03	500	60	7000	300-15:3, 300-15:1
FH-48	500	60	10000	300-214:2, 300 RLWS:3, 300-265, 300-15:3
FH-65/66	500	60	18000	300-15:1, 300-269
FH-73	500	60	35000	300-15:1
FH-77/78	500	60	55000	300-15:1 *Only for FH-78
FH-84	500	60	11000	300-86; 300-15:1 (where hose will cross)
FH-86	500	60	60000	N/A
MO-262, 263, 265	500	60	22000	N/A

PNNL – 300 Area Operations

Land-Use Management

Permit Process for Land Use

- PNNL excavations processed through the Hanford Site Excavation Permit system, per the operational agreement between DOE-RL and DOE-PNSO.
  - Repair of 331 Building loading dock.
  - Fire hydrant replacements (5)
  - Sewer line repair between manholes 20/22 (old 320 Building site, south of Cypress Street).
  - Water valve repair south of 350B Building.

Groundwater Use Management

Groundwater-Use Controls

- Groundwater Well 399-4-12 used as a supplemental water source in aquatics/fish studies at the 331 Building.

100 & 300 Area Unit Managers Meeting
Milestones and O.U. Status
July – August Data
September 15, 2022

100 Area River Corridor Soils and Sludge & K Basin Summary

RL - Manny Lopez-Lopez, CPCC - Bob Cathel

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 negotiating with EPA on revised milestone due date.

Remediation and Waste Site Closure:

- Continued construction of the 100-K west container transfer area (CTA).
- 130-KE-2, 100-K-104, 100-K-48 – Continued excavation and load out of waste material.
- 100-K-47:1 – Submitted draft remaining sites verification package (RSVP) to DOE for review.
- 100-K-47:3, 100-K-5, 120-KE-8, 100-K-79:6 – Completed verification sampling instruction (VSI) and received DOE and EPA signatures.
- 100-K-55:2, 100-K-56:3, 100-K-96 – Completed draft RSVP and sent to TechPubs for formatting and technical edit. Requested data usability assessment.
- 100-K-79:8 – Completed draft RSVP and sent to TechPubs for formatting and technical edit. Submitted 95% UCL calculations for signature.
- 100-K-99 – Completed draft RSVP and 95% UCL calculations. Requested data usability assessment.

130-KE-2 Waste Site Excavation (August 2022)

100 & 300 Area Unit Managers Meeting
Milestones and O.U. Status
July – August Data
September 15, 2022

Ancillary Facility Deactivation and Demolition (D&D):

- Completed loadout and shipment of 166KW debris to ERDF.
- Completed relocation of PPE from 1713KW and 1714KW into the 105KW facility in preparation for demolition of the storage facilities.
- De-energized and air gapped 1713KW and 1714KW.
- Set up boundary fencing and demolished buildings 1713KW and 1714KW.
- Completed move of 15 spent IXMs to relocated CERCLA storage areas.
- Completed demolition of the Rod Rack.
- Completed pre-demolition ecological survey of 105KW Annex.
- Continued planning for 105KW Annex sand filter grouting.

Completed Load-out of 166KW Demolition Debris Pile

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 negotiating with EPA on a revised milestone due date.

105KE Interim Safe Storage (ISS) Progress:

- Completed Structural Steel erection of the roofing trusses and purlins.
- Completed Wall sheeting to the North, East, South & West walls.
- Commenced sheeting of the roofing.
- Continued install of lighting and electrical systems interior to 105KE.

100 & 300 Area Unit Managers Meeting
Milestones and O.U. Status
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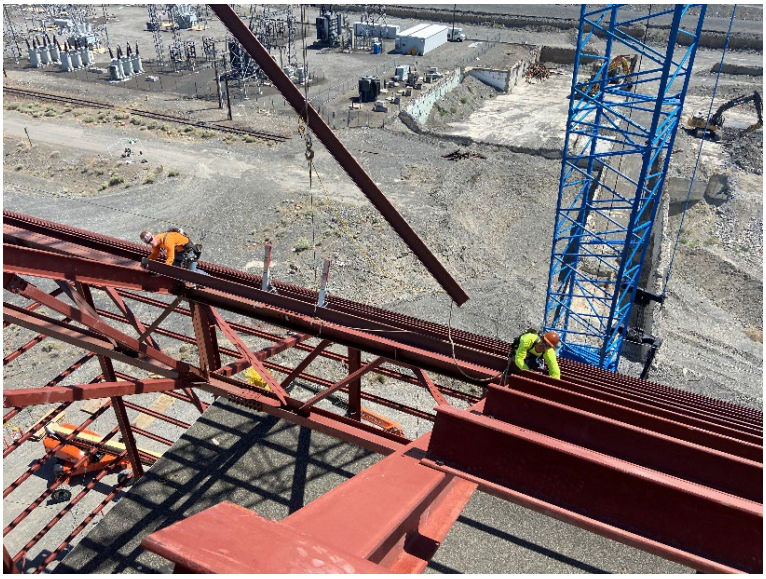
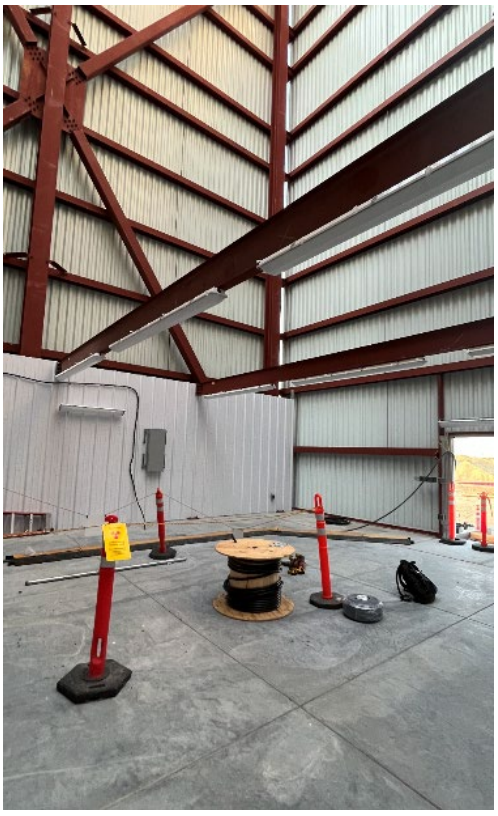
September 15, 2022



105KE ISS Roof Truss/Purlin Install

105KE ISS Sheeting of North Wall



105KE ISS Electrical Install

105KE ISS Wall Sheeting

100 & 300 Area Unit Managers Meeting
Milestones and O.U. Status
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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 negotiating with EPA on a target due date.

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 105-KW Reactor Safe Storage Enclosure construction. Earthwork includes excavating and preparing the area around the 105-KW Reactor Building for installation of the engineered fill pad.
- DOE RL is negotiating with EPA on development of target due date.

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

- (**9/30/23**) – At Risk – DOE RL is negotiating with EPA on a revised milestone due date.

Vertical Pipe Casing (VPC) Progress:

- Finished removing items from Parsons bins and debris baskets filled with high-dose debris that can't be processed in the VPCs (e.g., chain, rope, large metal objects).
- Processed high-dose debris in Parsons bins and debris baskets through the sparge station into lined receiving bins.
- Transloaded high-dose debris from oversized chain bins into lined receiving bins. Oversized chain bins needed to be transloaded because they were too large and heavy for the tipping assembly.
- Started loading high-dose debris canister material into lined receiving bins.
- Started transferring receiving bins containing high-dose debris into VPCs for future grouting.
- Continued development of a Scope of Work for design/build of the VPC Waste Retrieval Enclosure system.

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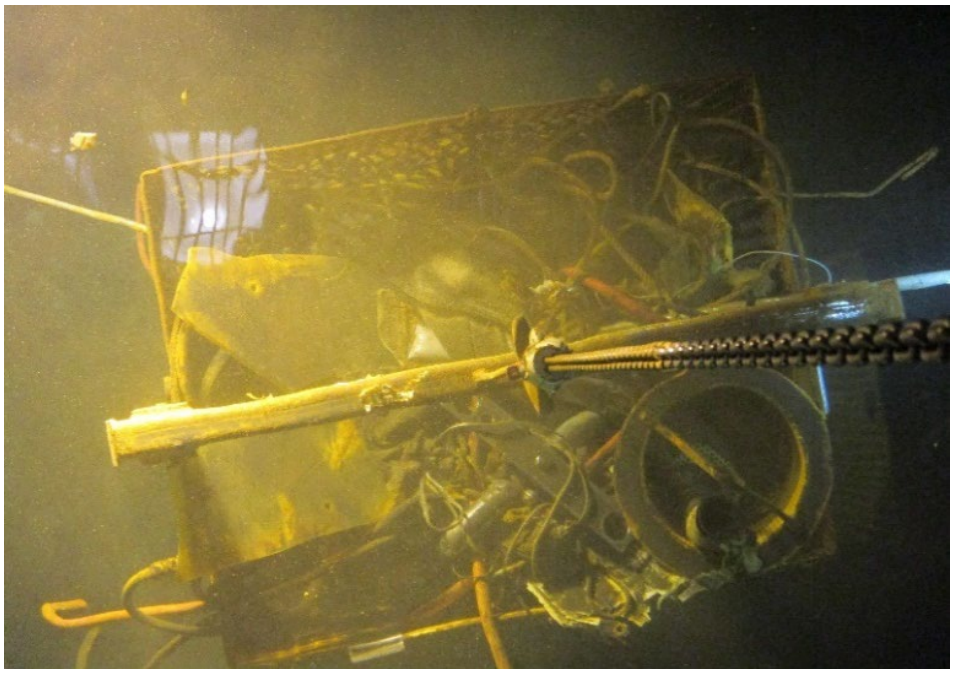
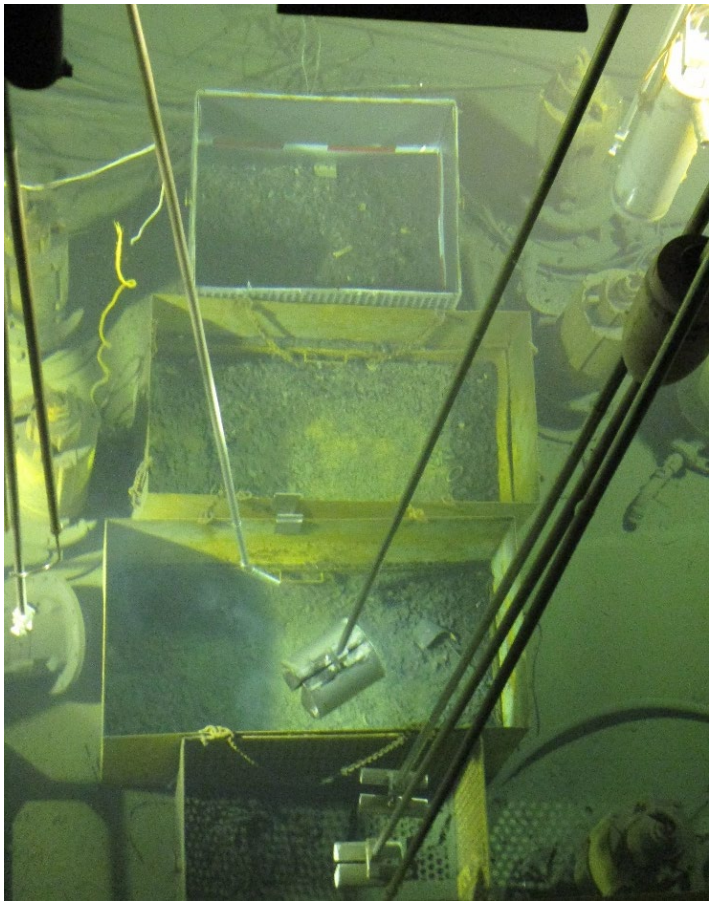


Relocating VPC Non-Compliant Parsons Bin Debris



Chain Bin Transloading with Clamshell Long-Pole Tool

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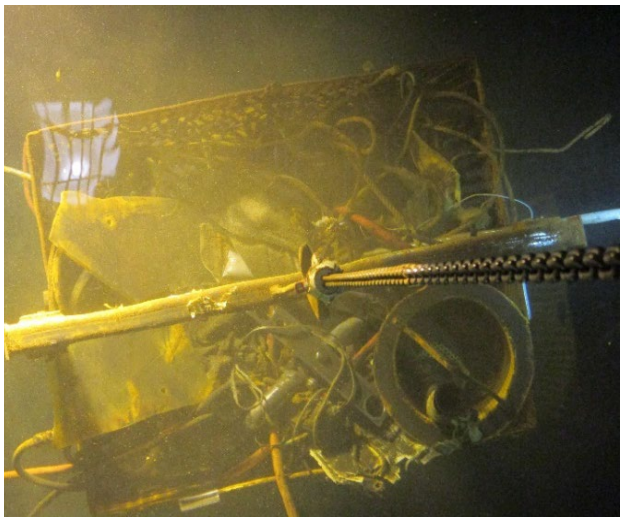
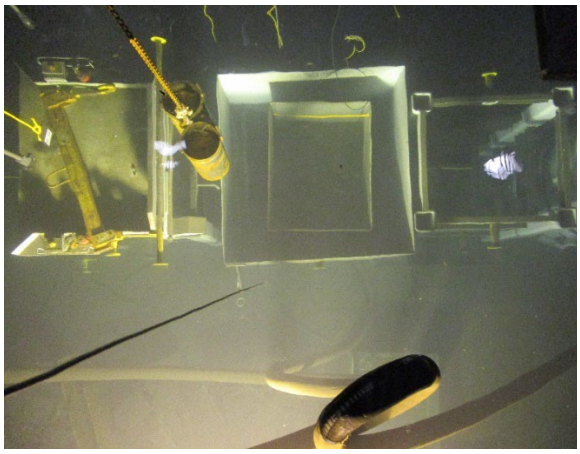
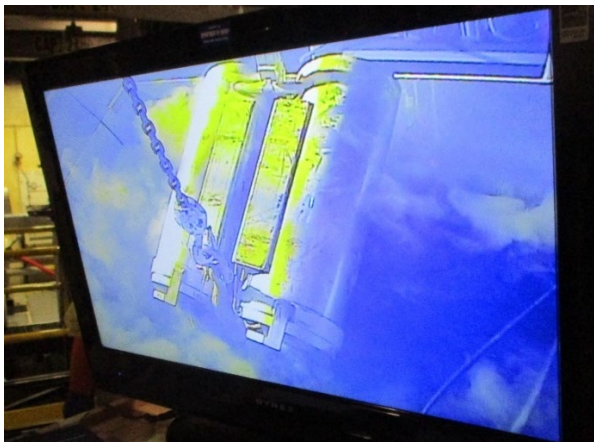


Relocating VPC Non-Compliant Parsons Bin Debris

Team Manipulating Debris with Long-Pole Tools



Debris Canister Relocation to Sparge Station for Dumping into Lined Bin



Transferring Debris Canister Material into Lined Receiving Bin

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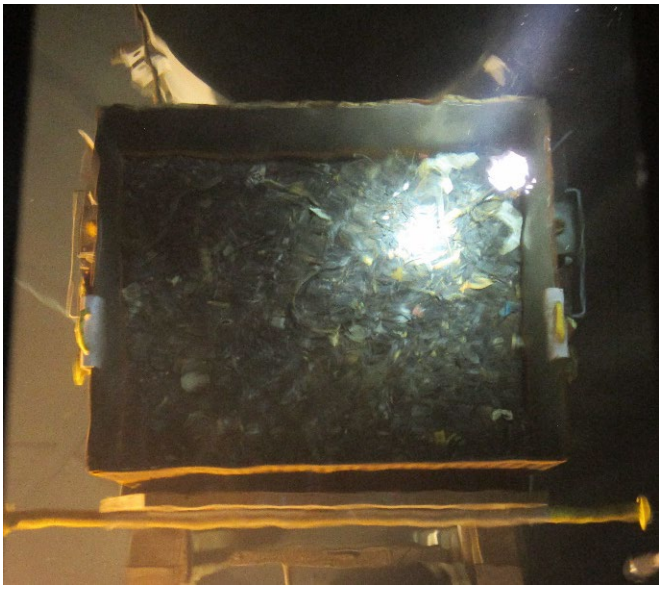
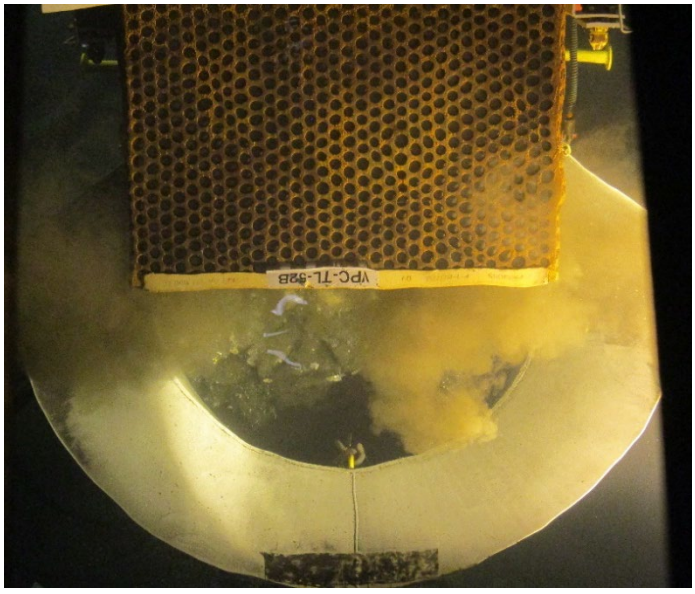


Receiving Bin filled with High-Dose Debris Ready to Transfer into VPC#1



Transfer of High-Dose Debris into VPC#1

Debris Management and Sampling Progress:

- Finished collecting floor characterization samples from Center Bay.
- Continued Nondestructive Assay (NDA) measurements of Eu-154 and Cs-137 activity from collected floor samples and shipped subset of samples to 222S for radiochemical analysis.
- Completed design of an eductor-based vacuum system, based on the NLOP retrieval system, to transfer floor solids from West Bay to a VPC(s).

Operating Sample Cart for Floor Sample Collection

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Basin Solids Retrieval:

- Completed design and continued procurement of parts for transferring the TCA water/sludge contents from both TCA-1 and TCA-2 to a VPC.
- Started setup of mockup equipment at MASF to aid with work planning for opening and transferring TCA contents.
- Continued work planning for transferring North Load Out Pit (NLOP) and West Bay floor solids to a VPC.

Mockup TCA at MASF

Interior of Mockup TCA

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Waste Planning and Disposition:

- Completed transfer of R-22 refrigerant bottles that contain trace quantities of contaminated basin water to DOT compliant containers to facilitate future shipment from 100K and NDA counting for waste determination.
- Completed software validation and started development of Justification for Continued Use (JCUs) for MicroShield and MCNP software to allow continued use of Atilla modeling program.
- Started Atilla modeling for debris bins being processed into VPC#1.
- Prepared and submitted the radiological component of DD-63014, Rev 1, 105-KW Basin Deactivation Air Monitoring Plan, Phase 2, to support early demolition of the 105KW Annex.
- Subcontractor started incorporating batch plant and 105KW ingress/egress trailers into the AERMOD model for the non-radiological portion of the Phase 2 Air Monitoring Plan.
- Started development of the CPCCo sampling instruction document for basin water sampling.
- HMIS fabrication shop continued work on bracing configuration for the MHFU-003001 cargo overpack that will be used to ship spent IXMs.

105KW Basin Stabilization Systems Progress:

- Contractor completed fabrication of the Dewatering and Filtration System (DFS) and the Wetting and Fixative System (WFS) equipment, performed preliminary testing, and resolved punch list items.
- Started integrated testing of the DFS and WFS equipment.
- Completed design for operation of the DFS in recirculation mode that will be used for filtering basin water after the skimmer sand filter is deactivated and before dewatering is started.

DFS and WFS Conex Boxes

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Testing the Dewatering Wall Pass-Thru

- Continued development of stabilization system installation pre-start submittals and completion of training and bioassays.
- Started development of mobilization and dewatering system installation work packages.
- Developed draft Construction Acceptance Test document for Stage 1 (basin water recirculation) DFS installation.
- Completed small-scale and large-scale grout/CDF mockup plans.
- HMIS Fleet Maintenance completed the inspection of the three dewatering tankers. Tankers are now ready to be transferred to 100K.
- Awarded a new subcontract for procurement of a 4th water tanker to support the Integrated Disposal Facility (IDF).

Dewatering Tankers at Fleet Maintenance Yard

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105KW System Deactivation and Demolition Prep Progress:

- Commenced 105KW demolition excavation modelling to determine layback interferences.
- Relocated trailers and started personnel moves with goal of vacating 105KW.
- Continued updating the 105KW Demolition Project Execution Plan.
- Completed Cold and Dark Isolation Index for the 105KW Annex to remove the mechanical and electrical hazards from the building.
- Completed Removal of 105KW Annex HEPA Filters.
- Relocated Annex Change Room 1506K1 to clear the 105KW Annex boundary.
- Completed Chiller ECRT-HP-501 refrigerant evacuation and compressor removal.
- Salvaged 105KW Annex Baker Tanks and moved to MASF for re-use.
- Electrical Utilities group de-energized the 105KW Annex.
- Completed additional 105KW Annex mechanical and electrical isolations/air gaps to address Management Review Board comments and completed Verification of Hazardous Energy Isolation (VOHEI) report.
- Performed electrical deactivation of the 105KW Building Fuel Retrieval System (FRS) Chiller.
- Completed removal of three IWTS IXMs from the Transfer Bay and placed into the newly configured CERCLA Staging Area.
- Completed deactivation isolation indices for the 105KW Rod Rack and Door 157 Windbreak frame structure.
- Installed glove bags and started removal of (Thermal System Installation) asbestos removal glove bags in the 105KW pipe gallery and lower fan room.
- Continued installing temporary power and lighting materials in portions of the 105KW Building to support asbestos and hazardous materials removal.

Glove Bag Installation in 105KW Pipe Gallery

105KW TSI Removal

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FRS Air Gap (As-Found Left, As-Left Right)

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IWTS IXM Removal (Left) and Bagging (Right)

Leak Checking Backflow Preventor (Left) and Glycol Supply Instrument Removal (Right)

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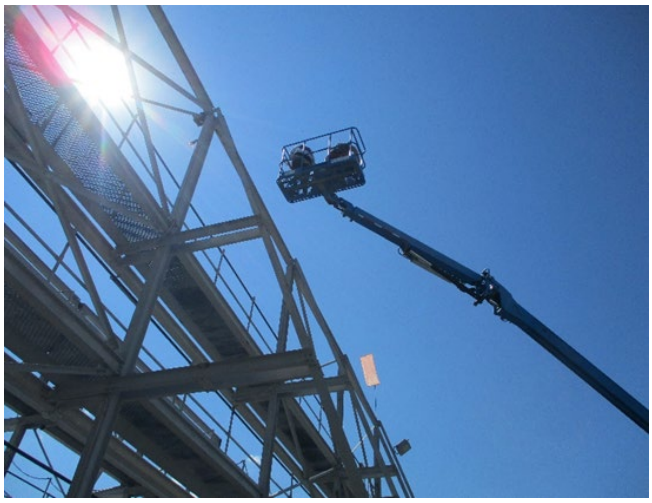

Deactivation Rod Rack (Left) and Door 157 Windbreak (Right)

Disconnecting Wiring Circuits and Safe-Off in Support of Rod Rack and Door 157 Deactivation

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

- (12/31/23) – At Risk – DOE RL is negotiating with EPA on a revised milestone due date.

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

- (9/30/24) – At Risk – DOE RL is negotiating with EPA on a revised milestone due date.

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300 Area ROD Scope

RL – B. 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

Equipment Procurement & Fabrication:

- Equipment Delivered
  - N/A
- Continued Design and procurement
  - Airlock 7.5T Crane fabrication

324 Activities:

- Completed camera inspection of B-Cell Filter (7/18/22)
- Held workability for B-Cell Pneumatic Repair (8/10/22)
- HRB for B-Cell Door electrical Isolation was completed with comments (8/23/22)
- Breach of Fire Suppression System Recovery:
  - Work towards deactivation of the Fire Suppression System
  - Continued 324 Occupancy Transition and Transient Combustible loadouts

324 Occupancy Transition:

- Continued transient combustible loadouts
- Continued working through punchlist items from FPE
- Held weekly walkthroughs with FPE
- There were 2 Microfiche machines in the 324 Building. One was operational and was donated to Central Records the other was not operational and was disposed in an ERDF RO/RO (8/15/22)

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New Accountability Board in front of 324 Building

"Empty" signs installed inside 324 Building

New Signs Installed Around 324

100 & 300 Area Unit Managers Meeting
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Structural Modifications:

- Room 18 Micropiles
  - Completed airline interlock investigation (7/5/22)
  - Completed interlock repair (7/7/22)
  - Began drilling on Micropile #5 (7/12/22)
  - Completed drill maintenance (7/20/22)
  - Completed drilling Micropile #5 to depth (7/28/22)
  - Initiated grouting of Micropile #5 (8/3/22)
  - Drill rig broke during grouting evolution
  - Micropile #5 only partially bonded to soil, but the initial engineering evaluation identified it will not affect structural stability
  - Retrofitted drill rig with more robust head slide (8/26/22)
- North Shoring
  - Continued horizontal soil stabilization drilling
  - Mobilized equipment to Pit 6 for overcasing drilling method testing (7/21/22)
  - Initiated using dry method overcasing methods outside of the 324 building
  - Unexpected elevated radiological readings encountered work paused for assessment of work controls
- Room 131 Soil Stabilization
  - Continued set up for core drilling
  - Initiated Engineering hold point for core drilling
  - Completed installation of containment tent (8/2/22)
  - Completed smoke test on the NAM in room 131 (8/4/22)
  - Completed drill setup (8/10/22)
  - Completed core drilling all 48 holes (8/18/22)
  - Mobilized equipment, tools & nipples for next step in soil stabilization process (8/25/22)
  - HRB Chair Review for Room 131 Soil Stabilization completed (8/25/22).
  - Initiated nipple installation
- Continued Low Hazard Cell Sealing

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Horizontal Dry Overcasing

Head Slide installed on Room 18 Drill

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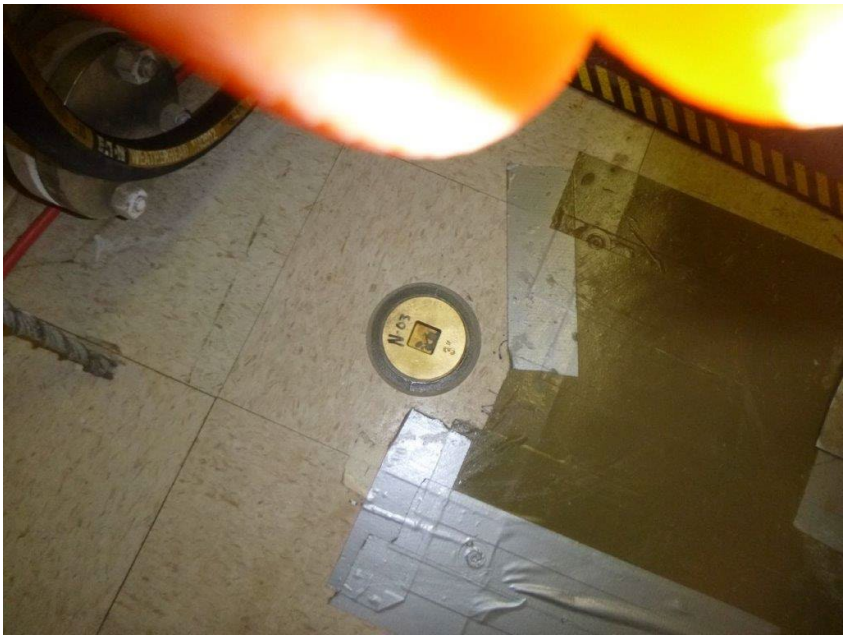
Preparing to install nipple into Room 131 drilled core



Completed nipple installation in Room 131 for Soil Stabilization

Mockup:

- Held 3 sessions of HCA Training with 7 more entrants trained and 1 more doff attendant trained
- Held 2 session of Airlock Training with 8 more entrants trained
- Held 1 session of Room 18 Training with 4 more entrants trained and 1 more doff attendant trained
- Continued Indexing Hook Training
- Moved REA to Mockup, inspected, and installed at Mockup

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- Continued REA Proficiency Training
- Completed set up for Cell Door Sealant Testing (8/2/22)
- Held Senate Subcommittee Tour (8/11/22)
- Initiated Cell Door sealant Testing (8/15/22)
- Held Tour for Congressional Staff (8/16/22)
- Initiated Pit 6 horizontal drilling for overcasing method testing
    - Completed drillling overcasing using dry method on hole #2 (8/8/22)
    - Completed drilling overcasing using dry method on hole #1 (8/9/22)
    - Initiated wet method testing (8/15/22)
    - Completed dry overcasing methodology (8/17/22)

HCA Training at the Mockup

Upcoming Activities:

- Continue Transient Combustible loadouts
- Investigate unexpected high radiation discovery below the airlock/B-cell wall
- Continue horizontal overcasing development at Pit 6
- Continue drilling and grouting micropiles in Room 18
- Continue Room 131 soil stabilization drilling
- Initiate B-cell door pneumatic repairs
- Initiate B-cell door electronic repairs

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.*

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TPA Milestone M-016-86, *Complete Remedial Actions for 618-11 Burial Ground in accordance with DOE/RL-2014-13-ADD1.* (**To Be Determined in Accordance With Milestone M-016-89**) – On Schedule

Safety and Environmental Documents:

- TPA Change request package for M-016-86 dispute was resolved with the addition of nine TPA milestones.

TPA Milestone M-016-88, *Initiate remediation planning, as well as coordination with Energy Northwest for remediation of the 618-11 Burial Ground.*

Remedial planning will take into account the results of the enhanced groundwater monitoring. (**9/30/2025**) – On Schedule

TPA Milestone M-016-88-T01, *Submit to EPA for review, a preliminary design (e.g., preliminary drawings, preliminary specifications, design criteria/basis for design, preliminary schedule, etc.) for remediation of the 618-11 Burial Ground.* (**9/30/2026**) – On Schedule

TPA Milestone M-016-88-T02, *Submit to EPA for review, an intermediate design (e.g., intermediate drawings, specifications, schedule, etc.) for remediation of the 618-11 Burial Ground.* (**9/30/2027**) – On Schedule

TPA Milestone M-016-89, *Submit to EPA the Remedial Design/Remedial Action Work Plan with updated schedule for remediating the 618-11 Burial Ground.* (**9/30/2028**) – On Schedule

TPA Milestone M-016-90, *Initiate remediation of the 618-11 Burial Ground.* (**9/30/2030**) – On Schedule

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Outer Area End States - 300-296 Waste Site Remediation - FES

300 Area End States - DOE Summary Schedule

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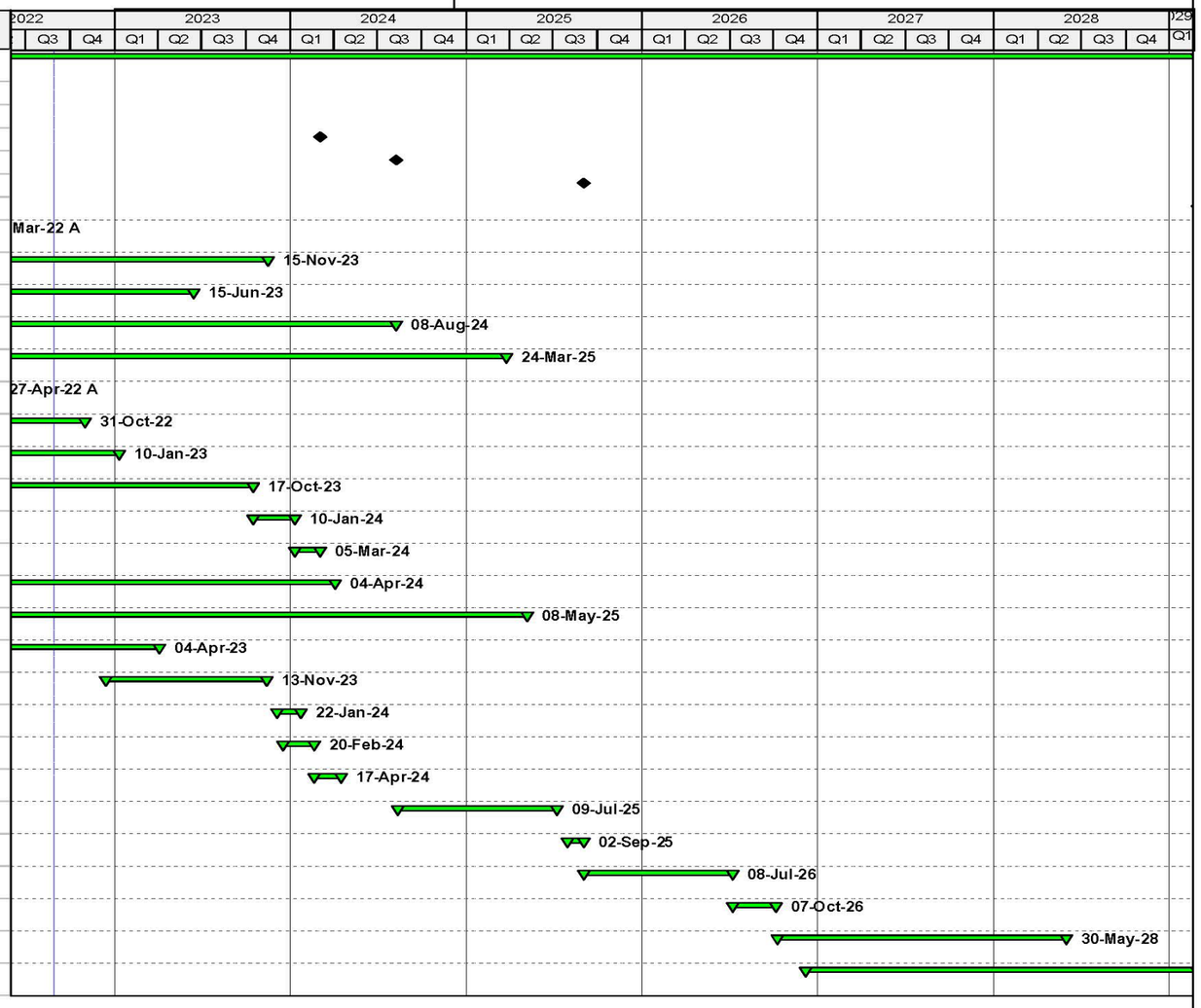
#	Activity Name	Start	Finish
1	**300-296 Key Milestones**	09-Feb-22 A	27-Feb-29
2	Resume Airlock Work	09-Feb-22 A	
3	FY2022 KPG - Complete Installation of 6 Micropiles in 324 Building room 18		14-Feb-22 A
4	Complete Structural Modifications		05-Mar-24
5	Start B-Cell Soil Removal	09-Aug-24	
6	TPA M-016-85A Complete remote excavation of the 300-296 waste site (Due 11/30/2025)		02-Sep-25*
7	TPA M-016-85 Complete Remedial Actions for 300-296 Waste Site		27-Feb-29*
8	**Project Resumption from 11/14/19 Event**	25-Jan-21 A	17-Mar-22 A
9	**A/D Crane Recovery**	06-May-21 A	15-Nov-23
10	**Fire Suppression Deactivation**	30-Mar-22 A	15-Jun-23
11	**Mockup Training**	16-Feb-21 A	08-Aug-24
12	**Cell Sealing**	18-Feb-21 A	24-Mar-25
13	**Structural Modifications - Temp Shoring**	20-Apr-21 A	27-Apr-22 A
14	**Structural Modifications - Interference Removal**	22-Apr-21 A	31-Oct-22
15	**Structural Modifications - Micropiles**	25-Jan-21 A	10-Jan-23
16	**Structural Modifications - Soil Stabilization**	14-Mar-22 A	17-Oct-23
17	**Structural Modifications - Scabling/Dowel Drilling**	18-Oct-23	10-Jan-24
18	**Structural Modifications - Pile Cap**	11-Jan-24	05-Mar-24
19	**Equipment Procurements**	25-Jan-21 A	04-Apr-24
20	**Equipment Installations**	25-Jan-21 A	08-May-25
21	**REC Cleanout**	04-Oct-21 A	04-Apr-23
22	**B-Cell Debris Removal**	15-Dec-22	13-Nov-23
23	**B-Cell Floor Scoring**	04-Dec-23	22-Jan-24
24	**Readiness Assessment - Floor Removal**	18-Dec-23	20-Feb-24
25	**B-Cell Floor Removal**	21-Feb-24	17-Apr-24
26	**B-Cell Soil Excavation**	12-Aug-24	09-Jul-25
27	**B-Cell Grouting**	31-Jul-25	02-Sep-25
28	**324 Above Grade Demolition**	03-Sep-25	08-Jul-26
29	**324 Building Demolition**	09-Jul-26	07-Oct-26
30	**324 Building Monolith Disposition**	08-Oct-26	30-May-28
31	**Waste Site Remediation**	08-Dec-26	27-Feb-29



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Regulatory Agency Comments: None

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400 Area
ECY Lead
RL – A. Wiborg, CPCCo – D. Singleton

Inspection Updates:
- Weekly inspections of the Interim Storage Area pad and the Fuel Storage Facility were completed as required by Addendum I of the RCRA Permit for the months of July and August.

Surveillance & Maintenance Activities:
- July and August maintenance activities performed:
  - Maintenance and repair have been performed on the P-28 Diesel Pump
  - Building 4710 electrical and mechanical isolations completed

Current Status – Regulatory Documents
- CERCLA documents being developed for 400 Area
  - Draft 400 Area EE/CA is in tech pubs for editing
  - 400 Area (AM): The 400 Area AM is currently in draft form
- RCRA
  - Class 1 Permit Mod: Relocate the emergency spill kit – Permit Modification Package will be submitted to Ecology 9/15/22
  - Class 3 Permit Mod: To remove the fire alarm system from FFTF

General Items of Discussion/Actions:
- June 8, 2022, inspection findings and actions taken:
  - Water Intrusion in the ISA pad: On June 13, 2022, water was found on the in the ISA pad.
    - Action: Following the RCRA permit, the secondary containment system was visually inspected, and no other materials were found. No containers were identified to have signs of damage. Previous inspection records were reviewed, and the liquid, which was identified as rainwater, was removed from the secondary containment using absorbent pads. Project engineers are looking into what can be done to eliminate intrusion of water into the ISA
  - Wooden Lead Lined Box located near Fuels and Materials Examination Facility (FMEF)
  - Action: 400 Area responsible manager (RM) met with IAES Waste Group on the path forward for disposal of the Wooden Lead Lined Box. IAES Waste Group will order a Flat Bed Trailer from ERDF. ERDF will deliver the trailer. Teamsters will pick up the box with a forklift and place on the flatbed trailer. Once the box is secured on the trailer, ERDF will pick up the box and trailer and deliver to ERDF for disposal. IH confirmed that the lining of the box is lead, 9/7/22. The shielding in the box is being looked at for re-use – if we cannot find a place to re-use or excess, we will begin the waste process for disposition.
  - Water Coolers with Freon:
    - Action: A request was placed with HMIS on to drain the freon and remove the coolers. CPCCO will be working with HMIS and RES (Real Estate Services) to have the coolers removed.

Regulatory Agency Comments: None

100-OL-1 OU Scope
Ecology Lead
RL – J. Sands, PNNL

Background:

- 100-OL-1 OU covers 4,995 acres across the River Corridor, incorporating lands where former orchards used lead arsenate pesticide (Figure OL-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:

- DOE responded to Ecology Draft B RI report comments via email on May 31, 2022.
- Ecology provided overarching comments for the *Feasibility Study for the 100-OL-1 Operable Unit Hanford Orchard Lands*, DOE/RL-2021-37, Draft A Feasibility Study on April 20, 2022.
- DOE extended the responses to regulator comments on the *Feasibility Study for the 100-OL-1 Operable Unit Hanford Orchard Lands*, DOE/RL-2021-37, Draft A Feasibility Study to December 31, 2022. In addition, the RI comment responses will be completed in parallel to the FS and be completed in December 2022.

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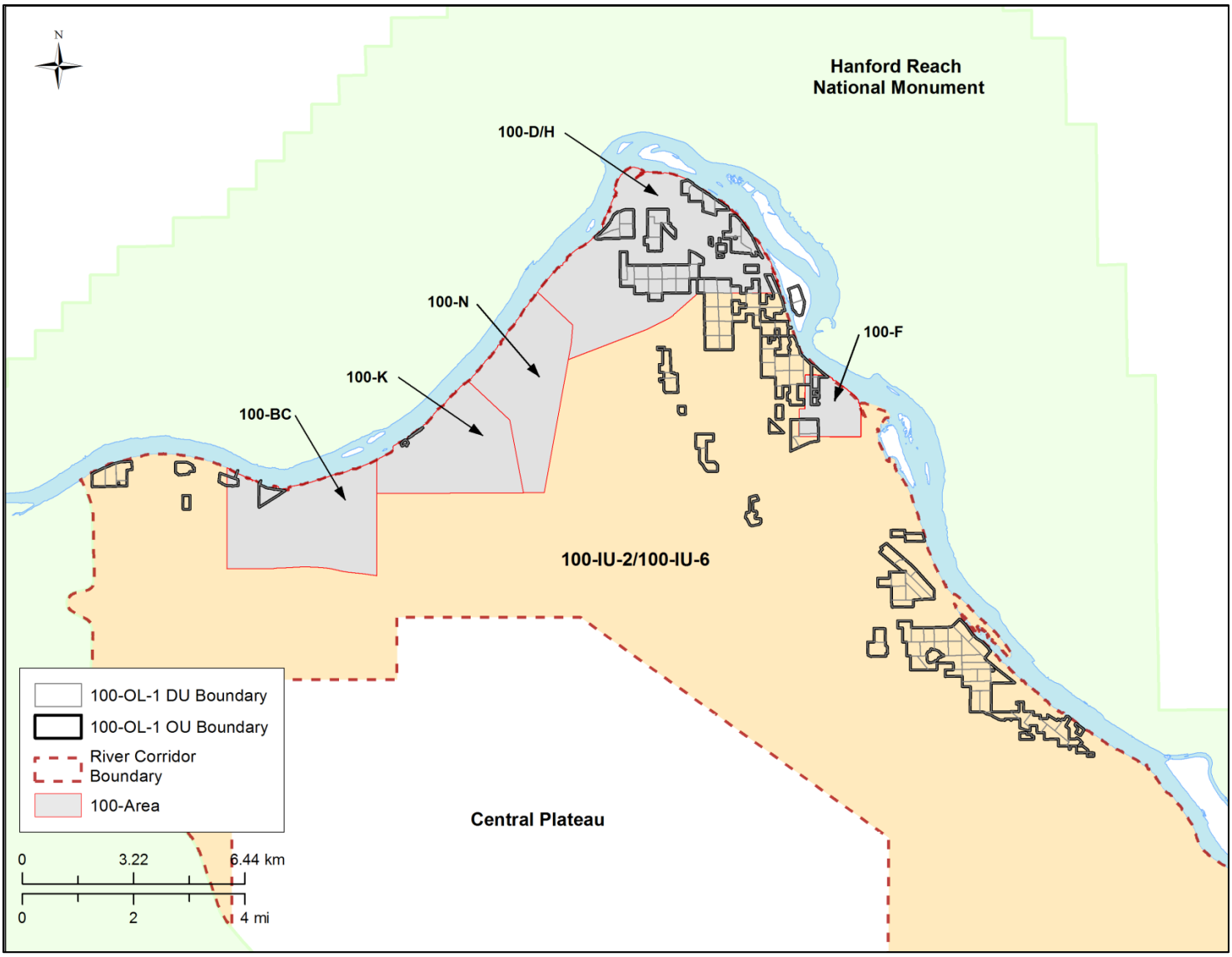

Figure OL-1. The 100-OL-1 OU and Associated Decision Units across the Hanford Site River Corridor

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:

- Nothing new to report

Monitoring & Reporting:

- 2 wells were sampled as scheduled in August. The full monitoring network (wells and aquifer tubes) is scheduled for sampling in October.

Regulatory Agency Comments: None

300 Area Groundwater Operable Unit

EPA Lead
RL – J. Sands, CPCCo – E. Macdonald, D. Newcomer,

M-016-87-T-01: Submit to EPA the Data Quality Objectives (DQO) for enhanced monitoring around 618-11. Due Date: 6/30/2022

- Status: Complete.

M-016-87-T02A: Submit to EPA the final Sampling and Analysis Plan (SAP), if changes (e.g., target analytes, sample frequency, etc.) are needed to satisfy the DQOs. Due Date: 12/31/2022

- Status: On Schedule.

M-016-87-T02B: Update the 618-11 conceptual site model and create the vadose zone model to be updated with the enhanced monitoring data. Submit to EPA the associated Environmental Calculation Files. Due Date: 12/31/2022

- Status: At Risk. Estimated to be completed within 60 days of the Target Date.

M-016-87-T02C: Submit interim action alternative analysis to EPA for reducing infiltration at 618-11. Due Date: 12/31/2022

- Status: At Risk. Estimated to be completed within 60 days of the Target Date.

M-016-87-T03: Complete well implementation around 618-11, if needed to satisfy the DQOs. Due Date: 6/30/2023

- Status: On Schedule.

M-016-87: Submit an annual evaluation of results of enhanced groundwater monitoring near the 618-11 Burial Ground. If the evaluation indicates that interim actions are warranted to ensure protection of human health and the environment, DOE will recommend interim actions commensurate with the enhanced monitoring results. This milestone will continue on an annual basis and will be discontinued through joint EPA/DOE agreement via an approved change control form to delete this milestone. Due Date: 6/30/2024 And Annually Thereafter.

- Status: On Schedule.

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CERCLA Process Implementation:

- Nothing new to report

Remedial Actions:

- Nothing new to report.

Monitoring & Reporting:

- Nothing new to report.

300 Area Industrial Complex:

- The next AEA sampling event wells in the 300 Area is scheduled for September 2022.
- The next sampling event of the twenty-eight wells used to support calibration of the fate and transport model in the 300 Area Industrial Complex is December 2022.
- The thirteen wells in the Stage B area are currently being sampled for September 2022. The next quarterly sampling event is scheduled for December 2022.
- The eleven wells used to evaluate elevated uranium concentrations observed at well 399-6-3 are currently being sampled for September 2022. The next quarterly sampling event is scheduled for December 2022.

618-10 Burial Ground/316-4 Crib:

- The five wells were successfully sampled in August 2022. The next sampling event is scheduled for November 2022.
- The next annual sampling event for AEA is scheduled for December 2022.

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

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

618-11 Burial Ground, Groundwater portion

- The next sampling event for the seven wells is scheduled for October 2022.
- The next AEA sampling event is scheduled for October 2022.

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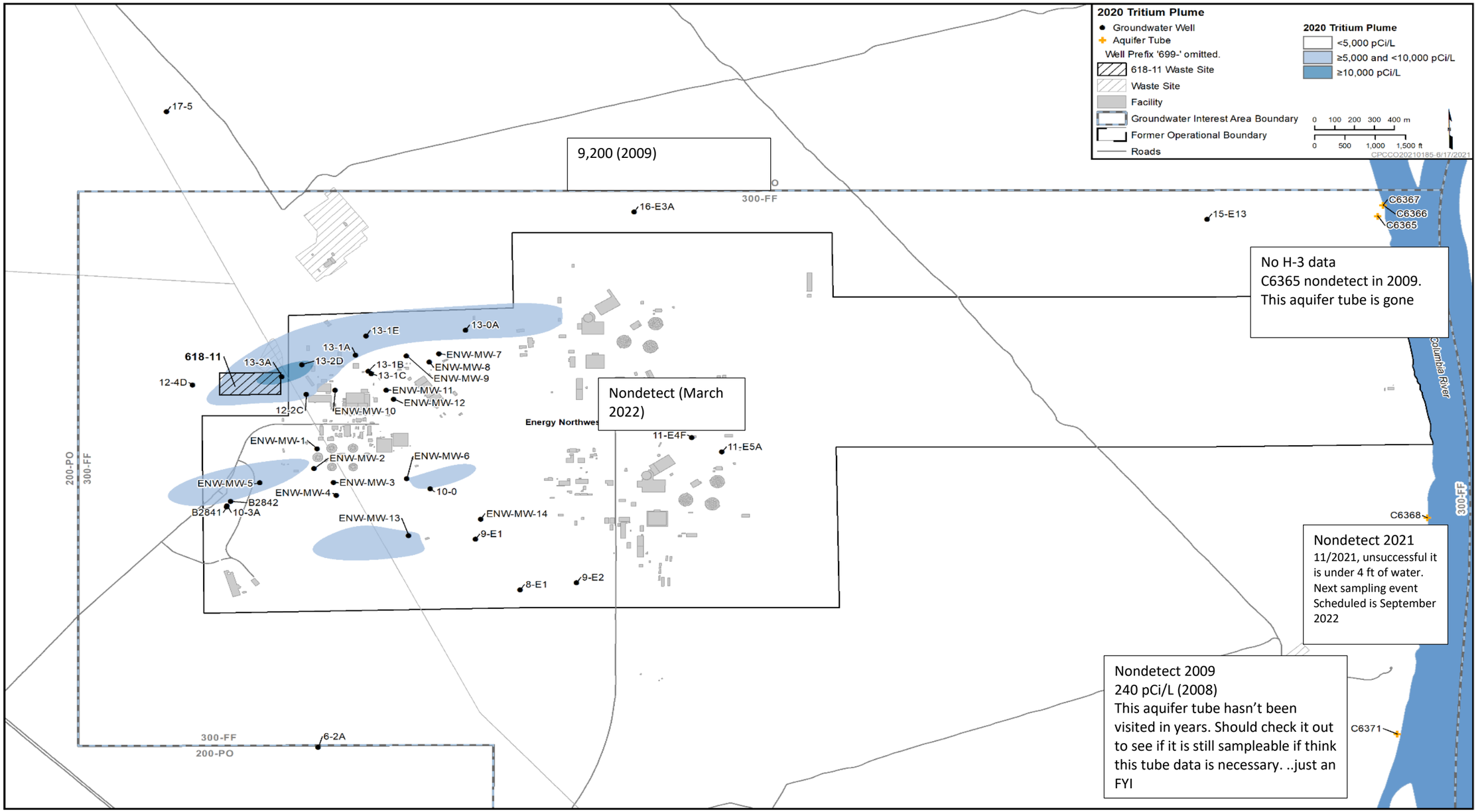

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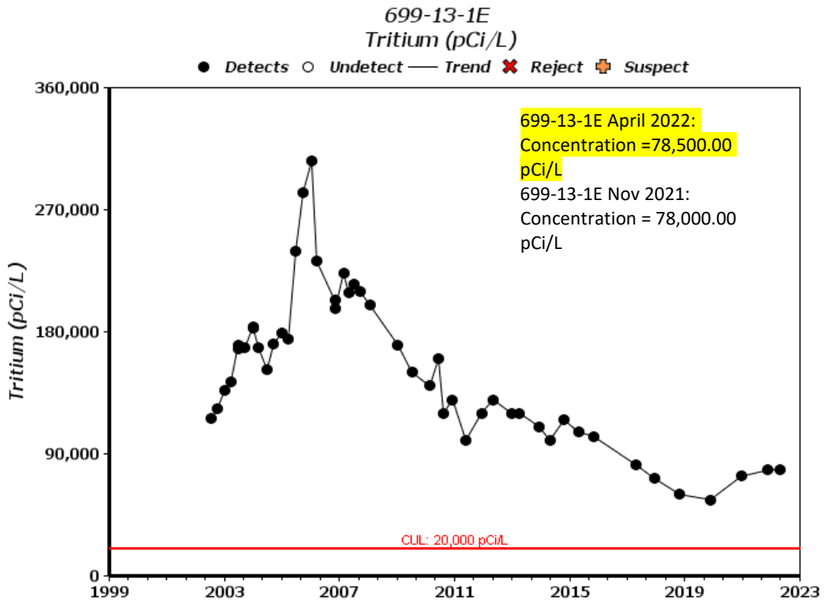
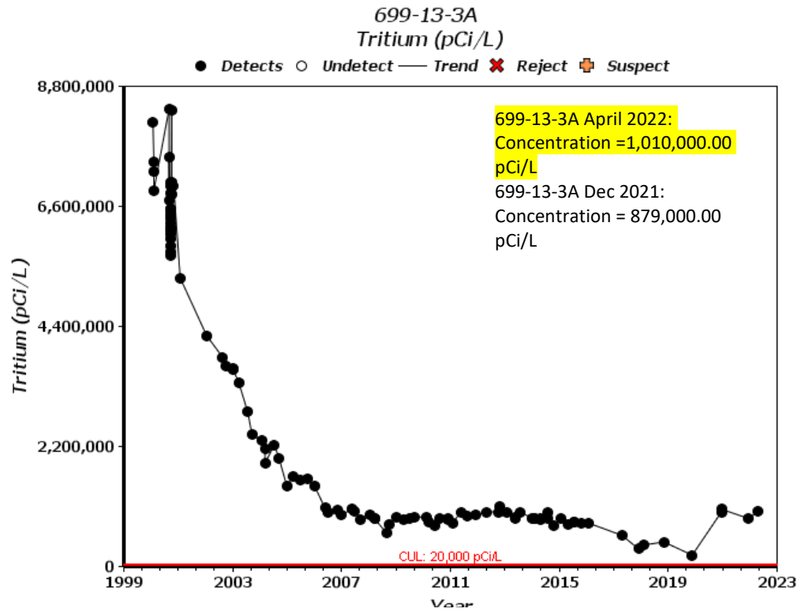
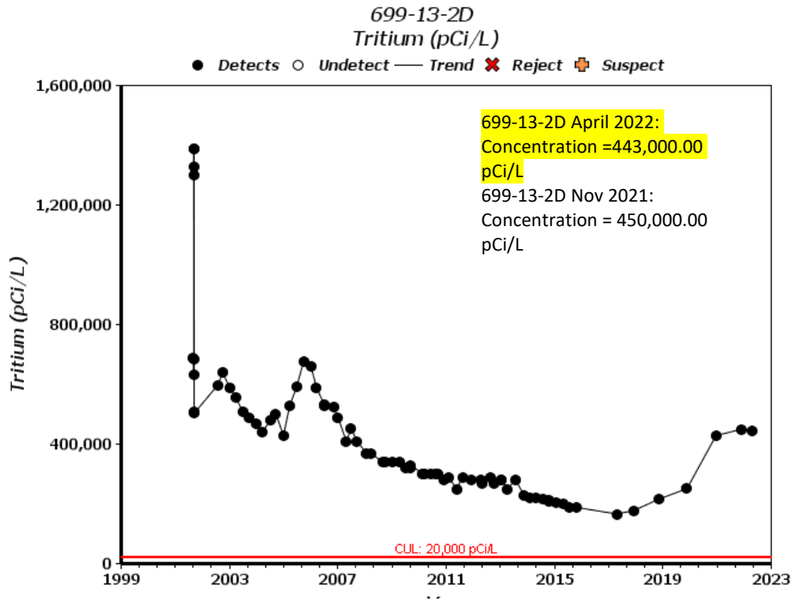
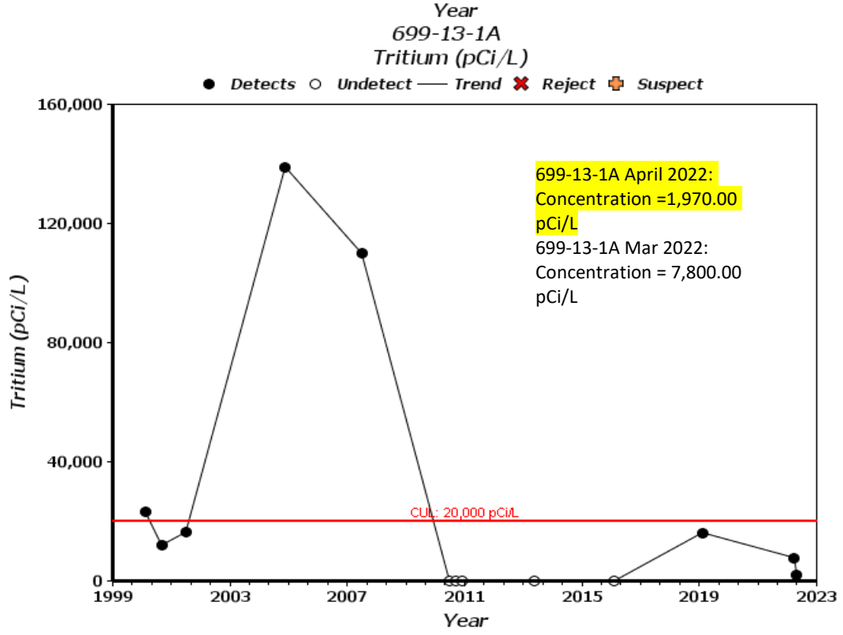
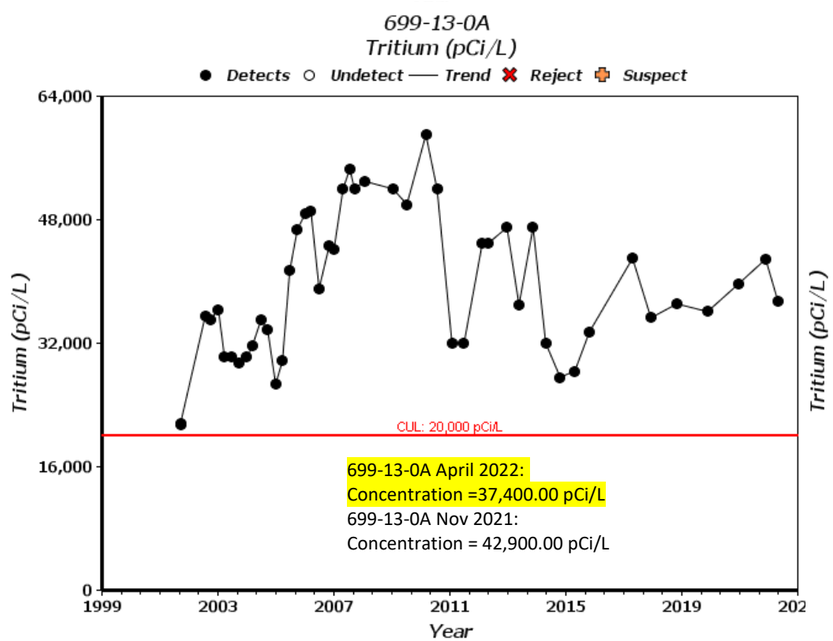
- Sampling through April 2022. The next round of sampling for semiannual sampling wells 6/7 is November 2022.

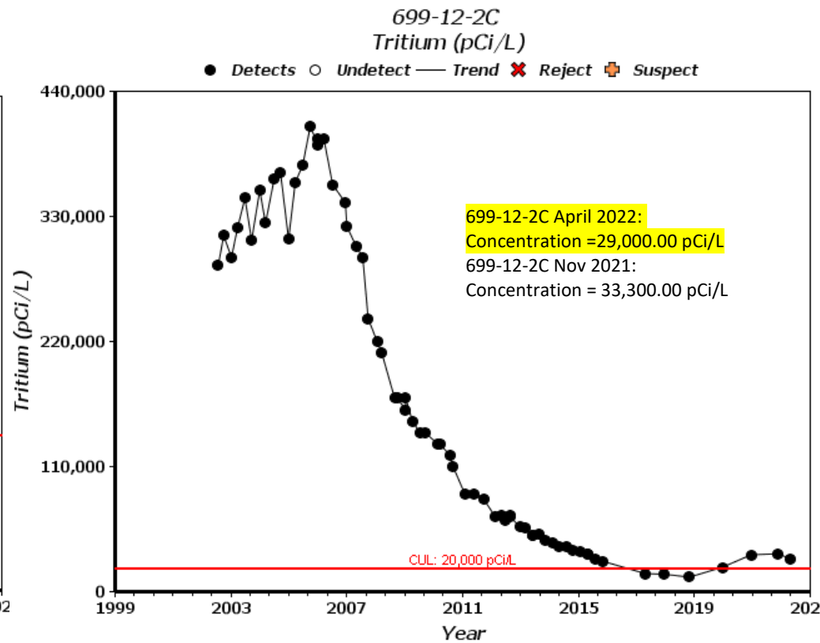












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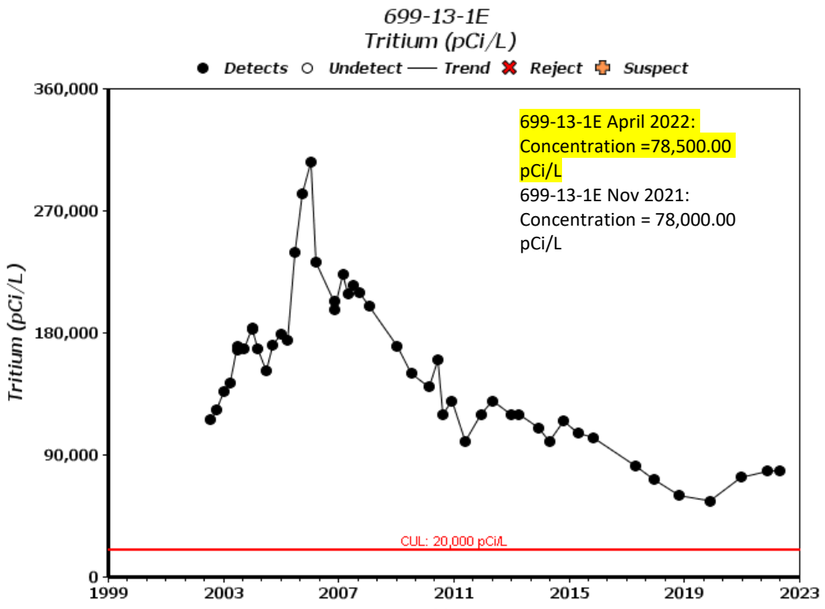

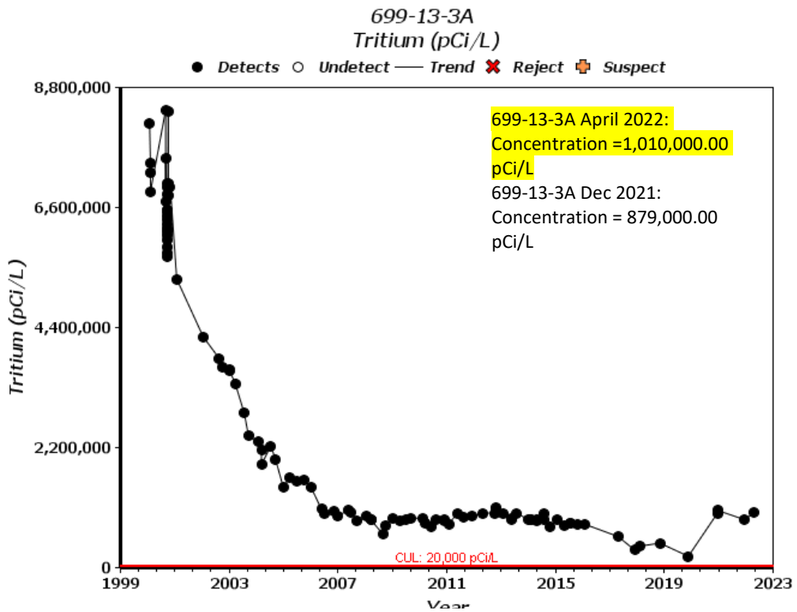

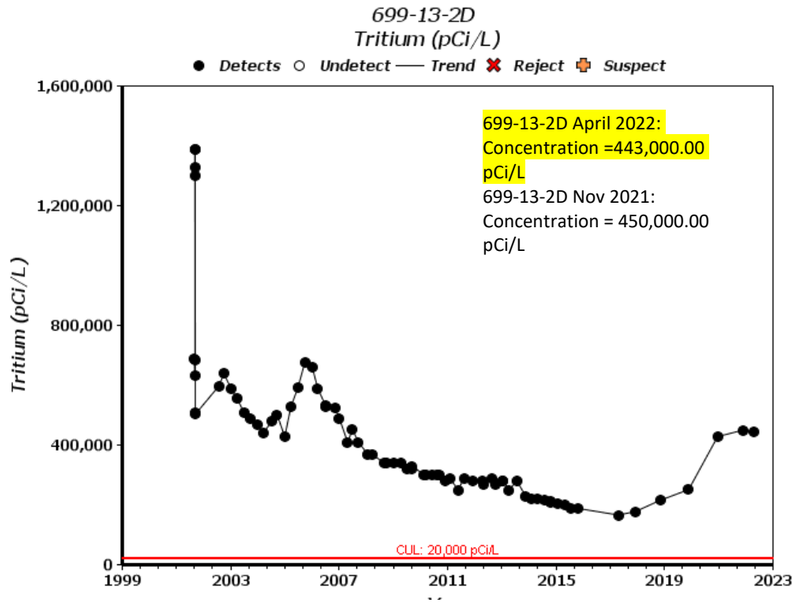

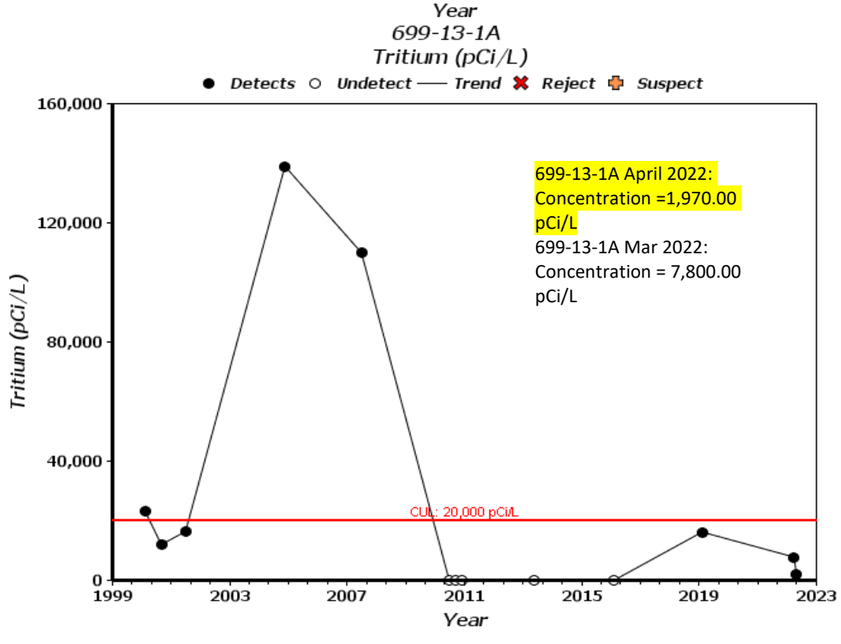

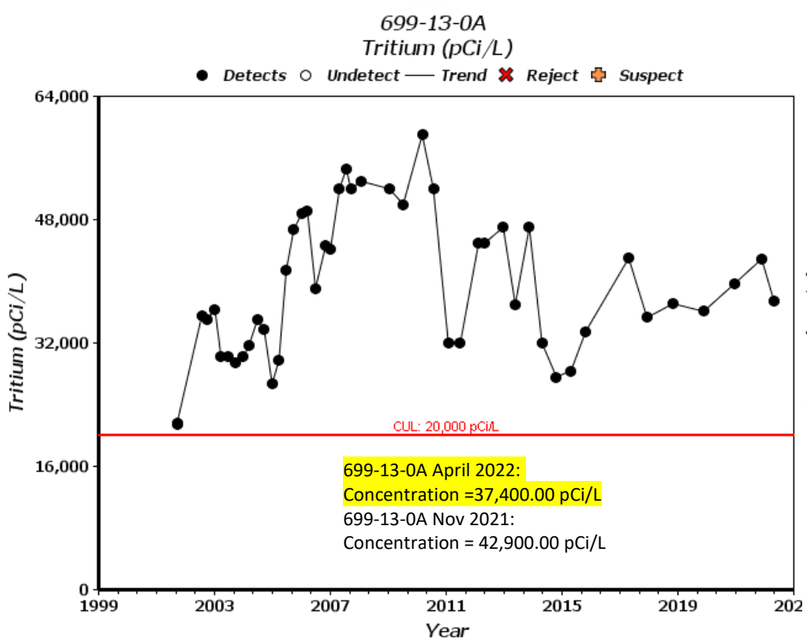

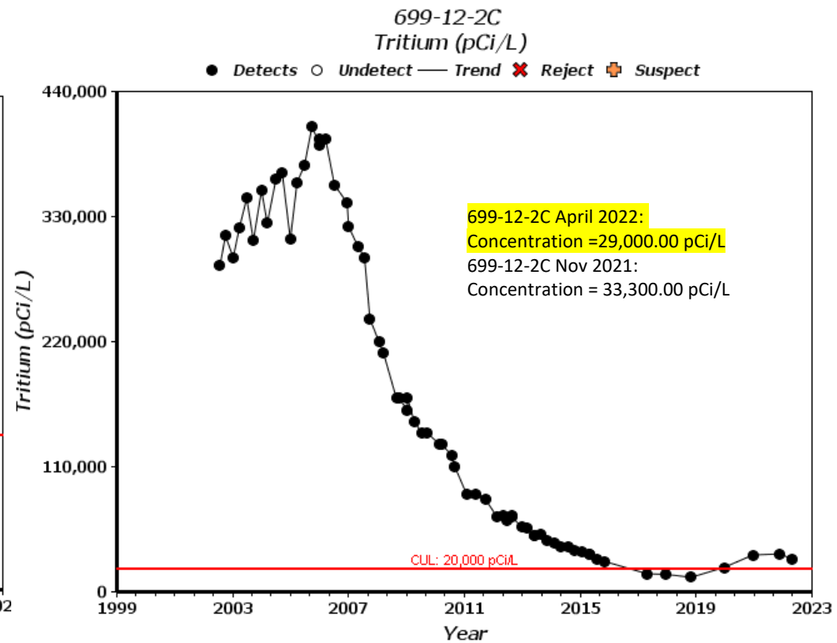

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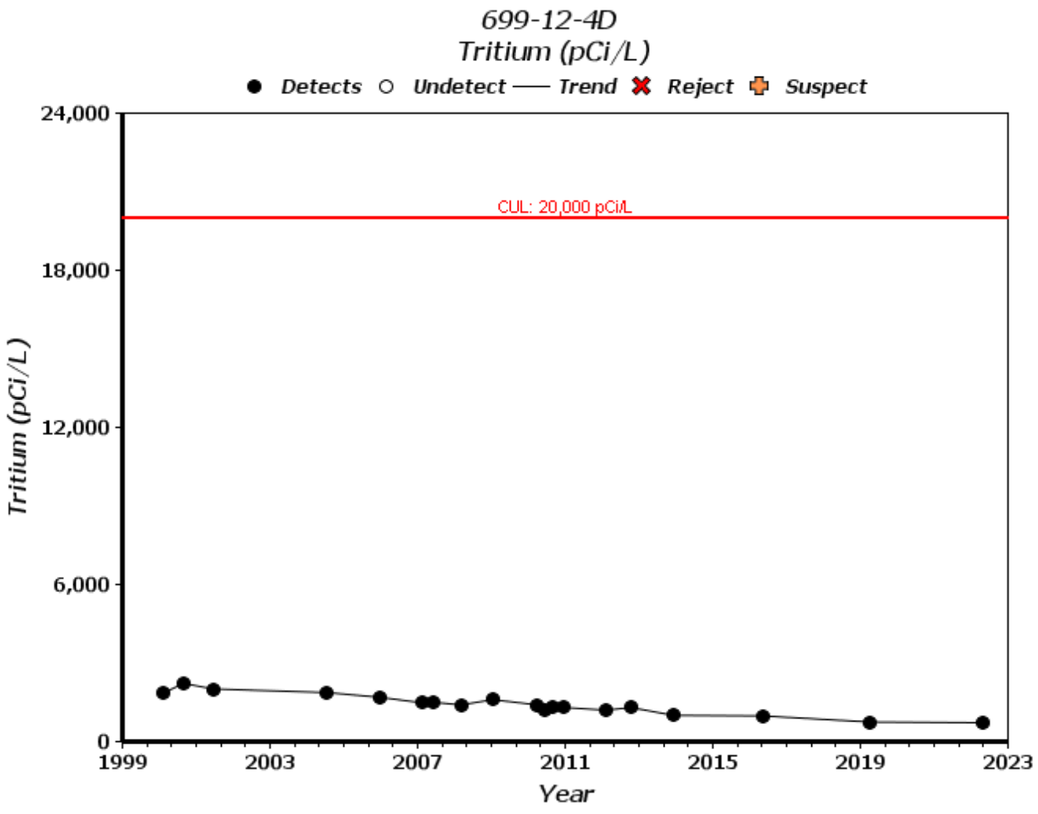

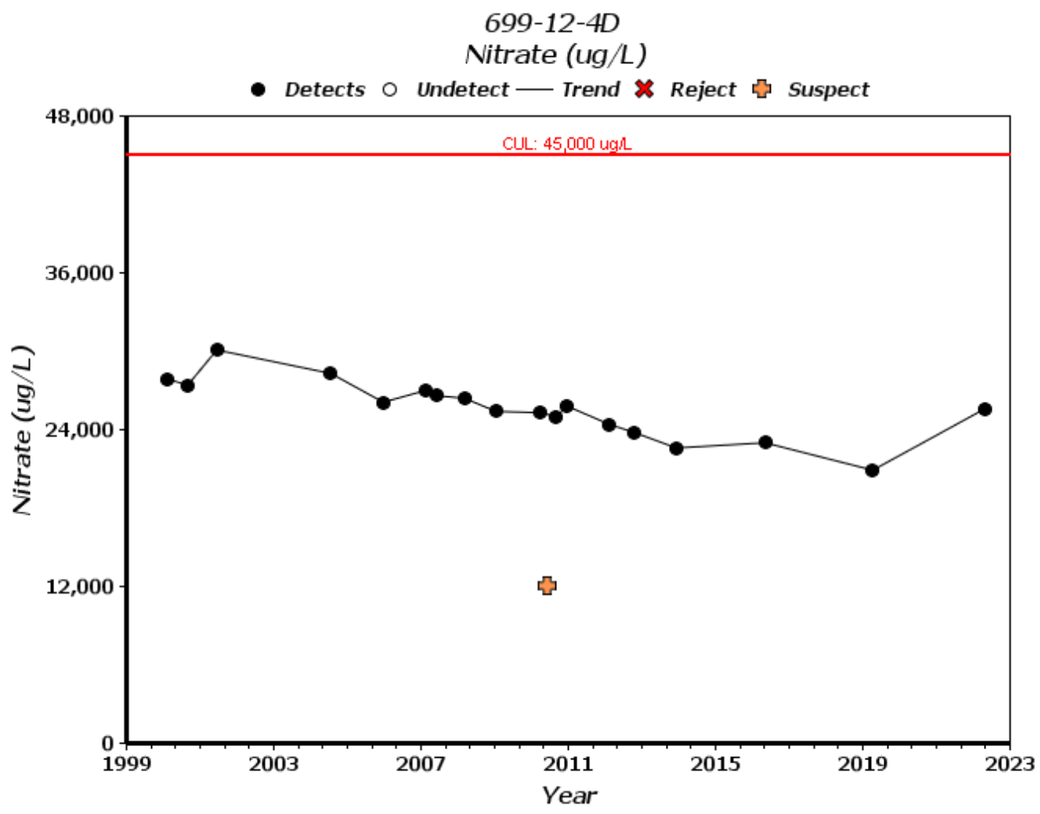

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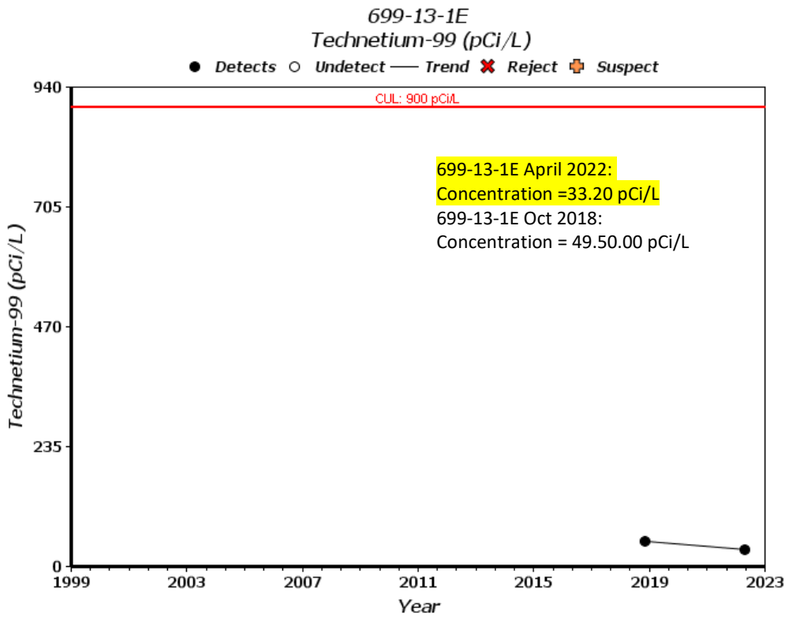

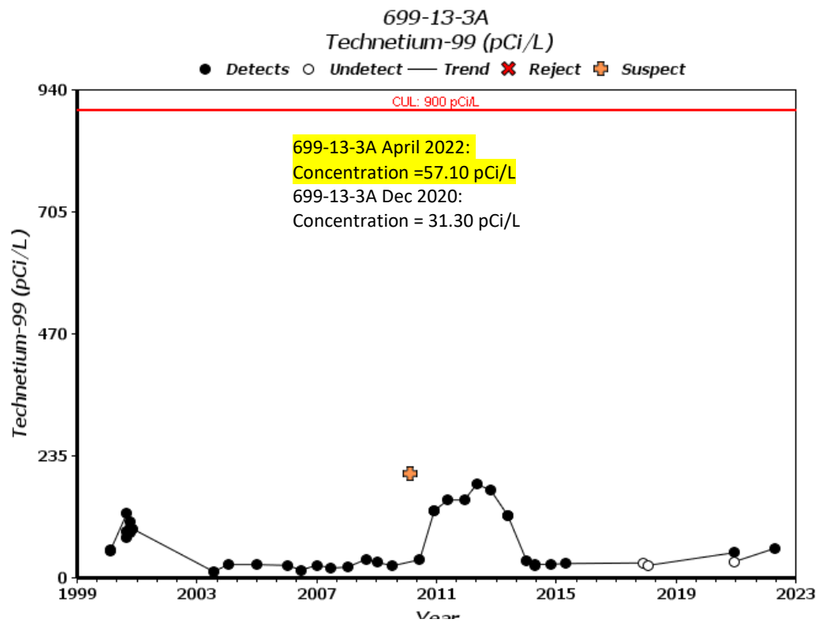

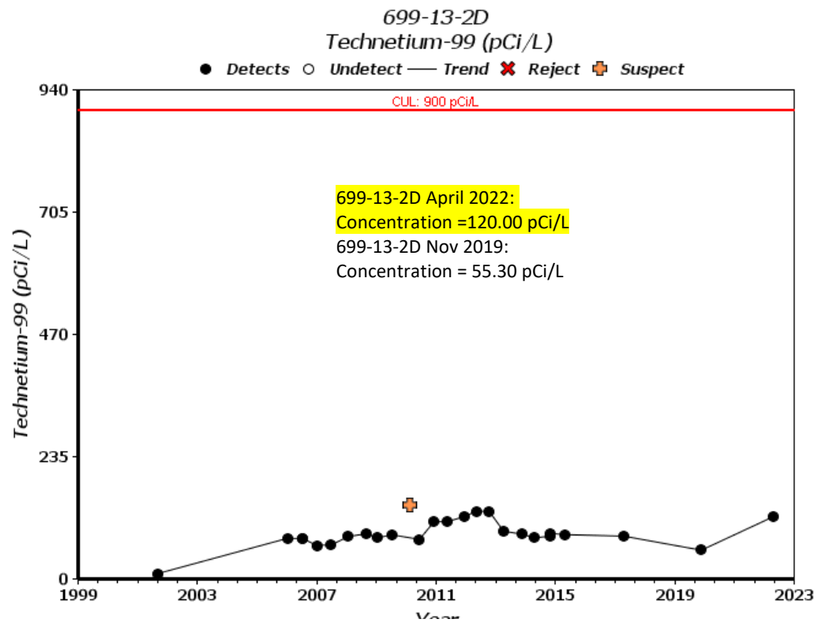

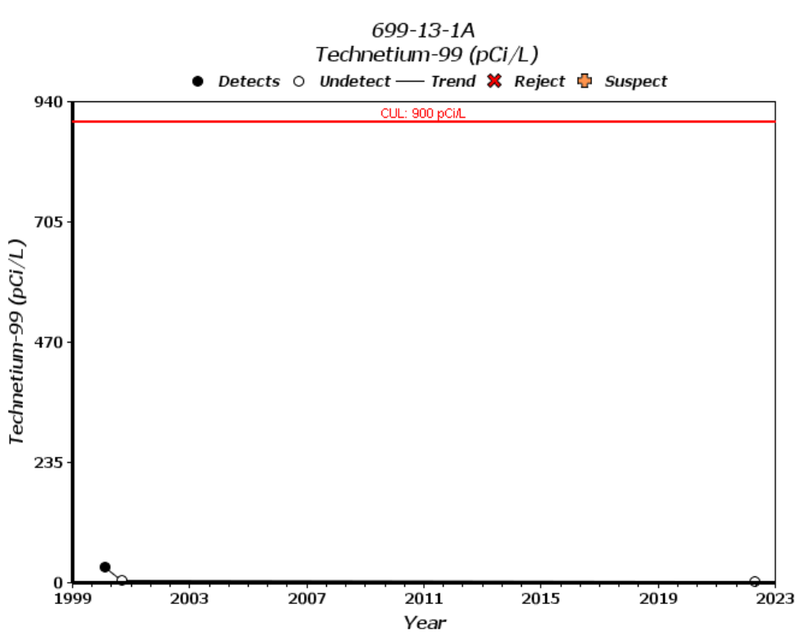

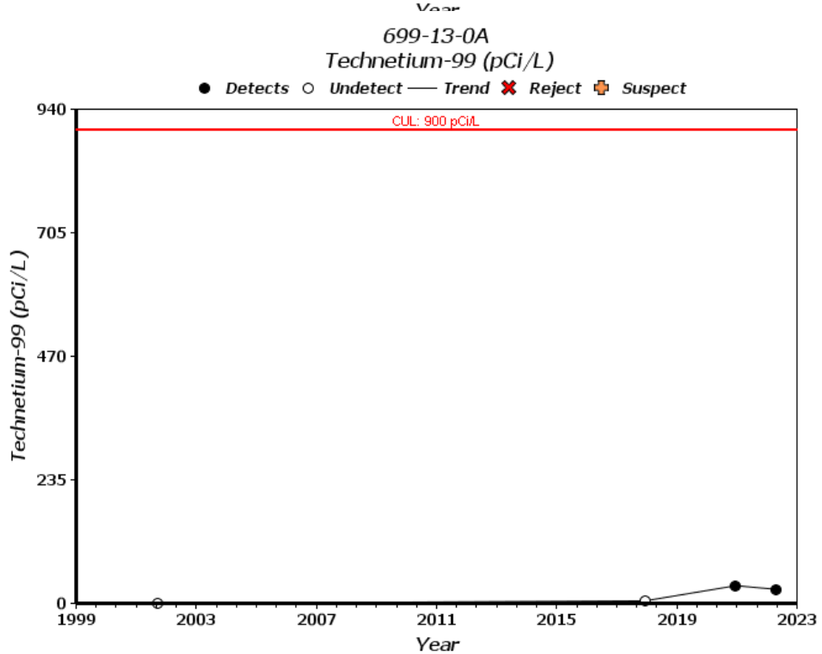

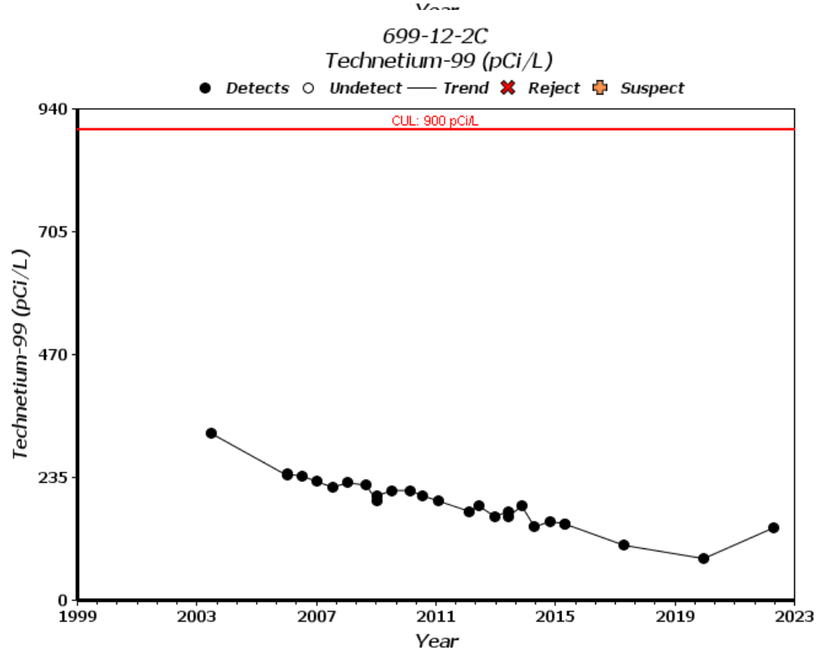

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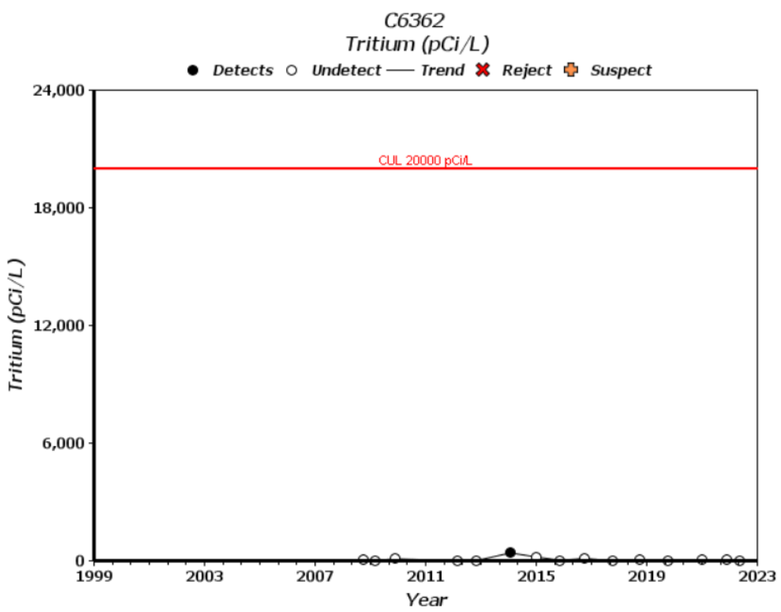
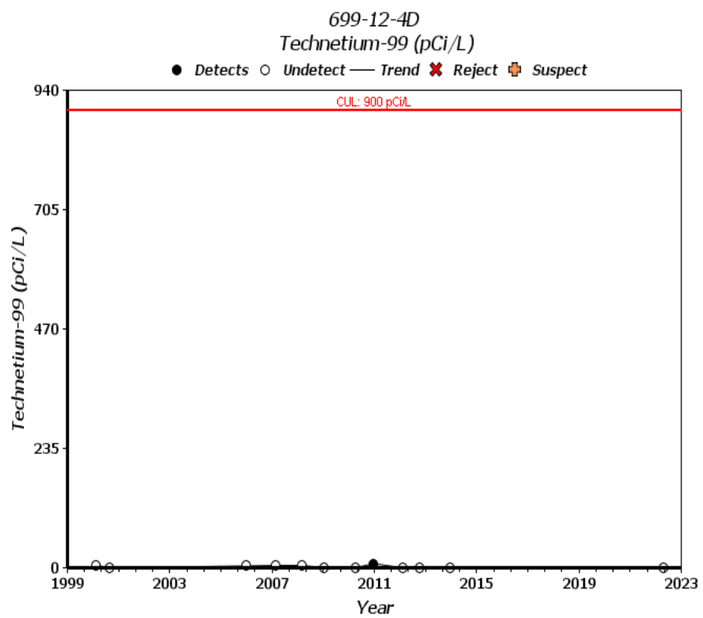
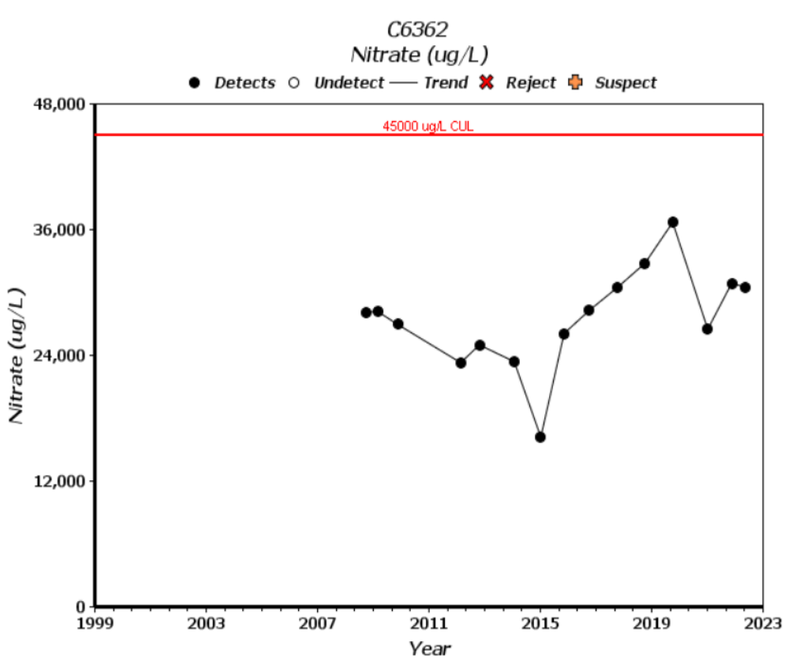


Date	Result	LQ	RQ
9/26/08	69.00	U	
2/24/09	18.00	U	
11/15/09	95.00	U	
2/21/12	8.10	U	Q
10/23/12	-20.00	U	
1/23/14	400.00		
1/7/15	190.00	U	
11/9/15	23.40	U	
10/5/16	116.00	U	
10/10/17	-160.00	U	A
10/5/18	52.10	UN	
10/3/19	-106.00	U	
1/5/21	39.70	U	
11/16/21	31.40	U	
5/11/22	-26.20	U	

Shaded Cells Denote Filtered Results

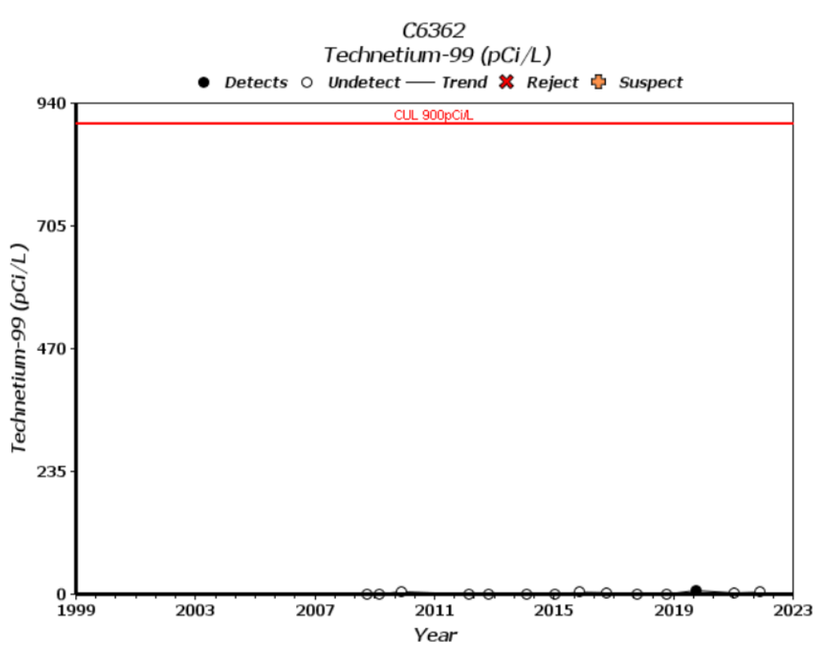


699-12-4D April 2022:
Concentration =0.02 ug/L (U)
699-12-4D Dec 2013:
Concentration = 1.10 ug/L (U)



Date	Result	LQ	RQ
9/26/08	28,100.00	D	
2/24/09	28,200.00	D	
11/15/09	26,959.20	D	
2/21/12	23,300.00	D	
10/23/12	25,000.00	D	
1/23/14	23,400.00	D	
1/7/15	16,200.00	D	
11/9/15	26,100.00	D	
10/5/16	28,300.00	D	
10/10/17	30,500.00	D	
10/5/18	32,800.00	D	
10/3/19	36,700.00	ZD	H
1/5/21	26,500.00	D	
11/16/21	30,900.00	D	
5/11/22	30,500.00	D	

Shaded Cells Denote Filtered Results



Date	Result	LQ	RQ
9/26/08	-4.20	U	
2/24/09	-11.00	U	
11/15/09	4.70	U	
2/21/12	-2.30	U	
10/23/12	-8.00	U	
1/23/14	-1.00	U	
1/7/15	-6.70	U	
11/9/15	3.69	U	
10/5/16	2.83	U	
10/10/17	-1.10	U	A
10/5/18	-0.63	U	
10/3/19	7.00		
1/5/21	2.30	U	
11/16/21	3.80	U	

Shaded Cells Denote Filtered Results

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100-BC Area Groundwater Operable Unit

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

CERCLA Process Implementation:

- RL received EPA review comments on Draft A and provided comment responses on the *100-BC Remedial Action/Remedial Design Workplan* (DOE/RL-2021-44).
- RL, EPA, CPCCo, Tribal representatives and Oregon Department of Energy participated in data quality objectives (DQO) workshops for the 100-BC biological study and groundwater monitoring SAPs. Results of the biological DQO workshop will be incorporated into a future SAP for the biological study. Results of the groundwater DQO workshops will be incorporated into rev. 0 of the 100-BC-5 groundwater SAP (DOE/RL-2021-44-ADD1).

Monitoring & Reporting:

- Nothing new to report. 100-BC-5 aquifer tubes are scheduled for sampling in September and monitoring wells are scheduled for sampling in October.

Interim Milestone: Draft CCF M 16-22-04 proposes one new interim milestone for the 100-BC-5 Operable Unit in TPA Appendix D. Draft CCF is currently under review by RL.

Regulatory Agency Comments: None

100-KR Area Groundwater Operable Unit

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

CERCLA Process Implementation:

- Resolution of comments on the 100-KR-4 RI is complete and a draft Rev.0 version is in tech editing. Draft responses for all comments on the 100-KR-4 FS have been sent to EPA and the resolution process continues for those comments that are not yet closed.
- A TPA-CN against DOE/RL-2013-29, Rev.1, *Sampling and Analysis Plan for the 100-KR-4 Groundwater Operable Unit Monitoring*, was initiated in August 2022 to include the newly drilled well 199-K-242. Well 199-K-242 was drilled as a carbon-14 extraction well but will be maintained as a monitoring well until treatment for carbon-14 begins after issuance of a final Record of Decision.

183.1 KE Headhouse Soil Flushing

- Operational testing of the infiltration gallery began in June and continued into early July.
- Operation of the infiltration gallery in early July continued during working hours only and was operated at a flow rate of approximately 90 gpm. Overnight operation began on July 11, 2022, and continued through July 14, 2022, when a spike in Cr(VI) was observed. The gallery was shut down between July 14, 2022, and July 25, 2022.
- The infiltration gallery operation recommenced on July 25, 2022, at a lower flow rate of 40 gpm.
- ERT continues to operate at the infiltration gallery location.

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183.1 KW Headhouse Soil Flushing and Rebound Study

- The KW rebound study began in June 2021. Samples continue to be 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 August 2022 for key monitoring wells.
- Evaluation of rebound data continued during July and August. Project PSQs and statistical evaluation criteria are presented in KW Rebound SAP (DOE/RL-2020-42-ADD1). Based on the water quality chemistry and statistical evaluation completed to date, the summary is anticipated to be revised to include data through August 2022. Results are expected to be presented to RL and EPA to begin discussion of next steps for the KW soil flushing area prior to issuance of a technical memorandum.

RPO and Drilling

- Re-alignment of wells 199-K-208 and 199-K-238 began in late August 2021, however the work was delayed due to contracting issues, but is in-progress.
- Drilling of extraction well 199-K-242 downgradient of the KW reactor began in March 2022 and was completed in June. Post-development sampling has been collected and the well will be added to the Well Access List after survey of the well casing is completed. An error in field paperwork resulted in TCE not being sampled during drilling. As such, supplemental vertical characterization sampling for TCE was completed in the well during August 2022.

Monitoring & Reporting:

- The following are missed sampling events during July and August:
  - Wells 199-K-110A and 199-186 continued to be not accessible during the scheduled August event. Wells are located within active soil remediation area south of the KE reactor. The well casing for 199-K-186 has been cut down during the soil remediation and will be rebuilt as the soil excavation is backfilled. A sample disposition form will be drafted for signature in September 2022.
  - Well 199-K-222 continued to be not accessible during the scheduled August event. The well is located north of the KE reactor and is within the interim safe storage work area. The well casing was cut down in 2021 during excavation activities and has been partially rebuilt. A sample disposition form will be drafted for signature in September 2022.

Remedial Actions & System Modifications:

- Figures K-2 through K-4 present the monthly volume of groundwater treated and mass of hexavalent chromium removed through August 2022. The observed continued decrease in treatment capacity at the KR4 P&T system (Figure K-2) is attributed to the continued 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 recent increase at the KX P&T system (Figure K-4) is a result of completed repairs of several IX resin vessels which have been completed.
- 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:

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Month	Gallons Treated (millions)	Hexavalent Chromium Removed (kg)
July	41.95	1.33
August	38.61	1.40
Totals	**80.56**	**2.73**

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

P&T System	Treated (mgal)	Removed (kg)
KR4	69.26	1.17
KW	66.63	2.60
KX	278.32	10.65
Total	**414.21**	**14.42**

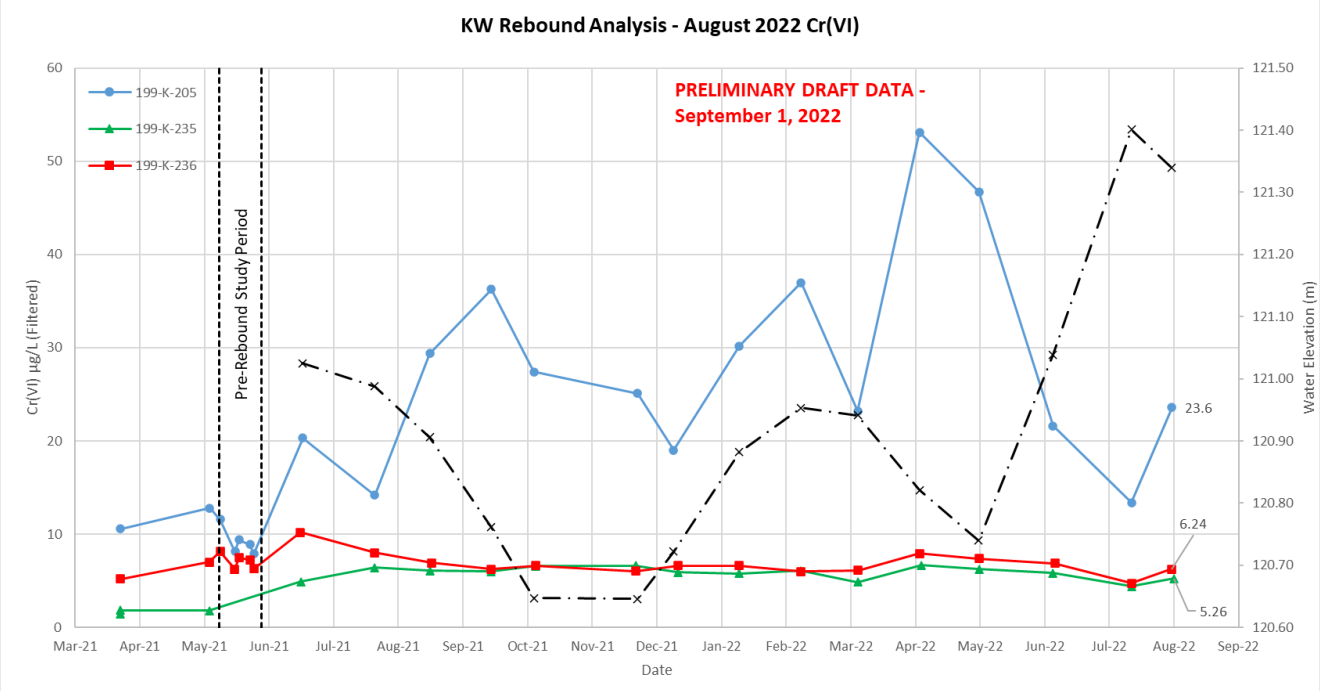

Figure K-1. Cr(VI) Concentrations in Key KW Soil Flushing and Rebound Observation Wells

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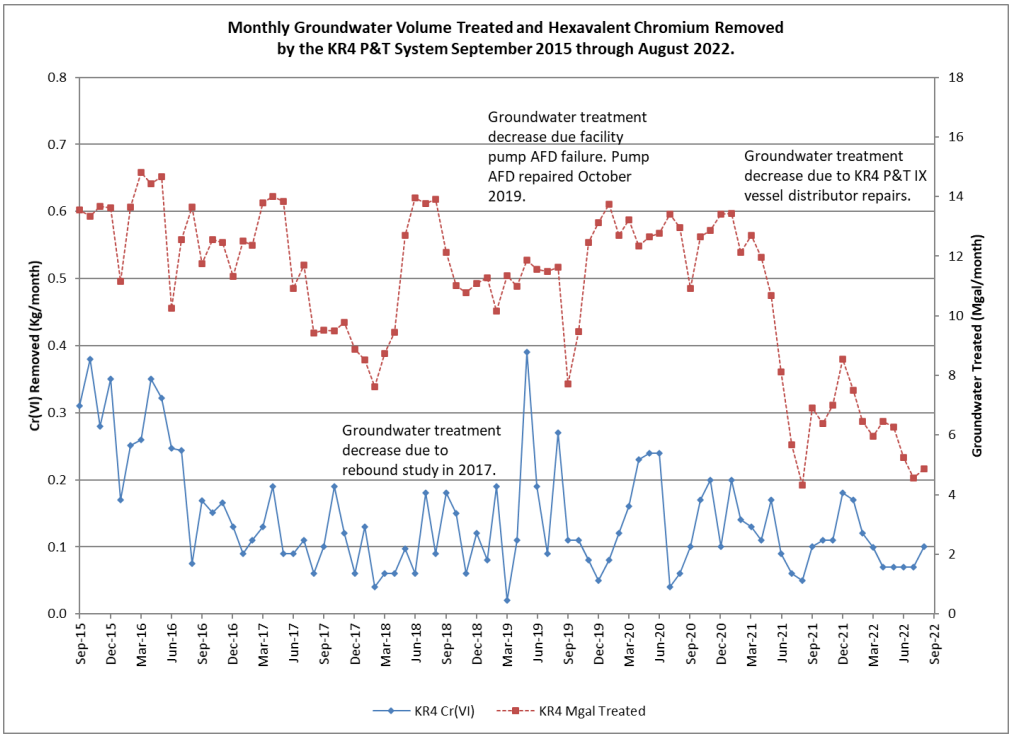

Figure K-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by KR4 P&T September 2015 through August 2022

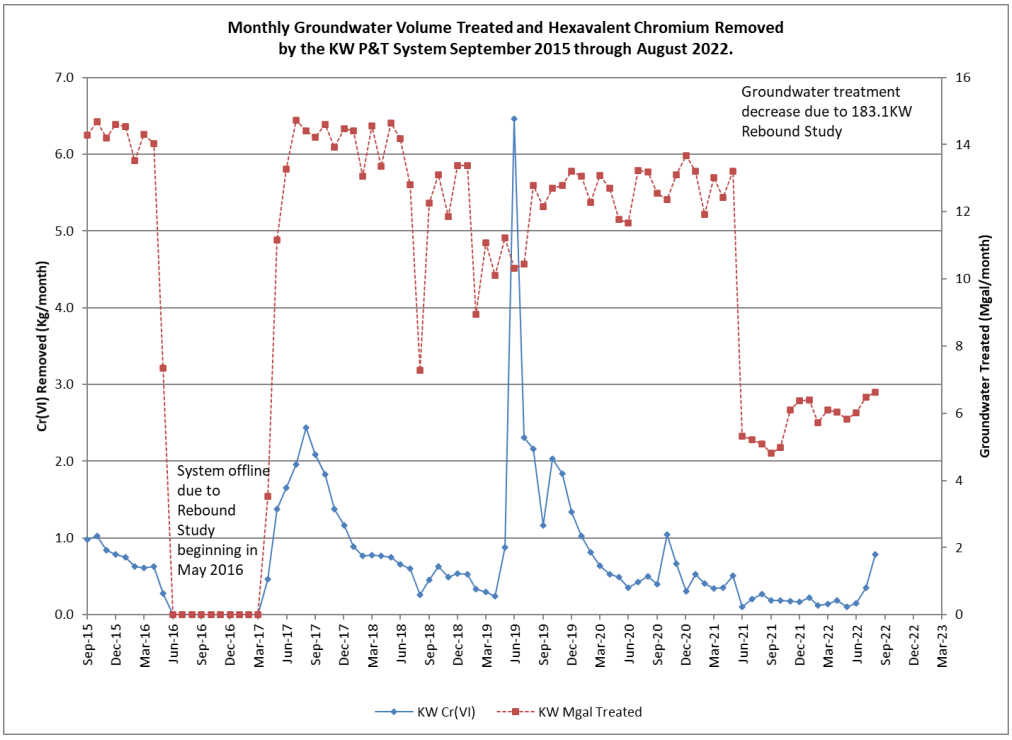

Figure K-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by KW P&T

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September 2015 through August 2022

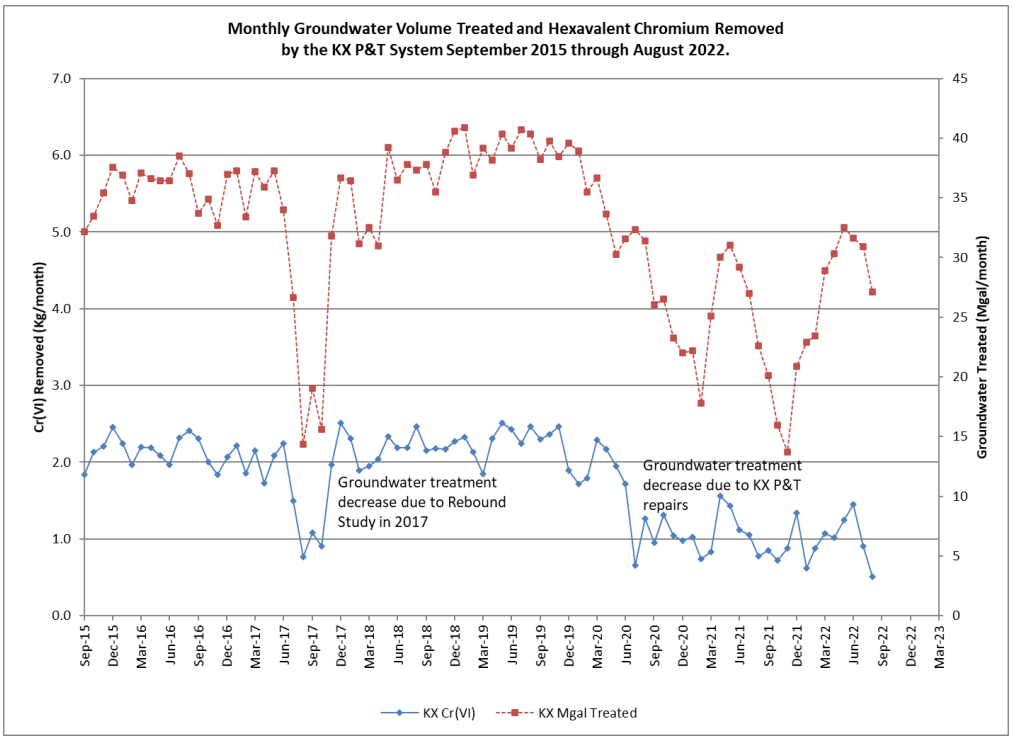

Figure K-4. Monthly Cr(VI) removed, and groundwater volume treated by KX P&T September 2015 through August 2022

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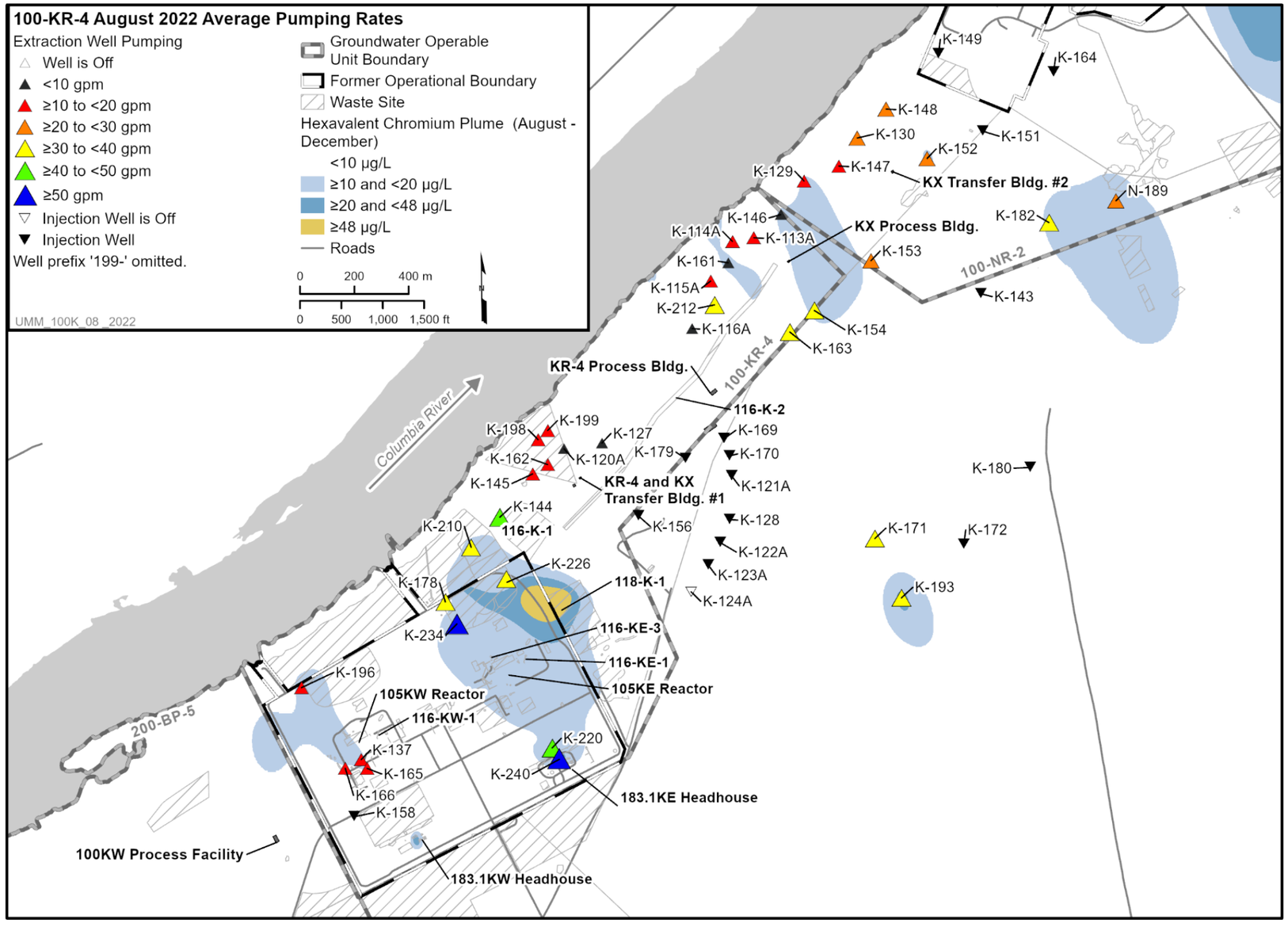

Figure K-5. August 2022 Average Pumping Rates for the 100-KR-4 P&T System

Regulatory Agency Comments: None

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100-N Area Operable Unit

Ecology Lead
RL – E. Glossbrenner, CPCCo – D. Todak, A. Lee

CERCLA Process Implementation and Remedial Actions:

- Comment resolution on the 100-N RI/FS is ongoing.
- Six aquifer tubes for the 100-N area could not be sampled during the high river stage period. Four of the aquifer tubes are missing and could not be located for repair and need to be replaced. Repairs on the other 2 aquifer tubes will be attempted for low river stage sampling. Sample disposition concurrence form has been provided to cancel the missed sample events.
- Monthly sponge change outs were conducted for removal of free product TPH-diesel contamination at wells 199-N-18 and 199-N-183. The sponges were changed out on August 3, 2022, removing to total of 240 grams.

Regulatory Agency Comments: None

100-D/H Areas Groundwater Operable Unit

Ecology Lead
RL –E. Glossbrenner, CPCCo –D. Todak, S. Bendaña

CERCLA Process Implementation:

- TPA-CN-1112 to the DOE/RL-2017-13-ADD1,*Groundwater Monitoring Sampling and Analysis Plan for the 100-HR-3 Groundwater Operable Unit,* Rev. 0 is in process.
- TPA-CN-1113 to the DOE/RL-2017-13-ADD2,*Well Installation Sampling and Analysis Plan for the 100-HR-3 Groundwater Operable Unit,* Rev. 0 is in process.

Monitoring & Reporting:

- The sample disposition cancel form for June 2022 was signed by RL and the regulators on 8/9/2022. Three P&T well sampling events were canceled due to low water levels and two P&T sampling events were canceled due to realignments from extraction to injection wells.
- The sample disposition cancel form for July 2022 was signed by RL and the regulators on 09/13/2022. Two P&T wells sampling events were canceled due to pump and treat realignment. One aquifer tube was cancelled because it could not be found.

Remedial Actions & System Modifications:

- The volume of groundwater treated, and mass of Cr(VI) removed from the 100-HR-3 P&T systems during July and August are:

Month	Gallons Treated (in millions)	Hexavalent Chromium Removed (kg)
July	55.47	2.69
August	52.15	2.90
Total	**107.62**	**5.59**

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

P&T System	Treated (mgal)	Removed (kg)
DX	314.91	16.00
HX	265.81	22.20
Total	**580.72**	**38.20**

- 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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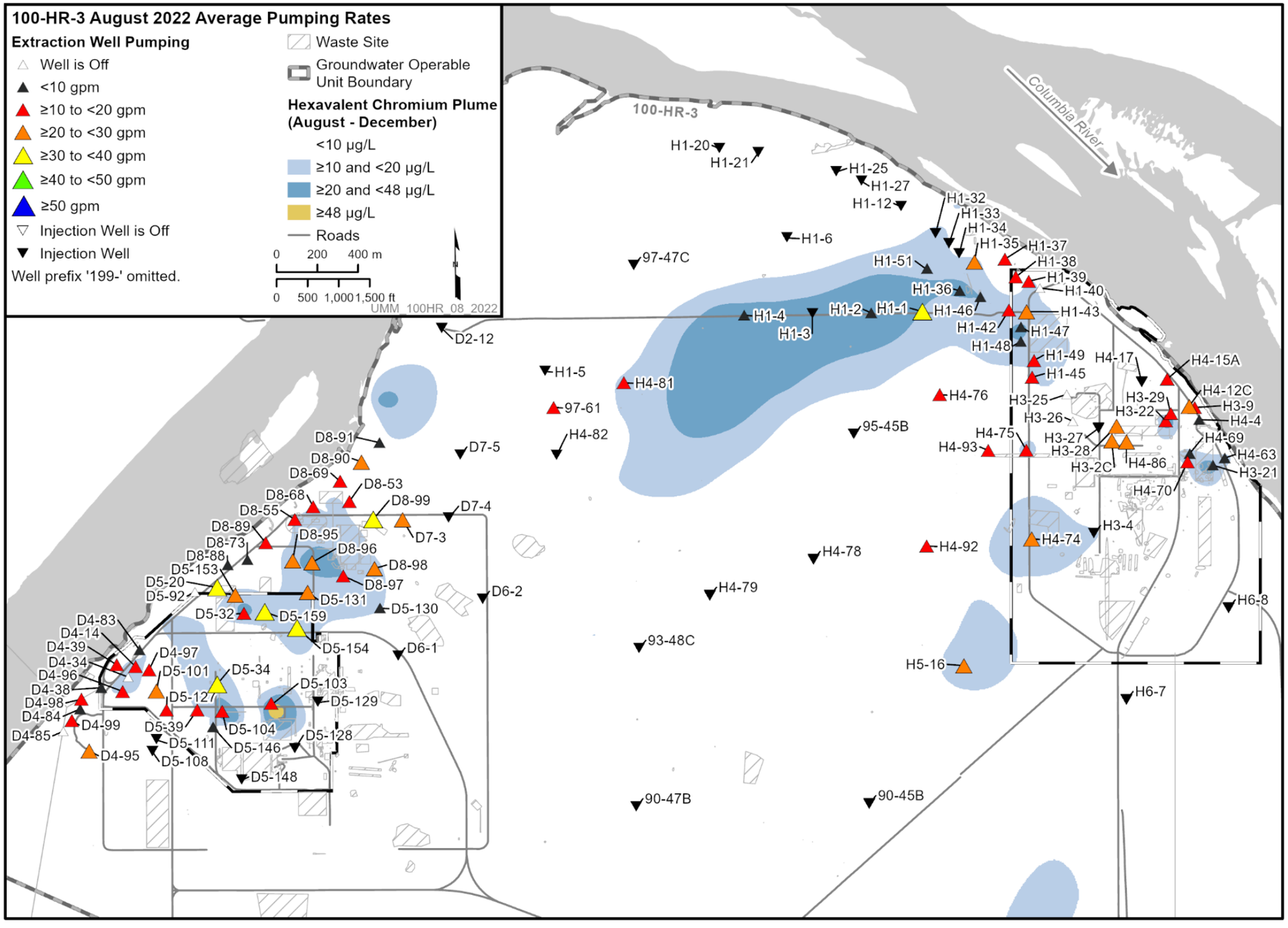

Figure H-1. August 2022 Average Pumping Rates for the 100-HR-3 P&T System

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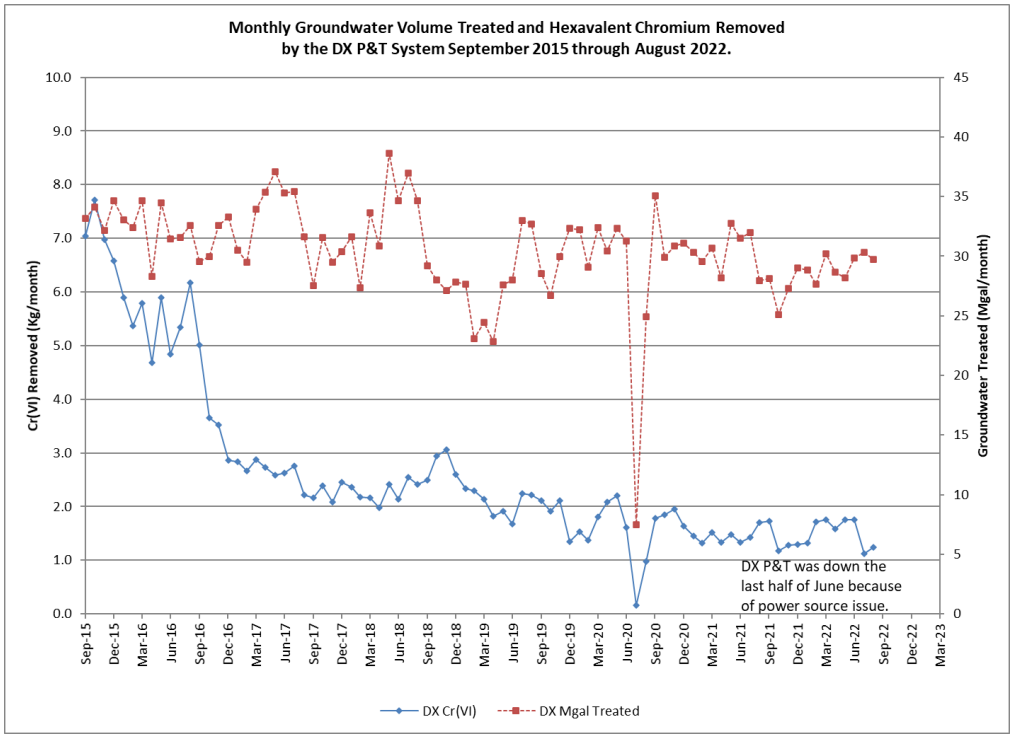

Figure H-2. Monthly Cr(VI) Removed and Groundwater Volume Treated by DX P&T September 2015 through August 2022

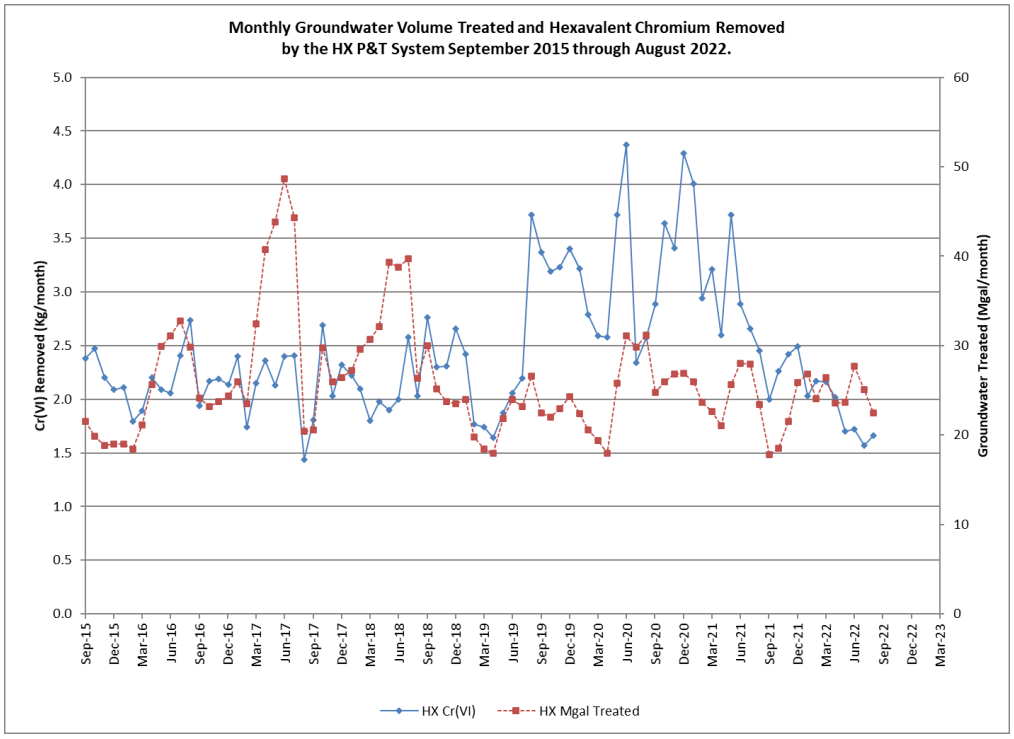

Figure H-3. Monthly Cr(VI) Removed and Groundwater Volume Treated by HX P&T September 2015 through August 2022

Regulatory Agency Comments: None

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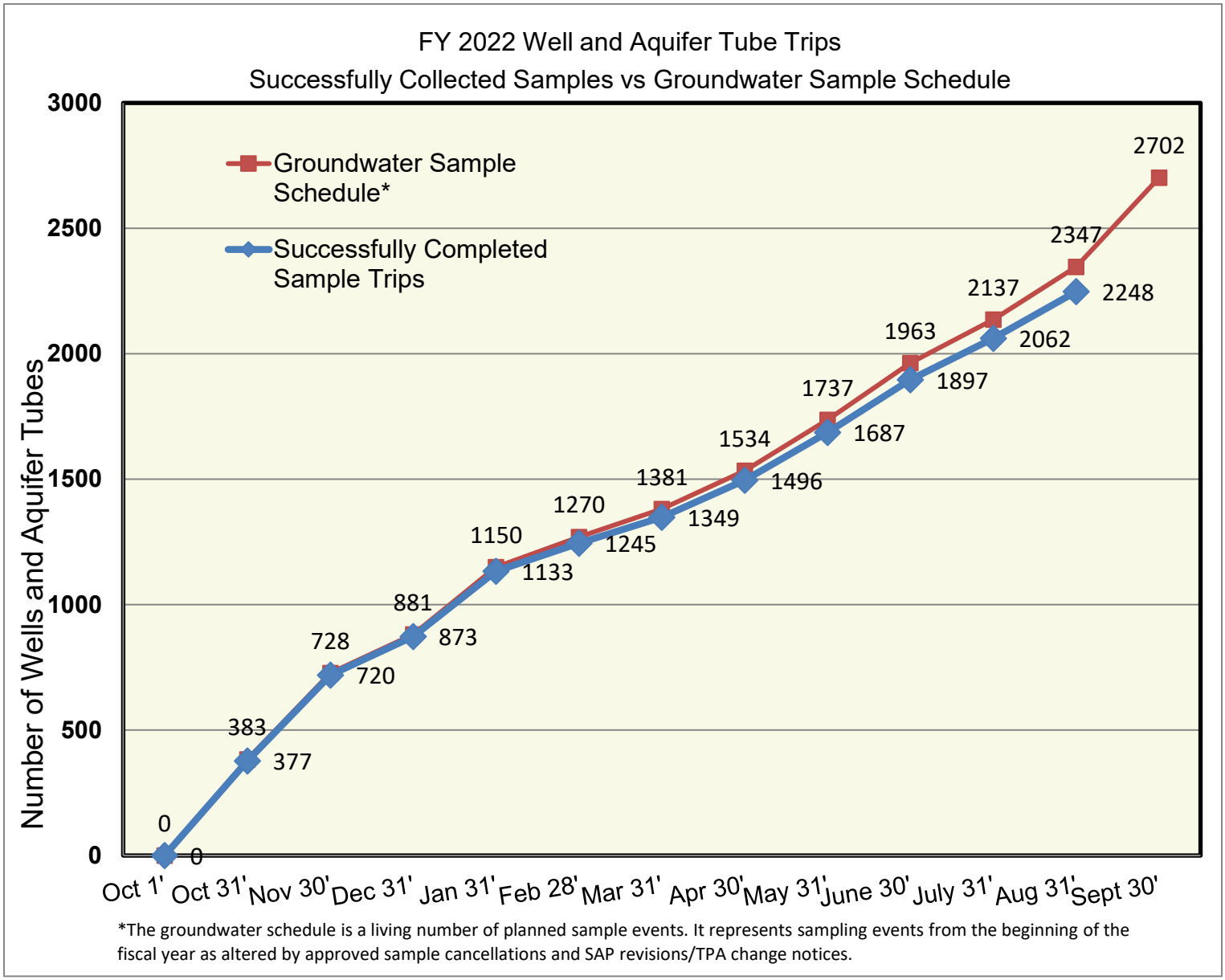
Hanford Annual Groundwater Sampling Program Performance



*Appendix A contains all the Groundwater Sample Event Disposition Concurrence Forms approved in July and August.

Regulatory Agency Comments: None

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July – August Data
September 15, 2022

River Corridor Milestone Status

MS#	Title	Due Date
	Fiscal Year 2022	
M-016-87-T-01	Submit to EPA the Data Quality Objectives (DQO) for enhanced monitoring around 618-11	~~6/30/2022~~ Complete
	Fiscal Year 2023	
M-016-87-T02A	Submit to EPA the final Sampling and Analysis Plan (SAP), if changes (e.g., target analytes, sample frequency, etc.) are needed to satisfy the DQOs.	12/31/2022 On Schedule
M-016-87-T02B	Update the 618-11 conceptual site model and create the vadose zone model to be updated with the enhanced monitoring data. Submit to EPA the associated Environmental Calculation Files.	12/31/2022 At Risk
M-016-87-T02C	Submit interim action alternative analysis to EPA for reducing infiltration at 618-11.	12/31/2022 At Risk
M-016-87-T03	Complete well implementation around 618-11, if needed to satisfy the DQOs.	6/30/2023 On Schedule
	Fiscal Year 2024	
M-016-87A	Submit Annual Evaluation of Results of Enhanced Groundwater Monitoring Near the 618-11 Burial Ground	6/30/2024 On Schedule
	Fiscal Years 2025-2027	
M-016-87B	Submit Annual Evaluation of Results of Enhanced Groundwater Monitoring Near the 618-11 Burial Ground	6/30/2025 On Schedule
M-016-87C	Submit Annual Evaluation of Results of Enhanced Groundwater Monitoring Near the 618-11 Burial Ground	6/30/2026 On Schedule
M-016-87D	Submit Annual Evaluation of Results of Enhanced Groundwater Monitoring Near the 618-11 Burial Ground	6/30/2027 On Schedule
M-016-87E	Submit Annual Evaluation of Results of Enhanced Groundwater Monitoring Near the 618-11 Burial Ground	6/30/2028 On Schedule

100/300 AREAS UNIT MANAGERS MEETING
Milestones and O.U. Status
July – August Data
September 15, 2022

Documents Submitted to the Administrative Record

Number	Title	Referencing Document	Referencing Document Title
CPCC-00464_R0	Assessment of Elevated Uranium Concentrations Associated with the 618-7 Burial Ground	Annual Reports	Annual Reports
SGW-66695-VA_R0	FY22 Pump and Treat Remedial Process Optimization Scope, 100-HR-3 Groundwater Operable Unit	Annual Reports	Annual Reports
SGW-67175_R0	100-KR-4 183.1 KW Headhouse Soil Flushing Results from January 2020 Through May 2021	Annual Reports	Annual Reports
SGW-67179_R0	Borehole Summary Report for the Installation of Four Monitoring and Two Extraction Wells in 100-HR-3 Operable Unit, FY2021	Annual Reports	Annual Reports
SGW-67266_R0	Borehole Summary Report for the Installation of One Dual-Purpose Monitoring Well in 100-KR-4, FY2021	Annual Reports	Annual Reports
SGW-67987_R0	100-K-79:8 Data Usability Assessment	Annual Reports	Annual Reports
SGW-59365_R1	Model Package Report: 100-BC Scale-Appropriate Fate Transport Model	Annual Reports	Annual Reports

Regulatory Agency Comments: None

Approved TPA Change Notices

None for this reporting period

Number	Title	Description of Change

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
Action Items List
September 15, 2022

CPCC-2204366

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
O	193		Ben Vannah	RL	Check if the historical files being moved out of 324 include the D&D library and their final destination- owed to McClure Tosch	

100/300 AREAS UNIT MANAGERS MEETING
Milestones and O.U. Status
July – August Data
September 15, 2022

Appendix A

This contains all the Groundwater Sample Event Disposition Concurrence Forms signed during this reporting period

GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:	OU/TSD/Waste Site/WMA/GW Interest Area:
Darrell Newcomer	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-D4-95	1/1/2022	Canceled	P&T pump not running. New SAP DOE/RL-2017-13-ADD1 supersedes old SAP DOE/RL-2013-30.	DOE/RL-2013-30, Rev. 0
199-D5-20	1/1/2022	Canceled	Converted from extraction to injection well in February 2022. New SAP supersedes old SAP.	DOE/RL-2013-30, Rev. 0
199-D5-32	1/1/2022	Canceled	P&T pump not running. New SAP DOE/RL-2017-13-ADD1 supersedes old SAP DOE/RL-2013-30.	DOE/RL-2013-30, Rev. 0
199-H1-39	4/1/2022	Canceled	Converted from extraction to injection well in March 2022.	DOE/RL-2017-13-ADD1, Rev0
199-H3-21	1/1/2022	Canceled	P&T pump not running due to low water level. New SAP DOE/RL-2017-13-ADD1 supersedes old SAP DOE/RL-2013-30.	DOE/RL-2013-30, Rev. 0

APPROVALS

DOE:

Mike Cline
Print First and Last Name

MICHAEL CLINE Digitally signed by MICHAEL CLINE Date: 2022.08.09 14:06:48 -07'00'
Signature / Date

Regulator:

Kim Welsch
Print First and Last Name

Digitally signed by Welsch, Kim (ECY) Date: 2022.08.09 14:17:57 -07'00'
Signature / Date

Regulator:

Laura Buelow
Print First and Last Name

Buelow, Laura Digitally signed by Buelow, Laura Date: 2022.08.09 14:31:49 -07'00'
Signature / Date

GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:	OU/TSD/Waste Site/WMA/GW Interest Area:
J.Lynn	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-220	06/22	Canceled	Daily in-process samples for the 183.1KE Headhouse soil flushing project were missed on June 21, 29, and 30. In-process sampling requirements were misunderstood by staff who were filling in for those who were absent. Corrective action has been implemented to ensure similar errors will be avoided in the future.	DOE/RL-2021-31
199-K-220	07/22	Canceled	Daily in-process samples for the 183.1KE Headhouse soil flushing project were missed on July 6. In-process sampling requirements were misunderstood by staff who were filling in for those who were absent. Corrective action has been implemented to ensure similar errors will be avoided in the future.	DOE/RL-2021-31
199-K-240	07/22	Canceled	Daily in-process samples for the 183.1KE Headhouse soil flushing project were missed on July 11 and 12. In-process sampling requirements were misunderstood by staff who were filling in for those who were absent. Corrective action has been implemented to ensure similar errors will be avoided in the future.	DOE/RL-2021-31

APPROVALS

DOE:

Mike Cline
Print First and Last Name

MICHAEL CLINE Digitally signed by MICHAEL CLINE Date: 2022.08.09 14:09:04 -07'00'
Signature / Date

Regulator:

Roberto Armijo
Print First and Last Name

ROBERTO ARMIJO Digitally signed by ROBERTO ARMIJO Date: 2022.08.23 13:51:23 -07'00'
Signature / Date

Regulator:

N/A
Print First and Last Name

Signature / Date

GROUNDWATER SAMPLE EVENT DISPOSITION CONCURRENCE

Project Scientist:	OU/TSD/Waste Site/WMA/GW Interest Area:
Sylvana Bendaña/Katlin Hanson	200-BP, 200-ZP, 200-UP, 100-KR, 300-FF

AEA/CERCLA/RCRA/Other:

AEA

TABLE OF WELLS FOR DISPOSITION APPROVAL

Well	Scheduled Event *(MM/YY)*	Disposition *(Canceled/Deferred Sample Event)*	Justification	Document Driver *(Document Containing Sample Requirements)*
299-E33-9	2/1/2021	Canceled	Not enough water to get a bailed sample for analyses. Also have limited access due to well being located within tank farms. Attempted sampling event with bailer on 4/20/2022 which was unsuccesful. Well is considered unsampleable. We do have a 2/1/2022 sampling event on the schedule as well.	DOE/RL-2015-56
299-W14-13	2/1/2022	Canceled	Well is dry. No water. There is 5/1/2022 sampling event anyways. There is a plan for a future replacement well through the RCRA program	DOE/RL-2015-56
699-32-70B	4/1/2021	Canceled	The 4/14/2022 sampling event was successful with a bailer	DOE/RL-2015-56
699-17-70	7/1/2020	Canceled	Have a July 2022 sampling event coming up anyways. We have no access to this well. Will try to figure out cost for regraveling.	DOE/RL-2015-56
299-W14-13	5/1/2022	Cancel	This well is dry. There is a plan for a future replacement well through the RCRA program	DOE/RL-2015-56
AT-3-4-M	12/1/2021	Canceled	Next sampling event is in September 2022. WCR has been sent in to trip tree overgrowth and waiting for maintenance.	DOE/RL-2015-56
AT-3-5-S	12/1/2020	Canceled	Cannot locate the aquifer tube, it is gone.	DOE/RL-2015-56

APPROVALS

DOE:

R. D. Hildebrand — *Print First and Last Name*

R.D. Hildebrand Digitally signed by R.D. Hildebrand Date: 2022.07.20 07:38:18 -07'00' — *Signature / Date*

Regulator:

Print First and Last Name — *Signature / Date*

Regulator:

Print First and Last Name — *Signature / Date*