DOE/RL-2022-14
Revision 0C

WASTE MANAGEMENT PLAN/WASTE CONTROL PLAN FOR THE 200-BP-5 AND 200-PO-1 GROUNDWATER OPERABLE UNITS

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Title: *Waste Management Plan/Waste Control Plan for the 200-BP-5 and 200-P0-1 Groundwater Operable Units*

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U.S. Department of Energy,
Richland Operations Office

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Change History for DOE/RL-2022-14, *Waste Management Plan/Waste Control Plan for the 200-BP-5 and 200-PO-1 Groundwater Operable Unit*

TPA-CN	Modifications	Signature Date
TPA-CN-1131	Added 1 RCRA well in Table B-1. Added Change History table and updated document number to DOE/RL-2022-14, Revision 0A.	03/21/2024
TPA-CN-1133	Added one (1) RCRA well to Table B-1 and two (2) RCRA wells to Table B-2, updated Change History table, and updated the document number DOE/RL-2022-14, Revision 0B	05/14/2024
TPA-CN-0971	• The document number has been updated to DOE/RL-2022-14, Revision 0C. • Change Notice table has been updated. • Table A-1 was updated to remove wells 299-E25-17, 299-E25-19, D0402, D0403, D0407 and D0413, add wells 299-E25-246 and D0687, and provide well numbers with the well IDs where available. • Figure A-1 was updated to reflect the changes in Table A-1 and update the figure caption wording. • Table A-2 was updated to remove wells D0401, D0414 and 299-E33-205 and add wells 299-E33-268, 299-E33-360, 299-E33-361, and 299-E33-372. • Figure A-2 was updated to reflect the changes in Table A-2 and update the figure caption wording. • Table B-1 was updated to remove aquifer tubes 12-D, 13-S, 14-M, monitoring wells 299-E33-9 and 299-E33-10.	07/09/2025

Contents

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Terms

CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERDF	Environmental Restoration Disposal Facility
FS	feasibility study
IDW	investigation-derived waste
IROD	interim Record of Decision
MSU	modular storage unit
OU	operable unit
P&T	pump and treat
RCRA	*Resource Conservation and Recovery Act of 1976*
RI	remedial investigation
ROD	Record of Decision
Tri-Parties	U.S. Department of Energy, U.S. Environmental Protection Agency, and Washington State Department of Ecology

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1 Introduction

The 200-BP-5 and 200-PO-1 Groundwater Operable Units (OUs) are associated with the 200 East Area of the Hanford Site Central Plateau. The 200-BP-5 OU consists of groundwater beneath and to the northwest of the 200 East Area, whereas the 200-PO-1 OU consists of groundwater beneath and to the southeast of the 200 East Area (Figure 1). The waste sites and contaminated soil above the 200-BP-5 and 200-PO-1 OUs are sources of groundwater contamination that are (or will be) addressed as part of the cleanup of source OUs or the treatment, storage, and disposal units through separate *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) and/or *Resource Conservation and Recovery Act of 1976* (RCRA) actions.

This waste management plan/waste control plan identifies waste management and waste control requirements for the 200-BP-5 and 200-PO-1 OUs. These OUs are undergoing the CERCLA remedial investigation (RI)/feasibility study (FS) process. The U.S. Department of Energy, the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (also known as the Tri-Parties) agreed that necessary information is not yet available to prepare an FS supporting a Record of Decision (ROD) for a final action for the 200-BP-5 and 200-PO-1 OUs. Based on the agreement that additional information was needed, the Tri-Parties developed an interim Record of Decision (IROD) strategy in 2018 (DOE et al., 2018, *Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (IAMIT) Decision / Determination/Action Assignment Number 2018-002, 200-BP-5 and 200-PO-1 Interim Record of Decision*). An IROD was subsequently developed and signed in September 2021 (EPA et al., 2021, *Interim Record of Decision, Hanford 200 Area Superfund Site, 200-BP-5 and 200-PO-1 Operable Units* (hereinafter referred to as the 200-BP-5 and 200-PO-1 OU IROD).

2 Purpose

This waste management plan/waste control plan establishes waste management and control requirements for locations in the target remediation areas identified in the 200-BP-5 and 200-PO-1 OU IROD (EPA et al., 2021) and for the wells associated with the remedial action located in the OUs (Figure 1). This plan also identifies the waste management and waste control requirements for actions associated with the 200-BP-5 and 200-PO-1 OUs to support the RI/FS groundwater monitoring and investigations and eventual final ROD, including investigation-derived waste (IDW).

The interim remedial action includes management and disposal of waste generated within the B Complex and the A-AX Farms and C Farm areas associated with activities implemented in connection with the following documents:

- 200-BP-5 and 200-PO-1 OU IROD (EPA et al., 2021)
- DOE/RL-2020-41, *200-BP-5 and 200-PO-1 Interim Action Remedial Design/Remedial Action Work Plan*
- DOE/RL-2020-41-ADD2, *Sampling and Analysis Plan for Drilling Interim Remedial Action Work Plan Wells in the 200-BP-5 and 200-PO-1 Groundwater Operable Units*

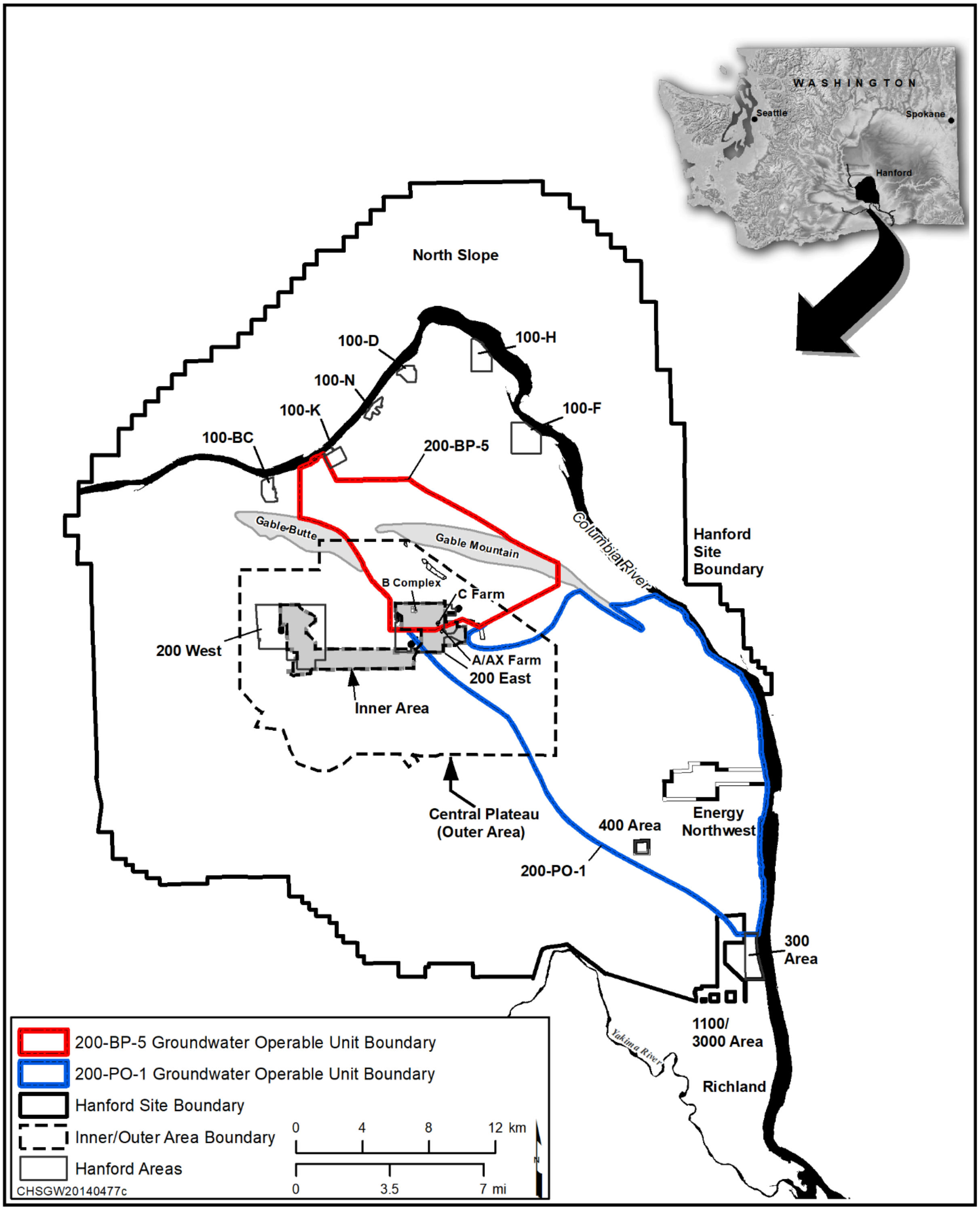

Figure 1. Location of the 200-BP-5 and 200-PO-1 OUs on the Hanford Site

Waste will also be generated during performance monitoring for the interim action, as described in DOE/RL-2020-41. The initial 200-BP-5 and 200-PO-1 OU IROD (EPA et al., 2021) performance monitoring well locations and names are provided in Appendix A.

The 200-BP-5 and 200-PO-1 OU IROD (EPA et al., 2021) was prepared to address large, mobile groundwater uranium and technetium-99 plumes. The selected interim remedy is a combination of groundwater extraction and treatment using pump and treat (P&T) technology, remedy performance monitoring, and institutional controls. The interim remedy includes (1) designing, installing, and operating a P&T system per the remedial design/remedial action work plan; (2) installing new monitoring wells and groundwater monitoring and assessments in accordance with a performance monitoring plan to evaluate interim remedial action effectiveness; (3) updating DOE/RL-2009-124, *200 West Pump and Treat Operations and Maintenance Plan*, to include the new components associated with this interim action; and (4) maintaining institutional controls to prevent exposure to contaminated groundwater. Waste management for the 200 West P&T facility is performed under DOE/RL-2009-124.

Groundwater monitoring of contaminants of concern and contaminants of potential concern (as identified in sampling and analysis plans and the 200-BP-5 and 200-PO-1 RI/FS work plans) will continue to provide information for developing the final ROD. The following documents identify the RI/FS groundwater monitoring requirements:

- DOE/RL-2007-31, *Remedial Investigation/Feasibility Study Work Plan for 200-PO-1 Groundwater Operable Unit*
- DOE/RL-2003-04, *Sampling and Analysis Plan for the 200-PO-1 Groundwater Operable Unit*; as modified by TPA-CN-205, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2003-04, Revision 1, Sampling and Analysis Plan for the 200-PO-1 Operable Unit*
- DOE/RL-2014-33, *Sampling and Analysis Plan for the 200-BP-5 Groundwater Operable Unit*

This waste management plan defines the requirements for the management and disposal of waste generated from activities such as the following:

- Water-level monitoring
- Coordinated groundwater sampling events with other program drivers (*Atomic Energy Act of 1954* and RCRA)
- Well surveys (camera and geophysical)
- Well maintenance
- Tracer tests
- Borehole drilling
- Soil sampling
- Groundwater well installation
- Groundwater well development and redevelopment
- Activities associated with the extraction well head, valves and piping

- Screening/analysis of samples
- Decontamination of equipment and materials

Appendix A lists the groundwater wells for the 200-BP-5 and 200-PO-1 OU IROD (EPA et al., 2021) .

The waste control plan defines the requirements for the management and disposal of waste generated from the RI/FS activities, which includes those activities as discussed above for the waste management plan. Appendix B lists the specific groundwater wells and aquifer tubes to support the RI/FS groundwater monitoring and investigations, and final ROD.

The waste management/waste control plans include requirements for the management and disposal of IDW generated from the installation, monitoring, sampling, maintenance, and decommissioning of wells in the 200-BP-5 and 200-PO-1 OUs in accordance with DOE/RL-2011-41, *Hanford Site Strategy for Management of Investigation Derived Waste*.

3 Projected Waste Streams

Similar types of OU-specific waste (whether categorized as IDW, treatability test waste, or remediation waste) will be managed uniformly. Projected waste streams include the following:

- Purgewater generated during groundwater well installation, development, testing, monitoring, maintenance, and decommissioning
- Purgewater generated during decanting of soils and slurries
- Drill cuttings (soils and slurries)
- Decontamination fluids
- Liquids generated during screening analysis
- Miscellaneous solid waste such as bentonite, sand, filters, wipes, gloves and other personal protective equipment, sampling and measuring equipment, pumps, pipe, wire, plastic sheeting, tools, and materials generated from cleanup of unplanned releases
- Well decommissioning debris such as concrete, wood, rebar, metal/plastic pipe and screens, equipment, pump, wire, and bentonite/sand/gravel
- Spent/excess chemicals/reagent (i.e., calibration standards and reagents that are used during field screening/analysis of groundwater samples)
- Equipment and construction materials (e.g., well casing, drill string, drive barrel, construction equipment and materials, sampling equipment, decommissioning materials, and wooden pallets)

4 Waste Designation and Disposal

Waste will be designated in accordance with the substantive standards of WAC 173-303, "Dangerous Waste Regulations," using a combination of process knowledge, historical analytical data, and sample analyses. An extensive groundwater well network is in place at both the 200-BP-5 and 200-PO-1 OUs, and many years of characterization data have been obtained that can be used for waste designation.

Groundwater associated with the B Complex and C Farm within the 200-BP-5 OU has been determined to carry the following listed waste codes: F001 (1,1,1-trichlorethane), F002 (methylene chloride), F003 (acetone and methyl isobutyl ketone), F004 cresols and cresylic acid (*o*-creosol and *p*-creosol), and F005 (methyl ethyl ketone). Extracted groundwater, decontaminated equipment, and other materials that come into contact with groundwater from the B Complex will be assigned the F001 through F005 listed waste codes.

Waste that meets waste acceptance criteria (ERDF-00011, *Environmental Restoration Disposal Facility Waste Acceptance Criteria*) will be disposed at the Environmental Restoration Disposal Facility (ERDF). Contaminated liquids may be sent to the purgewater modular storage units (MSUs) or to the 200 West P&T. Small volumes of stabilized liquids may be disposed at ERDF if waste acceptance criteria for the facility can be met.

Waste that does not meet ERDF waste acceptance criteria will be evaluated for additional treatment at an onsite or offsite facility. If additional treatment is deemed necessary, treatment options will be evaluated based on the waste characteristics and the concentration reduction requirements. If treatment options are not available, the waste may be managed within the Hanford Site Solid Waste Operations Complex (e.g., Central Waste Complex) until an appropriate offsite disposal facility is identified and approved by EPA. Waste may be treated within the OU or at ERDF (if needed) to meet ERDF waste acceptance criteria. Treatment options include, but are not limited to, stabilization, neutralization, or both.

Contaminated solid waste and drill cuttings that meet ERDF waste acceptance criteria, or that can be treated to meet the criteria, will also be disposed at ERDF. Purgewater will be dispositioned to the influent side of the 200 West P&T system (as applicable) or it will be collected and contained at the wellhead until transport to the MSUs. Used oil will be recycled. Spent or unusable chemicals/reagents will also be generated during field sampling and analysis and will require disposal based on the respective waste designations.

The regulation 40 CFR 300.440, "National Oil and Hazardous Substances Pollution Contingency Plan," "Procedures for Planning and Implementing Off-Site Response Actions," does not apply to disposal outside of the Hanford Site for solid waste that has not contacted media contaminated with hazardous substances or solid waste that has only come into contact with processed effluent. These types of solid waste may be disposed at an offsite Subtitle D solid waste landfill, onsite demolition debris landfill, or recycled, as appropriate.

Miscellaneous solid waste and demolition debris that are nondangerous and have been radiologically released may be disposed at an offsite Subtitle D landfill, onsite demolition debris landfill, or recycled, as appropriate. Uncontaminated soils and slurries may be placed on the ground near the point of generation. Chapter 5 discusses the waste handling and disposal options for specific waste streams. Supplemental sample material collected to support projects or OUs other than the 200-BP-5 OU (e.g., 200-DV-1 OU, Washington River Protection Solutions Closure and Corrective Measure Project, and Pacific Northwest National Laboratory Deep Vadose Zone Program) will be managed and disposed by that project or OU in accordance with applicable procedures and approved plans or documents.

5 Waste Stream-Specific Management

This chapter discusses the management of specific waste streams including drill cuttings, purgewater, decontamination fluids, sample and analysis and screening liquids, miscellaneous solid waste and decommissioning debris, and spent or unusable chemicals/reagents and sample waste.

5.1 Drill Cuttings

Drill cuttings (i.e., soils and slurries) from outside of an area of known or suspected contamination may be collected in stockpiles near the point of generation. Drill cuttings from known or suspect contaminated areas will be placed on a tarp or containerized near the point of generation. Water contained in drill cuttings will be decanted, and free liquids remaining in the containers will be reduced by evaporation or by adding sorbent material prior to disposal, as necessary. Decanted water will be managed as purgewater, which may be sent to the MSUs or to the 200 West P&T. Drill cuttings that are not designated as dangerous waste and are below WAC 173-340, "Model Toxics Control Act–Cleanup," Method B levels for protection of groundwater and have been released from a radiological perspective may be placed on the ground near the point of generation.

5.2 Purgewater

Groundwater in the 200 East Area is assigned the F001 through F005 listed waste codes at B Complex. All purgewater will be managed in accordance with DOE/RL-2009-80, *Investigation Derived Waste Purgewater Management Work Plan*; and DOE/RL-2011-41. Purgewater from these wells will be collected and contained at the wellhead (if necessary) until transported to MSUs. The 200 West P&T may also be used for purgewater disposition if the purgewater meets the 200 West P&T waste acceptance criteria.

5.3 Decontamination Fluids

Decontamination fluids will be kept to a minimum amount and will be contained and transported to MSUs or the 200 West P&T if the waste acceptance criteria for that facility can be met. Small volumes of decontamination fluids may be stabilized to eliminate free liquids and then disposed at ERDF if waste acceptance criteria can be met. Final decontamination of sampling equipment (e.g., split-spoon samplers) may be conducted at the Soil and Groundwater Remediation Project sampling equipment cleaning facility using the decontamination and containment systems at the 6268 Building, previously established at this location. The waste generated at this facility will be managed in accordance with applicable regulations and the waste management procedures for the facility.

5.4 Sample Analysis and Screening Liquids

Unaltered groundwater samples (i.e., samples containing no preservatives, reagents, or other chemical additives) generated during sample screening and analysis may be managed as purgewater (as described in Section 5.2). Altered groundwater samples will be disposed at the MSUs, 200 West P&T, or ERDF if waste acceptance criteria are met.

5.5 Miscellaneous Solid Waste and Decommissioning Debris

Miscellaneous solid waste and decommissioning debris contacted with contaminated media may be disposed at ERDF if waste acceptance criteria are met. If the waste acceptance criteria cannot be met, the waste will be evaluated for additional treatment at an onsite or offsite facility prior to ERDF disposal. If treatment options are not available, the waste may be managed within the Hanford Site Solid Waste Operations Complex. Miscellaneous solid waste and decommissioning debris that has not contacted chemically or radiologically contaminated media and is not a WAC 173-303 dangerous waste may be disposed at an offsite solid waste landfill or recycled.

5.6 Spent or Unusable Chemicals/Reagents and Sample Waste

Spent or unusable (e.g., expired) chemicals that are generated from 200-BP-5 and 200-PO-1 OU activities will be managed and disposed at ERDF if waste acceptance criteria can be met, or at an offsite treatment, storage, and disposal facility in accordance with 40 CFR 300.440. Screening and analysis of solid and liquid samples may be conducted in the field. After testing is complete, liquid sample material may be dispositioned to the influent side of the 200 West P&T, to the MSUs, or to ERDF if waste acceptance criteria can be met.

6 Packaging and Labeling

Materials requiring collection will be placed in containers appropriate for the material and the receiving facility. The ERDF roll-on/roll-off containers or drums may be used for some materials (e.g., drill cuttings); however, packaging for large or irregular-shaped waste (e.g., well casings) may include other containers (e.g., ERDF flat). The packaging will ensure that contaminants do not migrate and will protect against environmental degradation. The packaging may include, but is not limited to, plastic wrap or metal/wooden boxes.

Low-volume miscellaneous materials associated with activities such as groundwater well sampling, water-level measurements, and groundwater well maintenance may be bagged, taped, and labeled with the well number at the wellhead. The bagged material will be transported in a protective manner (i.e., containment of the material is maintained) by workers while proceeding from well to well in the OU. Upon arrival at the storage location, the materials will be placed in an accumulation container and managed as waste.

Packaging and labeling during storage and transportation must meet the substantive standards of WAC 173-303 and U.S. Department of Transportation (DOT) requirements, as appropriate. Packaging exceptions to DOT requirements that are documented and provide an equivalent degree of safety during transportation may be used for onsite waste shipments. Containers will be labeled and marked appropriately to match the designation established for each waste stream. The containers will be labeled as one of three options: (1) containing IDW, (2) containing remediation waste, or (3) containing unregulated waste. The containers will be sealed and stored near the point of generation, taken directly to ERDF without storage, or moved to the waste container storage area (Figure 2), as appropriate.

7 Storage and Transportation

The amount of waste stored at the storage area should be kept to a minimum. Full containers should be prepared for disposal as quickly as economically feasible. Any designated dangerous waste will be stored in a temporary storage area that meets the substantive requirements of WAC 173-303-630, “Use and Management of Containers.” Waste generated from the 200-BP-5 and 200-PO-1 OUs may be stored at the 200 Area centralized groundwater waste storage area in the 6265A Building (Figure 2). Waste from the OUs is kept segregated by OU and will not be commingled. Some waste (e.g., drill cuttings) may be temporarily accumulated near the point of generation.

Radioactive waste will be managed separately from nonradioactive waste. Container tracking and traceability will be controlled through the Hanford Site Solid Waste Information Tracking System. Containers will be sealed and shipped to the identified disposal facility, and the waste will be transported in accordance with the substantive standards of WAC 173-303 and DOT requirements, as appropriate.

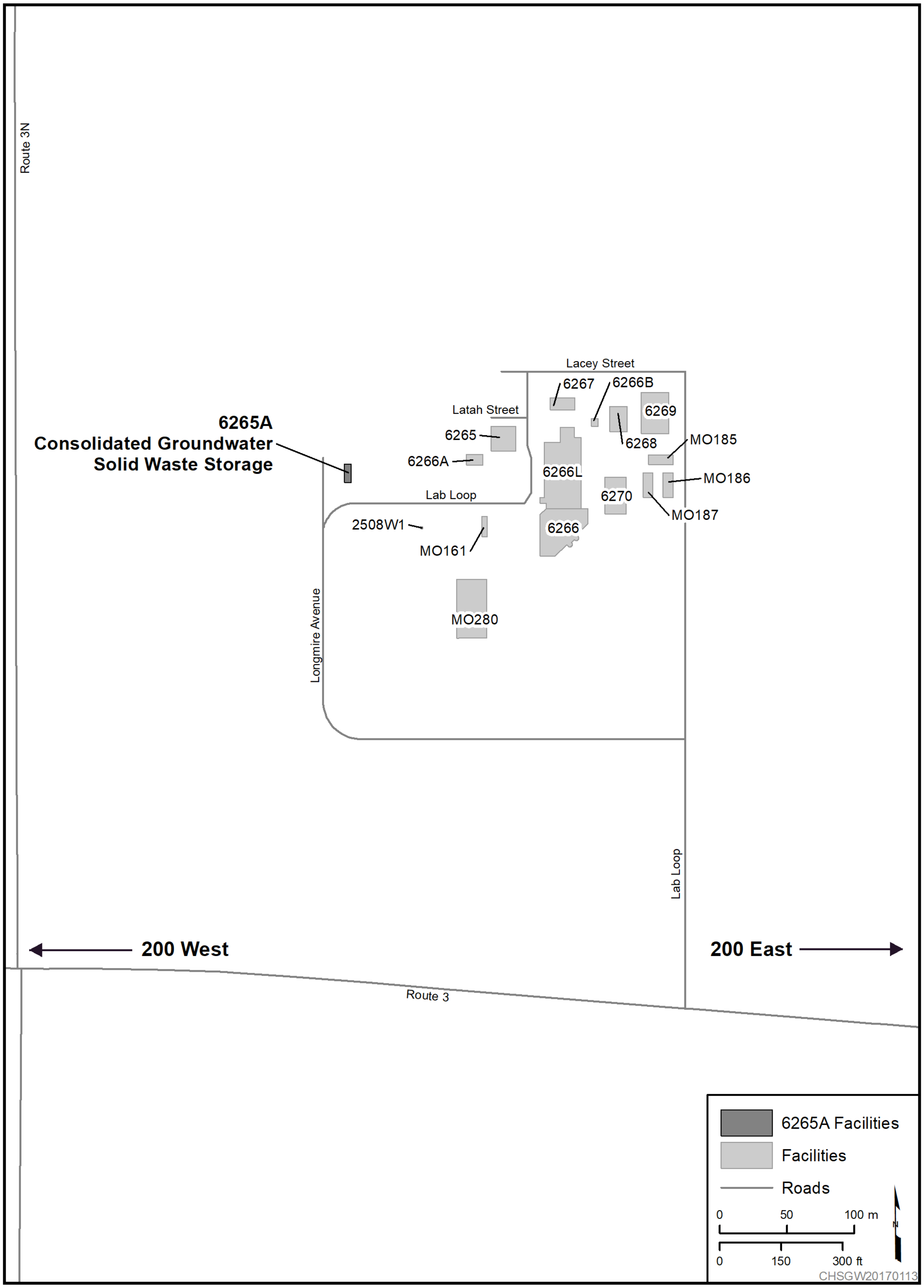

Figure 2. 200-BP-5 and 200-PO-1 OU Waste Storage Location

8 References

40 CFR 300.440, "National Oil and Hazardous Substances Pollution Contingency Plan," "Procedures for Planning and Implementing Off-Site Response Actions," *Code of Federal Regulations*. Available at: http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol27/xml/CFR-2010-title40-vol27-sec300-440.xml.

Atomic Energy Act of 1954, Pub. L. 83-703 as amended, 42 USC 2011 et seq., 68 Stat. 919. Available at: https://www.govinfo.gov/content/pkg/STATUTE-68/pdf/STATUTE-68-Pg919.pdf#page=30.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. 107-377, as amended, 42 USC 9601, et seq., December 31, 2002. Available at: https://www.csu.edu/cerc/researchreports/documents/CERCLASummary1980.pdf.

DOE, EPA, and Ecology, 2018, *Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (IAMIT) Decision / Determination/Action Assignment Number 2018-002, 200-BP-5 and 200-PO-1 Interim Record of Decision*, U.S. Department of Energy, Richland Operations Office; U.S. Environmental Protection Agency; and Washington State Department of Ecology, Richland, Washington. Available at: https://pdw.hanford.gov/document/0065119H.

DOE/RL-2003-04, 2005, *Sampling and Analysis Plan for the 200-PO-1 Groundwater Operable Unit*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/DA01974685.

Modified by:

TPA-CN-205, 2008, *Change Notice for Modifying Approved Documents/Workplans In Accordance with the Tri-Party Agreement Action Plan, Section 9.0, Documentation and Records: DOE/RL-2003-04, Revision 1, Sampling and Analysis Plan for the 200-PO-1 Operable Unit*, dated June 18, U.S. Department of Energy, Richland Operations Office, and Washington State Department of Ecology, Richland, Washington. Available at: https://pdw.hanford.gov/document/0905200814.

DOE/RL-2007-31, 2008, *Remedial Investigation/Feasibility Study Work Plan for 200-PO-1 Groundwater Operable Unit*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: Available at: https://pdw.hanford.gov/document/DA07159571.

DOE/RL-2009-80, 2009, *Investigation Derived Waste Purgewater Management Work Plan,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/0094946.

DOE/RL-2009-124, 2016, *200 West Pump and Treat Operations and Maintenance Plan*, Rev. 5, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/0076414H.

DOE/RL-2011-41, 2011, *Hanford Site Strategy for Management of Investigation Derived Waste,* Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/0093937.

DOE/RL-2014-33, 2017, *Sampling and Analysis Plan for the 200-BP-5 Groundwater Operable Unit*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/0069664H.

DOE/RL-2020-41, 2023, *200-BP-5 and 200-PO-1 Interim Action Remedial Design/Remedial Action Work Plan*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/AR-25031.

DOE/RL-2020-41-ADD2, 2022, *Sampling And Analysis Plan for Drilling Interim Remedial Action Work Plan Wells in the 200-BP-5 and 200-PO-1 Groundwater Operable Units*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: https://pdw.hanford.gov/document/AR-22057.

EPA, Ecology, and DOE, 2021, *Interim Record of Decision, Hanford 200 Area Superfund Site, 200-BP-5 and 200-PO-1 Operable Units*, U.S. Environmental Protection Agency, Washington State Department of Ecology, and U.S. Department of Energy, Richland, Washington. Available at: https://pdw.hanford.gov/document/AR-16730.

ERDF-00011, 2018, *Environmental Restoration Disposal Facility Waste Acceptance Criteria*, Rev. 1, CH2M HILL Plateau Remediation Company, Richland, Washington. Available at: https://pdw.hanford.gov/document/AR-01205.

Resource Conservation and Recovery Act of 1976, 42 USC 6901, et seq. Pub. L. 94-580, 90 Stat. 2795. Available at: https://www.govinfo.gov/content/pkg/STATUTE-90/pdf/STATUTE-90-Pg2795.pdf.

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Olympia, Washington. Available at: http://apps.leg.wa.gov/wac/default.aspx?cite=173-303.

303-630, "Use and Management of Containers."

WAC 173-340, "Model Toxics Control Act—Cleanup," *Washington Administrative Code*, Olympia, Washington. Available at: http://apps.leg.wa.gov/WAC/default.aspx?cite=173-340.

Appendix A

Interim Remedial Action Groundwater Wells

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A Interim Remedial Action Groundwater Wells

Table A-1 lists the A-AX Farms and C Farm initial performance monitoring remedial action wells in the 200-BP-5 and 200-PO-1 Operable Units (OUs). Figure A-1 provides the location of the wells listed in Table A-1. This table will be updated with a Tri-Party Agreement (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*) change notice as wells are added, decommissioned, or removed from service.

Table A-1. A-AX Farms and C Farm Interim Remedial Action Wells

299-E24-4	299-E25-41	299-E27-24
299-E24-5	299-E25-42	299-E27-26
299-E24-20	299-E25-48	299-E27-155
299-E24-22	299-E25-93	299-E27-157
299-E24-33	299-E25-94	699-37-47A
299-E25-2	299-E25-237	D0404/699-39-46
299-E25-3	299-E25-240	D0405/299-E25-255
299-E25-11	299-E25-243	D0406/699-39-45
299-E25-12	299-E25-245	D0408
299-E25-29Q	299-E25-246	D0412/699-38-46
299-E25-35	299-E27-5	D0687/699-38-47
299-E25-36	299-E27-12	
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	299-E27-21	
	299-E27-23	

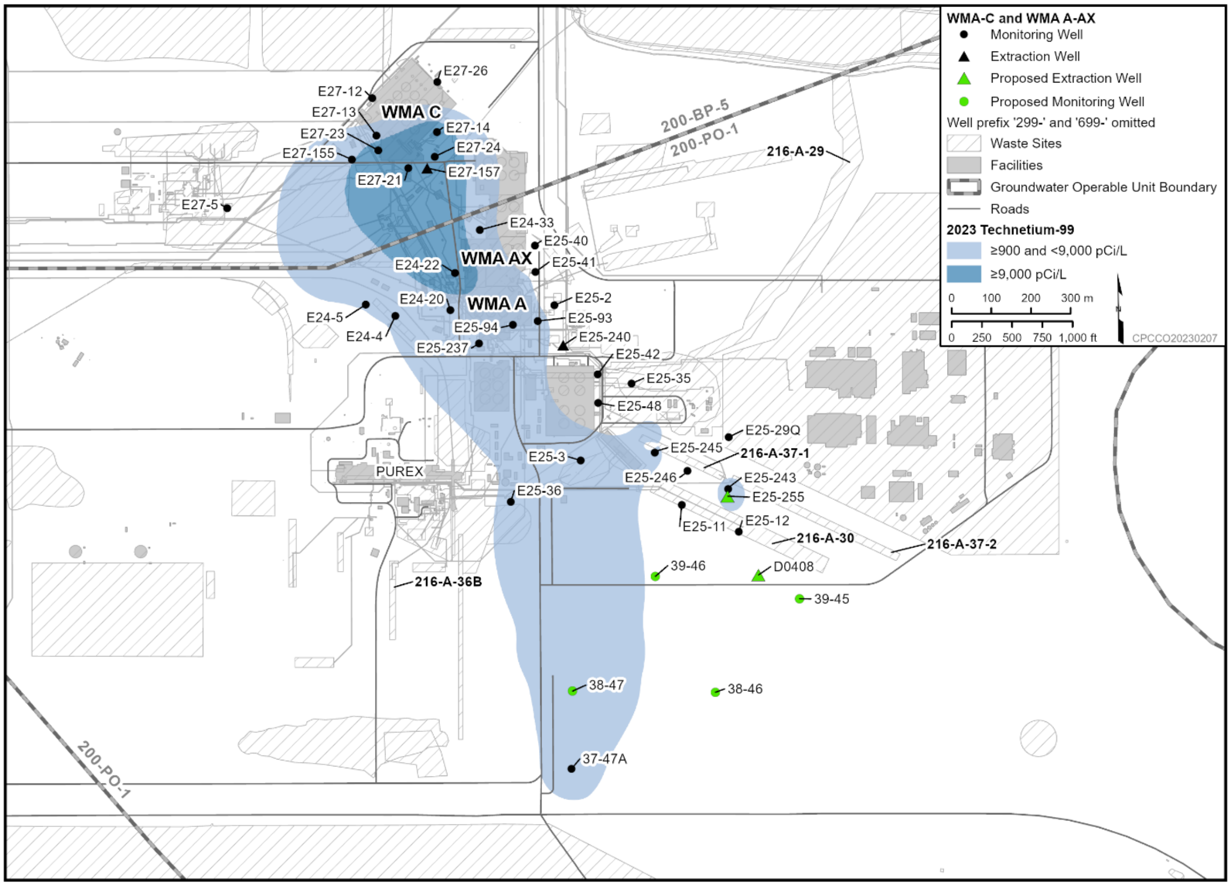

Figure A-1. Location Map of Initial Remedial Action Performance Monitoring Wells for the C Farm and A-AX Farms Plume Area and Associated 2023 Technetium-99 Plume, and Overlying Facilities/Waste Sites

Table A-2 lists the B Complex initial performance monitoring remedial action wells associated with the 200-BP-5 OU. Figure A-2 provides the location of the wells listed in Table A-2. This table will be updated with a Tri-Party Agreement (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*) change notice as wells are added, decommissioned, or removed from service.

Table A-2. B Complex Interim Remedial Action Wells

299-E27-16	299-E33-38	D0228/299-E33-372
299-E28-34	299-E33-39	299-E34-8
299-E33-3	299-E33-268	299-E34-9
299-E33-7	299-E33-334	299-E34-10
299-E33-14	299-E33-335	299-E33-41
299-E33-15	299-E33-337	299-E33-42
299-E33-16	299-E33-338	299-E33-44
299-E33-17	299-E33-339	299-E33-47
299-E33-20	299-E33-341	299-E33-48
299-E33-31	299-E33-342	299-E33-49
299-E33-32	299-E33-343	699-47-53B
299-E33-33	299-E33-345	699-47-55
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299-E33-36	299-E33-361	
299-E33-37		

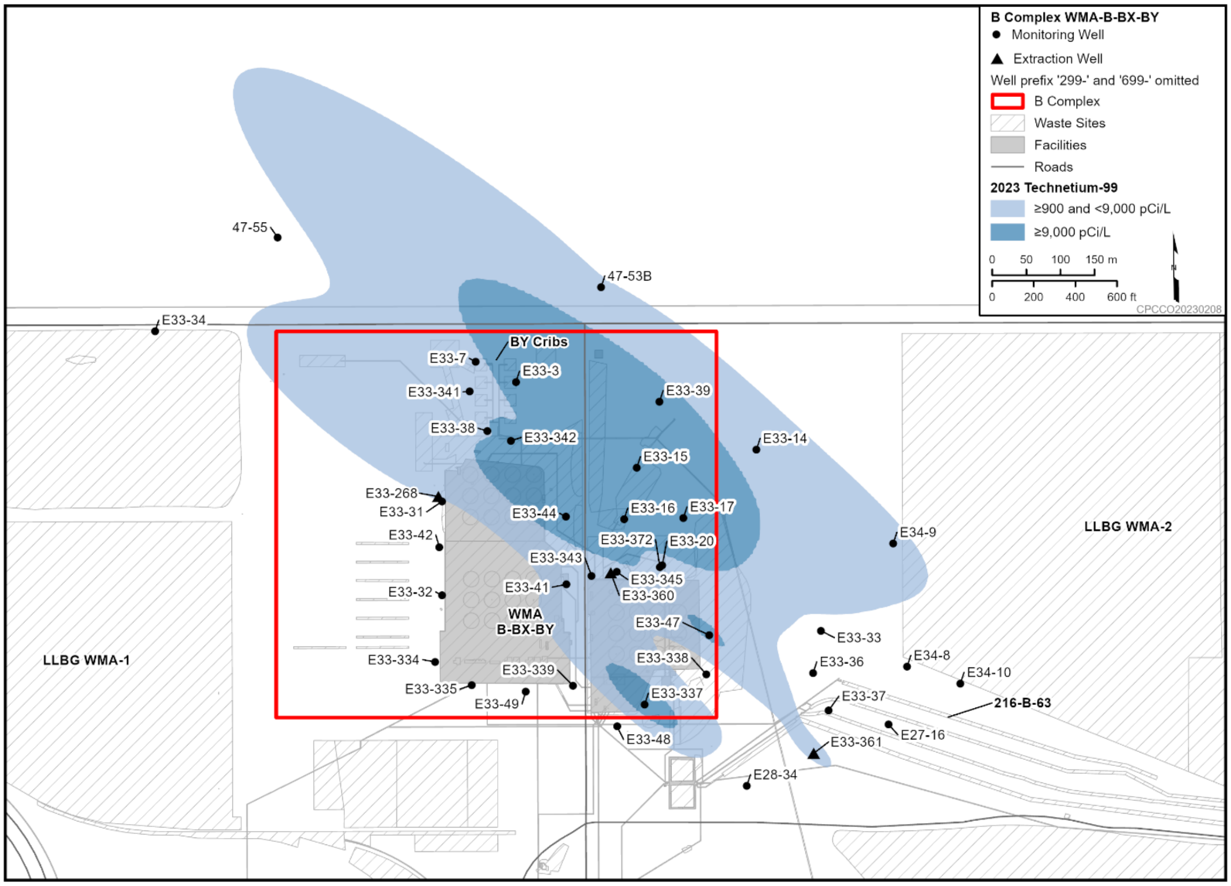

Figure A-2. Location Map of Initial Remedial Action Performance Monitoring Wells for the B Complex and Associated 2023 Technetium-99 plume, and Overlying Facilities/Waste Sites

Reference

Ecology, EPA, and DOE, 1989, *Hanford Federal Facility Agreement and Consent Order*, 2 vols., as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington. Available at: http://www.hanford.gov/?page=81.

Appendix B

200-BP-5 and 200-PO-1 Operable Unit Groundwater Wells

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B 200-BP-5 and 200-PO-1 Operable Unit Groundwater Wells

Table B-1 lists the wells and aquifer tubes associated with the 200-BP-5 Operable Unit (OU). Note that aquifer tubes are identified by either a number, dash, letter, or by a letter followed by a four-digit number as indicated in bold. This table will be updated with a Tri-Party Agreement (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*) change notice as wells or aquifer tubes are added, decommissioned, or removed from service.

Table B-1. 200-BP-5 OU Associated Wells and Aquifer Tubes

299-E24-8	299-E28-1	299-E32-10
299-E24-25	299-E28-2	299-E33-1A
299-E26-8	299-E28-3	299-E33-2
299-E26-9	299-E28-4	299-E33-3
299-E26-10	299-E28-5	299-E33-4
299-E26-11	299-E28-6	299-E33-5
299-E26-13	299-E28-7	299-E33-7
299-E26-14	299-E28-8	299-E33-8
299-E26-15	299-E28-9	299-E33-12
299-E26-16	299-E28-11	299-E33-13
299-E26-77	299-E28-13	299-E33-14
299-E26-79	299-E28-14	299-E33-15
299-E27-5	299-E28-17	299-E33-16
299-E27-7	299-E28-18	299-E33-17
299-E27-8	299-E28-21	299-E33-20
299-E27-9	299-E28-23	299-E33-21
299-E27-10	299-E28-24	299-E33-26
299-E27-11	299-E28-25	299-E33-27
299-E27-12	299-E28-26	299-E33-28
299-E27-13	299-E28-27	299-E33-29
299-E27-14	299-E28-28	299-E33-30
299-E27-15	299-E28-29	299-E33-31
299-E27-16	299-E28-30	299-E33-32
299-E27-17	299-E28-31	299-E33-33
299-E27-18	299-E28-32	299-E33-34
299-E27-19	299-E28-34	299-E33-35
299-E27-21	299-E28-35	299-E33-36
299-E27-22	299-E28-96	299-E33-37
299-E27-23	299-E29-54	299-E33-38
299-E27-24	299-E32-2	299-E33-39
299-E27-25	299-E32-3	299-E33-40
299-E27-26	299-E32-4	299-E33-41
299-E27-27	299 E32-5	299-E33-42
299-E27-28	299-E32-6	299-E33-43
299-E27-137B	299-E32-7	299-E33-44

Table B-1. 200-BP-5 OU Associated Wells and Aquifer Tubes

299-E27-155	299-E32-8	699-52-46A
299-E27-157	299-E32-9	699-52-48
299-E33-47	699-44-43B	699-52-52
299-E33-48	699-44-43C	699-52-55
299-E33-49	699-45-42	699-52-55B
299-E33-50	699-46-91	699-53-35
299-E33-205	699-47-35A	699-53-47A
299-E33-265	699-47-35B	699-53-47B
299-E33-266	699-47-35C	699-53-48A
299-E33-268	699-47-50	699-53-50
299-E33-276	699-47-53B	699-53-55A
299-E33-283	699-47-55	699-53-55AT
299-E33-334	699-47-60	699-53-55B
299-E33-335	699-48-48A	699-53-55C
299-E33-337	699-48-48AP	699-54-34
299-E33-338	699-48-48AQ	699-54-37A
299-E33-339	699-48-48AR	699-54-42
299-E33-340	699-48-48AS	699-54-45A
299-E33-341	699-48-48AT	699-54-45B
299-E33-342	699-48-50	699-54-48
299-E33-343	699-48-50B	699-54-49
299-E33-345	699-49-31	699-54-52
299-E33-360	699-49-32B	699-54-57
299-E33-361	699-49-33	699-55-44
299-E33-372	699-49-55A	699-55-50C
299-E34-2	699-49-55B	699-55-55
299-E34-5	699-49-57A	699-55-57
299-E34-7	699-49-57B	699-55-60A
299-E34-8	699-50-28B	699-56-43
299-E34-9	699-50-30	699-56-53
299-E34-10	699-50-42	699-57-59
299-E34-12	699-50-42P	699-59-55
699-42-40A	699-50-45	699-59-58
699-42-40B	699-50-48B	699-60-57
699-42-40C	699-50-53B	699-60-59
699-43-8	699-50-56	699-60-60
699-43-9	699-50-59	699-60-60P
699-43-40	699-51-36A	699-61-37
699-43-41E	699-51-36B	699-61-41
699-43-41F	699-51-36C	699-61-55A
699-43-41G	699-51-36D	699-61-55B
699-44-39B	699-51-46	699-72-73

Table B-1. 200-BP-5 OU Associated Wells and Aquifer Tubes

699-44-42	699-52-30	699-73-61
699-44-42c	699-65-59A	**11-D**
699-44-42B	699-65-72	**14-D**
699-61-57	699-66-58	**C6236**
699-61-62	699-66-64	**C6237**
699-61-66	699-67-51	**C6238**
699-62-43A	699-67-51P	
699-62-43F	699-67-51Q	
699-63-51	699-70-68	
699-63-55		
699-63-58		
699-64-62		
699-65-50		

Table B-2 lists the wells and aquifer tubes associated with the 200-PO-1 OU. Note that aquifer tubes are identified by either a number, dash, letter, or by a letter followed by a four-digit number as indicated in bold. This table will be updated with a Tri-Party Agreement (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*) change notice as wells or aquifer tubes are added, decommissioned, or removed from service.

Table B-2. 200-PO-1 OU Associated Wells and Aquifer Tubes

299-E13-1	299-E17-23	299-E25-9
299-E13-2	299-E17-25	299-E25-10
299-E13-3	299-E17-26	299-E25-11
299-E13-4	299-E17-56	299-E25-12
299-E13-5	299-E17-57	299-E25-13
299-E13-6	299-E17-58	299-E25-17
299-E13-7	299-E18-1	299-E25-18
299-E13-8	299-E18-2	299-E25-19
299-E13-9	299-E18-3	299-E25-20
299-E13-10	299-E18-4	299-E25-21
299-E13-11	299-E23-1	299-E25-22
299-E13-12	299-E24-3	299-E25-23
299-E13-13	299-E24-4	299-E25-24
299-E13-14	299-E24-5	299-E25-25
299-E13-15	299-E24-13	299-E25-26
299-E13-16	299-E24-16	299-E25-28
299-E13-17	299-E24-17	299-E25-29
299-E13-18	299-E24-18	299-E25-29P
299-E13-19	299-E24-20	299-E25-29Q
299-E13-21	299-E24-21	299-E25-31
299-E16-1	299-E24-22	299-E25-32

Table B-2. 200-PO-1 OU Associated Wells and Aquifer Tubes

299-E16-2	299-E24-23	299-E25-32B
299-E17-1	299-E24-24	299-E25-32P
299-E17-3	299-E24-25	299-E25-32Q
299-E17-9	299-E24-33	299-E25-34
299-E17-12	299-E24-93	299-E25-35
299-E17-13	299-E24-94	299-E25-36
299-E17-14	299-E24-95	299-E25-37
299-E17-15	299-E25-1	299-E25-38
299-E17-16	299-E25-2	299-E25-39
299-E17-17	299-E25-3	299-E25-40
299-E17-18	299-E25-4	299-E25-41
299-E17-19	299-E25-5	299-E25-42
299-E17-20	299-E25-6	299-E25-43
299-E17-21	299-E25-7	299-E25-44
299-E17-22	299-E25-8	299-E25-47
299-E25-48	699-8-32	699-20-E8
299-E25-237	699-10-54A	699-20-E12
299-E25-238	699-11-23A	699-20-E12O
299-E25-239	699-11-45A	699-20-E12P
299-E25-240	699-12-18	699-20-E12Q
299-E25-241	699-14-38	699-20-E12R
299-E25-242	699-14-38P	699-20-E12S
299-E25-243	699-14-38Q	699-20-20
299-E25-244	699-14-47	699-20-39
299-E25-245	699-15-15A	699-20-39P
299-E25-246	699-15-15AP	699-20-41P
299-E25-247	699-15-15B	699-20-41Q
299-E25-248	699-15-26	699-20-41R
299-E25-249	699-17-5	699-21-6
299-E25-250	699-17-26B	699-21-17
299-E25-251	699-17-26BP	699-21-30B
299-E26-2	699-17-26BQ	699-22-15
299-E26-4	699-17-26BR	699-22-23
299-E26-5	699-17-26C	699-22-35
299-E26-12	699-17-26S	699-22-55
299-E26-13	699-17-27B	699-23-33
299-E26-80	699-17-47	699-23-34A
299-E26-82	699-18-21	699-23-34B
499-SO-7	699-18-25A	699-24-1P
499-SO-8	699-18-25B	699-24-1Q
499-S1-7B	699-18-25BP	699-24-1R
499-S1-8H	699-18-25BQ	699-24-1S

Table B-2. 200-PO-1 OU Associated Wells and Aquifer Tubes

499-S1-8J	699-18-25BR	699-24-33
499-S1-8K	699-18-25D	699-24-34A
699-1-18	699-18-25E	699-24-34B
699-2-3	699-18-27B	699-24-34C
699-2-6A	699-18-27E	699-24-34D
699-2-7	699-18-27F	699-24-34E
699-2-33A	699-18-27G	699-24-35
699-2-33B	699-18-27H	699-24-36
699-2-33BP	699-19-23	699-24-46
699-2-33BQ	699-19-43	699-25-20
699-3-45	699-19-47B	699-25-31
699-6-2A	699-19-51	699-25-33A
699-8-17	699-20-E5A	699-25-34A
699-8-25	699-20-E5T	699-25-34B
699-25-34C	699-32-22A	699-39-39
699-25-34D	699-32-22B	699-40-1
699-25-34E	699-32-26	699-40-2
699-25-34F	699-32-31	699-40-12C
699-25-55	699-32-32A	699-40-20
699-26-E19	699-32-42	699-40-33A
699-26-15A	699-32-43	699-40-33B
699-26-15C	699-32-49A	699-40-36
699-26-33	699-32-49B	699-40-39
699-26-33A	699-33-14	699-40-40A
699-26-34A	699-33-21A	699-40-40B
699-26-34B	699-33-42	699-41-4
699-26-35A	699-33-56	699-41-1A
699-26-35C	699-34-39A	699-41-11
699-26-38	699-34-41B	699-41-23
699-26-47	699-34-42	699-41-25
699-26-51	699-34-51	699-41-35
699-27-8	699-35-6	699-41-40
699-28-40	699-35-9	699-41-42
699-28-40P	699-35-27	699-42-2
699-28-40Q	699-35-57	699-42-3
699-28-49	699-35-58	699-42-12A
699-28-52A	699-36-10	699-42-30
699-28-52B	699-36-27	699-42-37
699-28-55	699-36-46	699-42-39A
699-29-4	699-36-46P	699-42-39B
699-29-55	699-36-46Q	699-42-42A
699-30-25C	699-36-46R	699-42-42B

Table B-2. 200-PO-1 OU Associated Wells and Aquifer Tubes

699-30-47	699-36-46S	699-43-2
699-30-51	699-36-58A	699-43-3
699-30-55	699-36-58B	699-43-8
699-30-57	699-36-58C	699-43-9
699-31-8	699-36-58D	699-43-42J
699-31-11	699-36-58I	699-43-42K
699-31-17	699-36-58K	699-43-43B
699-31-31	699-37-E1	699-43-43C
699-31-31P	699-37-E4	699-43-44B
699-31-31Q	699-37-43	699-43-44C
699-31-50	699-37-47A	699-43-45
699-31-53A	699-38-15	699-44-4
699-31-53B	699-39-0	699-44-7
699-43-44D	699-54-18C	699-S24-19
699-43-44E	699-54-18D	699-S24-19P
699-44-16	699-54-19	699-S24-19Q
699-45-2	699-55-21	699-S28-E0
699-45-30	699-S2-34A	699-S31-1
699-46-4	699-S2-34B	699-S31-1P
699-46-5	699-S3-25	**82-M**
699-46-21B	699-S7-34	**82-S**
699-46-21C	699-S7-34P	**84-D**
699-46-21D	699-S7-34Q	**84-M**
699-46-21E	699-S8-19	**84-S**
699-46-21F	699-S12-3	**85-M**
699-46-21G	699-S12-29	**86-M**
699-46-31	699-S12-29P	**C6353**
699-46-32	699-S12-29Q	**C6356**
699-46-33	699-S14-20A	**C6359**
699-47-5	699-S14-20B	**C6362**
699-47-7	699-S14-20C	**C6368**
699-48-18	699-S18-E2A	**C6371**
699-49-10	699-S18-E2AP	**C6374**
699-49-13E	699-S18-E2B	**C6375**
699-51-19	699-S19-11	**C6380**
699-52-19	699-S23-26	**C6383**
699-54-18A		**C6384**
699-54-18B		

Reference

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