



**U.S. Department of Energy  
Hanford Site**

October 27, 2020

21-SGD-0004

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**POST-CLOSURE CORRECTIVE ACTION GROUNDWATER MONITORING REPORT FOR  
THE 300 AREA PROCESS TRENCHES: JANUARY-JUNE SGW-65168, REVISION 0**

This letter transmits the Post-Closure Corrective Action Groundwater Monitoring Report For The 300 Area Process Trenches: January – June 2020, SGW-65168, Revision 0 to the United States Environmental Protection Agency and Washington State Department of Ecology.

This transmittal is in accordance with WAC 173-303-645(11)(g) to report on the effectiveness of the corrective action program.

Addressees:  
21-SGD-0004

-2-

October 27, 2020

If there are any questions, please contact me, or your staff may contact Doug Hildebrand of my staff, on (509) 373-9626.

Sincerely,

**Michael W. Cline** Digitally signed by Michael W. Cline  
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# POST-CLOSURE CORRECTIVE ACTION GROUNDWATER MONITORING REPORT FOR THE 300 AREA PROCESS TRENCHES: JANUARY - JUNE 2020

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

Contractor for the U.S. Department of Energy  
under Contract DE-AC06-08RL14788

**CH2MHILL**  
Plateau Remediation Company

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# POST-CLOSURE CORRECTIVE ACTION GROUNDWATER MONITORING REPORT FOR THE 300 AREA PROCESS TRENCHES: JANUARY - JUNE 2020

Date Published  
September 2020

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Assistant Secretary for Environmental Management

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**APPROVED**  
*By Sarah Harrison at 4:28 pm, Oct 07, 2020*

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Release Approval

Date

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## Executive Summary

This first 2020 semiannual report (for the January to June 2020 reporting period) covers post-closure corrective action groundwater monitoring for the 300 Area Process Trenches at the Hanford Site. It fulfills the requirement of WAC 173-303-645(11)(g)<sup>1</sup> to report twice each year on the effectiveness of the corrective action program.

The final status groundwater monitoring plan for the 300 Area Process Trenches (hereinafter referred to as the groundwater monitoring plan) was incorporated into the Hanford Site *Resource Conservation and Recovery Act of 1976*<sup>2</sup> (RCRA) Permit (WA7890008967<sup>3</sup>) (hereinafter referred to as the Hanford RCRA Permit) on May 24, 2017. Constituents monitored under the groundwater monitoring plan are *cis*-1,2-dichloroethene (*cis*-1,2-DCE), trichloroethene (TCE), and field parameters (pH, specific conductance, temperature, and turbidity). Water-level measurements are also collected. Sampling is conducted semiannually (two samples per year) at eight RCRA monitoring wells. The Hanford RCRA Permit concentration limits for *cis*-1,2-DCE and TCE are 16 µg/L and 4 µg/L, respectively, consistent with the cleanup levels in the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*<sup>4</sup> (CERCLA) Record of Decision for the 300-FF-5 Operable Unit.<sup>5</sup>

During the reporting period, *cis*-1,2-DCE remained above the 16 µg/L Hanford RCRA Permit concentration limit in well 399-1-16B, one of the four deep RCRA monitoring wells. TCE remained below the 4 µg/L Hanford RCRA Permit concentration limit in all four shallow and four deep RCRA monitoring wells.

A statistical evaluation was performed to compare the *cis*-1,2-DCE and TCE results to the Hanford RCRA Permit concentration limits. The evaluation applies to results at

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<sup>1</sup> WAC 173-303-645, "Dangerous Waste Regulations," "Releases from Regulated Units," *Washington Administrative Code*, Olympia, Washington. Available at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-645>.

<sup>2</sup> *Resource Conservation and Recovery Act of 1976*, Pub. L. 94-580, 42 USC 6901 et seq. Available at: <https://www.gpo.gov/fdsys/pkg/STATUTE-90/pdf/STATUTE-90-Pg2795.pdf>.

<sup>3</sup> WA7890008967, *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Revision 8C, as amended, Washington State Department of Ecology. Available at: <https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/>.

<sup>4</sup> *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>.

<sup>5</sup> EPA and DOE, 2013, *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1*, U.S. Environmental Protection Agency, Region 10, and U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: <https://pdw.hanford.gov/document/0087180>.

individual point of compliance (downgradient) wells. The 95% upper confidence limits on the *cis*-1,2-DCE and TCE concentration means are calculated for datasets with at least one result that exceeds the concentration limit. A nonstatistical or visual analysis is used for datasets with all results less than the concentration limit. The 95% upper confidence limit exceeded the Hanford RCRA Permit concentration limit only for *cis*-1,2-DCE in well 399-1-16B.

Corrective action is being accomplished through the CERCLA remedial action for groundwater, as documented in the CERCLA Record of Decision for the 300-FF-5 Operable Unit<sup>5</sup> issued in November 2013. The remedy for *cis*-1,2-DCE and TCE in groundwater is monitored natural attenuation and institutional controls.

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## Terms

CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>
DOE	U.S. Department of Energy
RA	remedial action
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
UCL	upper confidence limit

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## 1 Introduction

This is the first semiannual report for 2020 regarding post-closure corrective action groundwater monitoring at the 300 Area Process Trenches (316-5 waste site). This report, which covers groundwater monitoring from January through June 2020, fulfills the WAC 173-303-645(11)(g), “Dangerous Waste Regulations,” “Releases from Regulated Units,” requirement to report twice each year on the effectiveness of the corrective action program.

The final status groundwater monitoring plan for the 300 Area Process Trenches (hereinafter referred to as the groundwater monitoring plan) was incorporated into the Hanford Site *Resource Conservation and Recovery Act of 1976* (RCRA) Permit (WA7890008967, *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, as amended [hereinafter referred to as the Hanford RCRA Permit]) on May 24, 2017.<sup>1</sup> Constituents monitored under the groundwater monitoring plan are *cis*-1,2-dichloroethene (*cis*-1,2-DCE), trichloroethene (TCE), and field parameters (pH, specific conductance, temperature, and turbidity). Water-level measurements are also collected. Sampling is conducted semiannually (two samples per year) at eight RCRA monitoring wells. This first semiannual report for 2020 provides the *cis*-1,2-DCE, TCE, and field parameter results for samples collected in June 2020.

Environmental data used to generate this report are available from the U.S. Department of Energy (DOE) Environmental Dashboard Application (<https://ehs.hanford.gov/eda/>). Ongoing data verification, technical review, and DOE contractor evaluation efforts could result in differences between the data used for this publication and those available via the Environmental Dashboard Application after the publication of this report.

## 2 Site Description

The 300 Area Process Trenches are permitted as a RCRA treatment, storage, and disposal unit currently in post-closure corrective action monitoring. From 1975 through 1985, the trenches received liquid process waste discharges from fuel fabrication and research laboratories in the 300 Area, followed by continued discharge of clean effluent until December 1994. The site was remediated through removal of contaminated soil in the 1990s (BHI-01164, *300 Area Process Trenches Verification Package*).

The 300 Area Process Trenches were closed under a modified closure/post-closure plan (DOE/RL-93-73, *300 Area Process Trenches Modified Closure/Postclosure Plan*) and remain in the groundwater corrective action program because groundwater contamination continues to exceed *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) remedial action (RA) objectives and Hanford RCRA Permit concentration limits. Groundwater is monitored in accordance with WAC 173-303-645(11) and the Hanford RCRA Permit, Part VI, “Unit Specific Conditions for Units in Post-Closure,” “300 Area Process Trenches (PCU 1),” Chapter 3.0, “Groundwater Monitoring” (WA7890008967). The modified closure/post-closure plan (DOE/RL-93-73) and the executive summary of the groundwater monitoring plan indicate that the groundwater corrective action will be addressed as part of remediation for the CERCLA 300-FF-5 Operable Unit.

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<sup>1</sup> Minor formatting modifications were made to the groundwater monitoring plan on March 15, 2018, under Modification 8C.2018.Q1.

Corrective action is being accomplished through the CERCLA RA for groundwater, as documented in the CERCLA Record of Decision for the 300-FF-5 Operable Unit (EPA and DOE, 2013, *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1*) issued in November 2013. The remedy for *cis*-1,2-DCE and TCE in groundwater is monitored natural attenuation and institutional controls.

### **3 Resource Conservation and Recovery Act of 1976 Groundwater Monitoring Program**

RCRA corrective action monitoring results for the 300 Area Process Trenches will continue to be evaluated relative to Hanford RCRA Permit concentration limits. Table 1 provides the Hanford RCRA Permit concentration limits established for the dangerous waste constituents *cis*-1,2-DCE and TCE at the 300 Area Process Trenches.

**Table 1. Concentration Limits for the 300 Area Process Trenches**

Dangerous Waste Constituents	Hanford RCRA Permit Concentration Limit <sup>a</sup>	CERCLA Cleanup Level <sup>b</sup>
<i>cis</i> -1,2-DCE	16 µg/L (CERCLA cleanup level) <sup>b</sup>	16 µg/L (risk assessment for drinking water)
TCE	4 µg/L (CERCLA cleanup level) <sup>b</sup>	4 µg/L (risk assessment for drinking water)

Reference: WAC 173-303-645(5), “Dangerous Waste Regulations,” “Releases from Regulated Units.”

a. WA7890008967, *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Part VI, “Unit Specific Conditions for Units in Post-Closure,” “300 Area Process Trenches (PCU 1),” Chapter 3.0, “Groundwater Monitoring,” Modification 8C.2018.Q1.

b. EPA and DOE, 2013, *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1*.

CERCLA = *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*

RCRA = *Resource Conservation and Recovery Act of 1976*

As specified in the groundwater monitoring plan, the RCRA monitoring wells are sampled semiannually for *cis*-1,2-DCE, TCE, and field parameters (pH, specific conductance, temperature, and turbidity), with sample collection scheduled during low river stage (typically September to November) and high river stage (typically May through June). Semiannual monitoring consists of a single sample from each well during each sampling event (i.e., two samples from each well per year). Water-level measurements are collected each time a groundwater sample is obtained. During the 2020 first semiannual reporting period, the samples were collected in June 2020 during high river stage.

Under the previous groundwater monitoring plan (WHC-SD-EN-AP-185, *Groundwater Monitoring Plan for the 300 Area Process Trenches*, as modified by ECN 633779, *Engineering Change Notice for WHC-SD-EN-AP-185, Groundwater Monitoring Plan for the 300 Area Process Trenches, Rev. 0*), the wells were sampled four times (at monthly intervals) during each semiannual sampling event to collect the required number of independent samples. As a result, the wells were sampled each year in December, January, February, and March; and in June, July, August, and September. Data collected from June 2016 through March 2017 under the previous groundwater monitoring plan are used in the statistical evaluation in Chapter 5.

The concentration limits identified in the groundwater monitoring plan for *cis*-1,2-DCE and TCE are 16 µg/L and 4 µg/L, respectively, which are the cleanup levels identified in the CERCLA Record of Decision (EPA and DOE, 2013) (Table 1). Because of the previous exceedances of the concentration limits for *cis*-1,2-DCE and TCE and the ongoing RA, any concentration limit exceedances at the point of compliance during the remediation period do not require additional action (Section 3.2.2 of WA7890008967, Part VI, Chapter 3.0).

The groundwater monitoring network for the 300 Area Process Trenches consists of four well pairs (Figure 1), each with one shallow and one deep well. The shallow wells (well names ending in “A”) are screened in the Hanford formation near the water table. The deep wells (well names ending in “B”) are screened in the Ringold Formation in the lower portion of the unconfined aquifer (above the lacustrine and overbank deposits of the Ringold Formation member of Wooded Island — lower mud unit). One well pair is upgradient and the other three pairs are downgradient of the process trenches (Table 2).

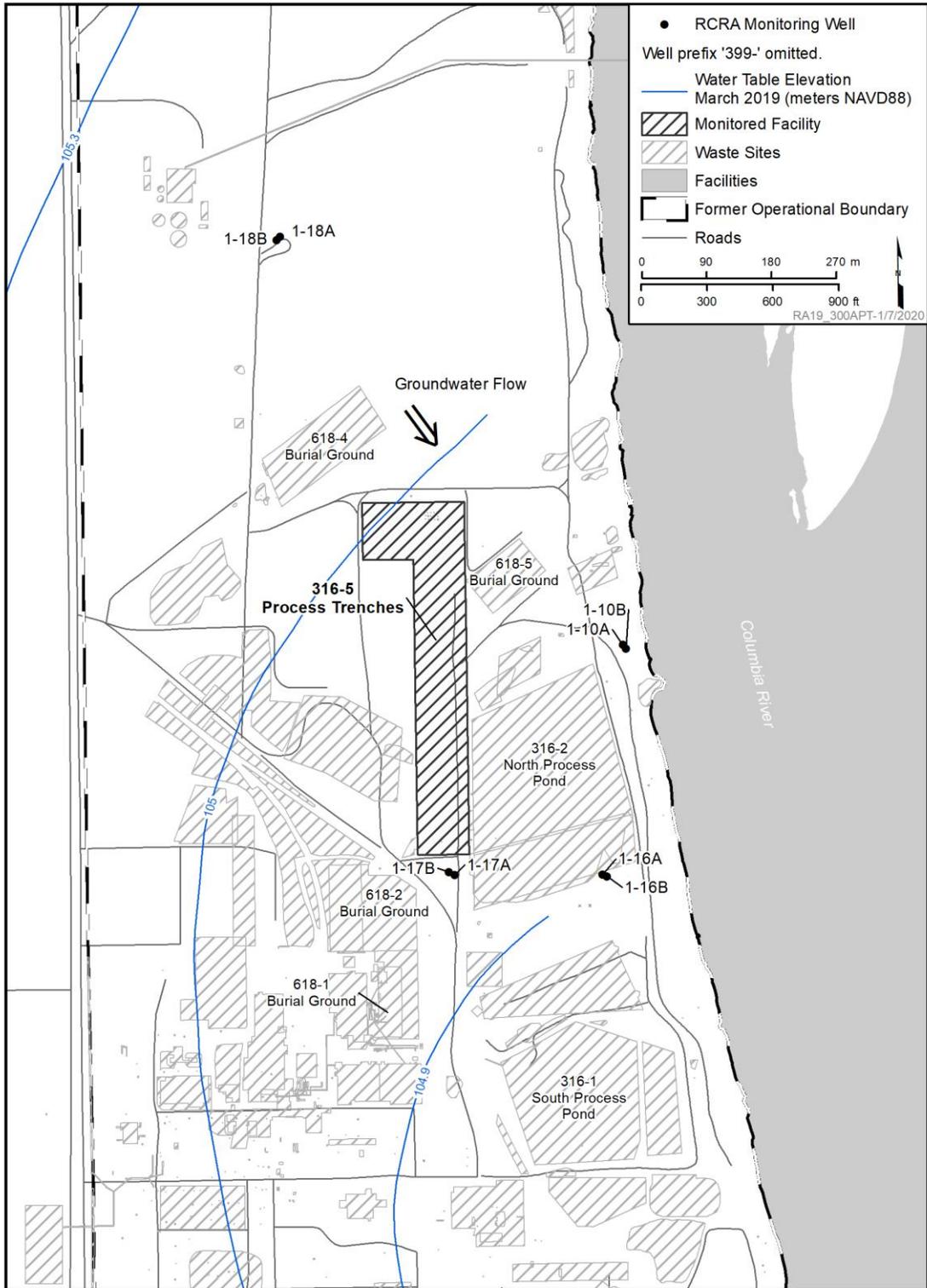
The point of compliance for the 300 Area Process Trenches is at downgradient monitoring wells 399-1-10A, 399-1-10B, 399-1-16A, 399-1-16B, 399-1-17A, and 399-1-17B. Point of compliance wells are monitored to assess the progress of the corrective action (CERCLA RA). Concentrations of *cis*-1,2-DCE and TCE in these wells are statistically evaluated relative to the concentration limits in accordance with the groundwater monitoring plan in the Hanford RCRA Permit (Section 3.2.2 of WA7890008967, Part VI, Chapter 3.0). The results of the statistical evaluation are provided in Chapter 5 of this report.

## 4 Contaminant Data

Table 3 lists the results for dangerous waste constituents and field parameters in RCRA samples collected from the 300 Area Process Trenches well network during the January through June 2020 reporting period.

In the 300 Area Process Trenches well network, only deep well 399-1-16B had *cis*-1,2-DCE concentrations exceeding the 16 µg/L Hanford RCRA Permit concentration limit during the reporting period. The concentration in well 399-1-16B was 150 µg/L, which is within the range of concentrations observed during recent years (Figure 2). An estimated *cis*-1,2-DCE concentration of 0.89 µg/L was detected in deep well 399-1-17B. The method detection limit varied from 0.23 to 0.39 µg/L.

During the reporting period, TCE was detected in one well (399-1-16B), but the concentration (1.70 µg/L) did not exceed the 4 µg/L Hanford RCRA Permit concentration limit. The method detection limit ranged from 0.31 to 0.5 µg/L.



Reference: NAVD88, North American Vertical Datum of 1988.

Note: Modified from Figure 7-8 in ECF-HANFORD-19-0114, Preparation of the March 2019 Hanford Site Water Table Map.

**Figure 1. Monitoring Well Locations for the 300 Area Process Trenches**

**Table 2. 300 Area Process Trenches Groundwater Monitoring Network**

Well Name	Location	Year Installed	WAC Compliant*	Sample Frequency
399-1-10A	Downgradient shallow	1986	Y	Semiannual
399-1-10B	Downgradient deep	1991	Y	Semiannual
399-1-16A	Downgradient shallow	1986	Y	Semiannual
399-1-16B	Downgradient deep	1987	Y	Semiannual
399-1-17A	Downgradient shallow	1986	Y	Semiannual
399-1-17B	Downgradient deep	1986	Y	Semiannual
399-1-18A	Upgradient shallow	1986	Y	Semiannual
399-1-18B	Upgradient deep	1987	Y	Semiannual

\*Constructed as a resource protection well in accordance with WAC 173-160, "Minimum Standards for Construction and Maintenance of Wells."

WAC = *Washington Administrative Code*

**Table 3. 300 Area Process Trenches RCRA Sampling Summary, January Through June 2020**

Well Name	RCRA Sample Date	Dangerous Waste Constituents				Field Parameters			
		<i>cis</i> -1,2-DCE (µg/L)		TCE (µg/L)		pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)
<b>Hanford RCRA Permit Concentration Limits</b>		<b>16</b>		<b>4</b>		—	—	—	—
399-1-10A	06/18/2020	0.33	U	0.33	U	7.8	195	14.5	0.5
	06/18/2020	0.33	U	0.33	U				
399-1-10B	06/18/2020	0.39	U	0.50	U	7.3	298	15.6	0.5
399-1-16A	06/22/2020	0.23	U	0.31	U	7.8	205	15.5	0.7
399-1-16B	06/22/2020	<b>150</b>	D	1.70		8.2	316	16.5	2.3
399-1-17A	06/18/2020	0.33	U	0.33	U	7.6	376	17.5	0.7
399-1-17B	06/18/2020	0.89	J	0.50	U	7.7	350	17.5	4.3
399-1-18A	06/18/2020	0.39	U	0.50	U	8.0	478	17.3	0.4
399-1-18B	06/18/2020	0.33	U	0.33	U	7.5	357	17.5	0.5

Reference: WA7890008967, *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste, Part VI, Unit Specific Conditions for Units in Post-Closure, Chapter 3, 300 Area Process Trenches (PCU 1)*.

Notes: **Bold** emphasis is added where the result exceeded the Hanford RCRA Permit concentration limit for dangerous waste constituents.

**Table 3. 300 Area Process Trenches RCRA Sampling Summary, January Through June 2020**

Well Name	RCRA Sample Date	Dangerous Waste Constituents		Field Parameters			
		<i>cis</i> -1,2-DCE (µg/L)	TCE (µg/L)	pH	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)

Dangerous waste constituent concentration limits are defined in the Hanford RCRA Permit (WA7890008967, Part VI).

NTU = nephelometric turbidity unit

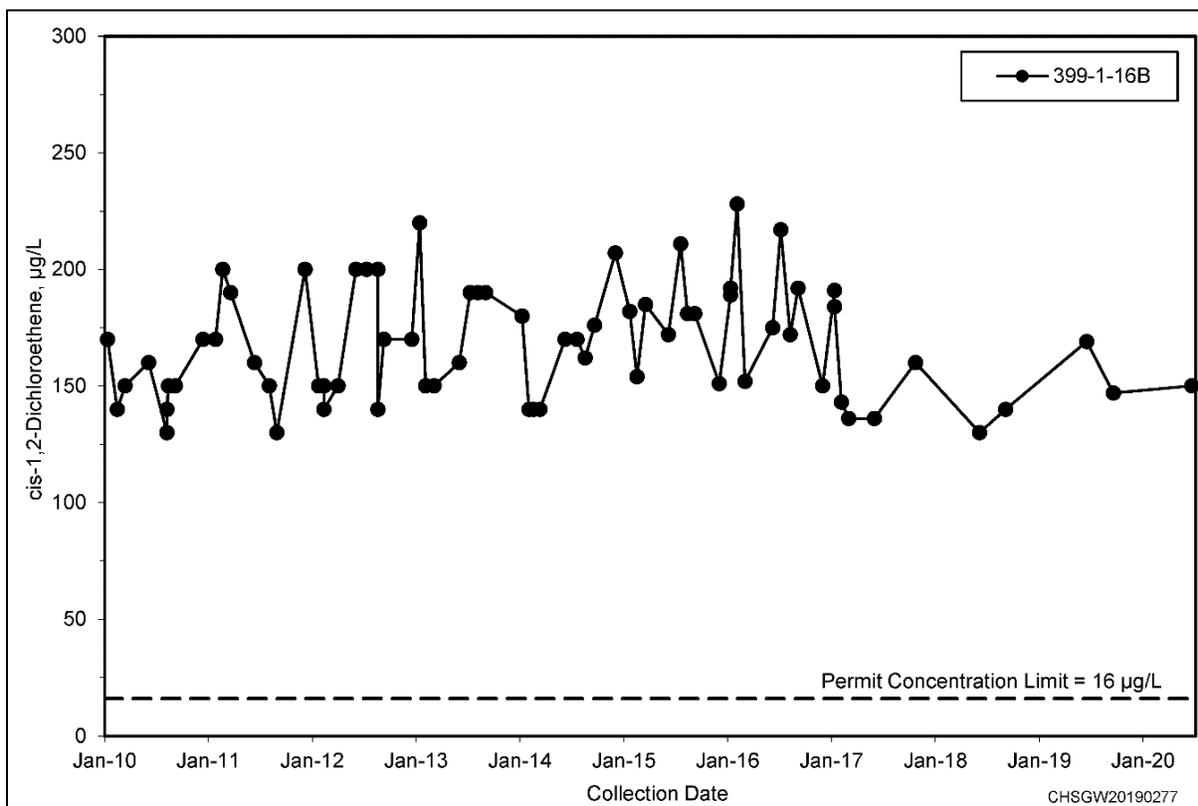
RCRA = *Resource Conservation and Recovery Act of 1976*

Laboratory qualifiers:

D = analyte was reported at a secondary dilution factor

J = estimated value; result is below the quantitation limit

U = result is below the detection limit



**Figure 2. Concentrations of *cis*-1,2-Dichloroethene in Well 399-1-16B**

## 5 Statistical Evaluation

In accordance with the groundwater monitoring plan (Section 3.2.2 of WA7890008967, Part VI, Chapter 3.0), a statistical evaluation was performed to compare the dangerous waste constituent results to the Hanford RCRA Permit concentration limits. The evaluation applies to results at individual point of compliance (downgradient) wells. The 95% upper confidence limits (UCLs) on the mean concentrations for *cis*-1,2-DCE and TCE are calculated for datasets with at least one result that exceeds the concentration limit. A nonstatistical or visual analysis is used for datasets with all results less than the concentration limit. The 95% UCL was calculated using EPA, 2015, *ProUCL*, Version 5.1.

The 95% UCL statistical evaluation is documented in ECF-300FF5-20-0081, *Calculation of Upper Confidence Limits for RCRA Monitoring at the 300 Area Process Trenches to Support the January – June 2020 Semiannual Report*. The data from the last 15 monitoring events were used for the calculation: The last eight events under the previous groundwater monitoring plan (June 2016 through March 2017) (WHC-SD-EN-AP-185) and the first seven events under the current plan (June 2017 through June 2020) (Section 3.2.2 of WA7890008967, Part VI, Chapter 3.0). Once eight semiannual samples have been collected under the current groundwater monitoring plan, sample results collected under the previous groundwater monitoring plan no longer will be included in datasets. The 95% UCL for a dangerous waste constituent exceeded the Hanford RCRA Permit concentration limit only for *cis*-1,2-DCE in well 399-1-16B (Table 4).

**Table 4. Statistical Evaluation of 300 Area Process Trenches Dangerous Waste Constituents**

Downgradient Well	2020 Semiannual Period	<i>cis</i> -1,2-DCE (Hanford RCRA Permit Concentration Limit = 16 µg/L)	TCE (Hanford RCRA Permit Concentration Limit = 4 µg/L)
		95% UCL <sup>a</sup> (µg/L)	
399-1-10A	January-June	N/A <sup>b</sup>	N/A <sup>b</sup>
399-1-10B	January-June	N/A <sup>b</sup>	N/A <sup>b</sup>
399-1-16A	January-June	N/A <sup>b</sup>	N/A <sup>b</sup>
399-1-16B	January-June	171.6	N/A <sup>b</sup>
399-1-17A	January-June	N/A <sup>b</sup>	N/A <sup>b</sup>
399-1-17B	January-June	N/A <sup>b</sup>	N/A <sup>b</sup>

Reference: ECF-300FF5-20-0081, *Calculation of Upper Confidence Limits for RCRA Monitoring at the 300 Area Process Trenches to Support the January - June 2020 Semiannual Report*.

a. The 95% UCL calculation was performed using data collected during the last 15 sample events in June 2016 through June 2020.

b. None of the results exceeded the concentration limit.

N/A = not applicable

RCRA = *Resource Conservation and Recovery Act of 1976*

UCL = upper confidence limit

Each result for *cis*-1,2-DCE in the datasets for the other five downgradient wells was less than the 16 µg/L Hanford RCRA Permit concentration limit. Each result for TCE in the datasets for all six downgradient wells was less than the 4 µg/L Hanford RCRA Permit concentration limit. For these datasets, a nonstatistical or visual analysis of the data is appropriate. Time-series plots of *cis*-1,2-DCE and TCE for all wells are included in ECF-300FF5-20-0081.

## 6 Conclusions

In June 2020, the concentration of *cis*-1,2-DCE remained above the Hanford RCRA Permit concentration limit (16 µg/L) in well 399-1-16B, one of four deep RCRA monitoring wells. The 95% UCL for *cis*-1,2-DCE at well 399-1-16B also remained above the Hanford RCRA Permit concentration limit based on the last 15 sample results. Concentrations of *cis*-1,2-DCE remained below the Hanford RCRA Permit concentration limit in the other three deep and four shallow RCRA wells monitoring the 300 Area Process Trenches.

TCE concentrations remained below the Hanford RCRA Permit concentration limit (4 µg/L) during the reporting period in all eight RCRA monitoring wells at the 300 Area Process Trenches. However, monitoring of this constituent will continue in compliance with the groundwater monitoring plan (WA7890008967, Part VI, Chapter 3.0).

## 7 References

- BHI-01164, 1998, *300 Area Process Trenches Verification Package*, Rev. 0, Bechtel Hanford, Inc., Richland, Washington. Available at: <https://pdw.hanford.gov/document/D198200905>.
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, 42 USC 9601, et seq., Pub. L. 107-377 as amended, December 31, 2002. Available at: <https://www.csu.edu/cerc/researchreports/documents/CERCLASummary1980.pdf>.
- DOE/RL-93-73, 1997, *300 Area Process Trenches Modified Closure/Postclosure Plan*, Rev. 2, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: <https://pdw.hanford.gov/document/1309100642>.
- ECF-300FF5-20-0081, 2020, *Calculation of Upper Confidence Limits for RCRA Monitoring at the 300 Area Process Trenches to Support the January - June 2020 Semiannual Report*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington. Available at: <https://pdw.hanford.gov/document/AR-04158>.
- ECF-HANFORD-19-0114, 2020, *Preparation of the March 2019 Hanford Site Water Table Map*, Rev. 0, CH2M HILL Plateau Remediation Company, Richland, Washington. Available at: <https://pdw.hanford.gov/document/AR-03542>.
- EPA, 2015, *ProUCL*, Version 5.1, U.S. Environmental Protection Agency, Washington, D.C. Available at: <https://www.epa.gov/land-research/proucl-software>.
- EPA and DOE, 2013, *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1*, U.S. Environmental Protection Agency, Region 10, and U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: <https://pdw.hanford.gov/document/0087180>.
- NAVD88, 1988, *North American Vertical Datum of 1988*, as revised, National Geodetic Survey, Federal Geodetic Control Committee, Silver Spring, Maryland. Available at: <https://www.ngs.noaa.gov/datums/vertical/north-american-vertical-datum-1988.shtml>.

*Resource Conservation and Recovery Act of 1976*, Pub. L. 94-580, 42 USC 6901 et seq. Available at:  
<https://www.gpo.gov/fdsys/pkg/STATUTE-90/pdf/STATUTE-90-Pg2795.pdf>.

WA7890008967, *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Revision 8C, as amended, Washington State Department of Ecology. Available at:  
<https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/>.

WAC 173-160, “Minimum Standards for Construction and Maintenance of Wells,” *Washington Administrative Code*, Olympia, Washington. Available at:  
<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-160>.

WAC 173-303-645, “Dangerous Waste Regulations,” “Releases from Regulated Units,” *Washington Administrative Code*, Olympia, Washington. Available at:  
<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-645>.

WHC-SD-EN-AP-185, 1995, *Groundwater Monitoring Plan for the 300 Area Process Trenches*, Rev. 0, Westinghouse Hanford Company, Richland, Washington. Available at:  
<https://pdw.hanford.gov/document/D196020117>.

Modified by:

ECN 633779, 1996, *Engineering Change Notice for WHC-SD-EN-AP-185, Groundwater Monitoring Plan for the 300 Area Process Trenches, Rev. 0*, Westinghouse Hanford Company, Richland, Washington. Available at:  
<https://pdw.hanford.gov/document/D196135178>.

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