



1237585
[0077681#]

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 8, 2016

16-NWP-051

Mr. Michael W. Cline, Federal Project Director
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: A5-11
Richland, Washington 99352

Re: Department of Ecology's (Ecology) Response to the *Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond*, DOE/RL-2008-59, Draft, Revision 1, Received January 12, 2016

Dear Mr. Cline:

In accordance with the *Tri-Party Agreement*, Section 9.2.1, Ecology reviewed the referenced document. The United States Department of Energy – Richland Operations Office (USDOE-RL) and Ecology agreed that Ecology's initial comments to USDOE-RL would be submitted by March 31, 2016.

Enclosed is the Review Comment Record (RCR) with Ecology's comments. Ecology is submitting a copy of the RCR to the Administrative Record in accordance with the *Tri-Party Agreement*, Section 9.4.

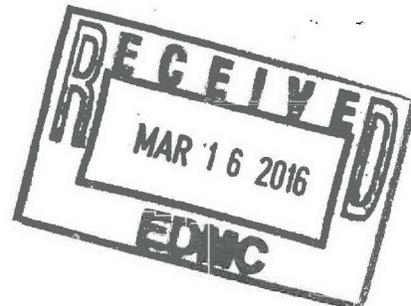
If you have any questions, please contact me at nina.menard@ecy.wa.gov or (509) 372-7941, or Tim Mullin, Environmental Specialist, at tim.mullin@ecy.wa.gov or (509) 372-7970.

Sincerely,

Nina M. Menard
Environmental Restoration Project Manager
Nuclear Waste Program

tm/aa
Enclosure

cc: See page 2



Mr. Michael W. Cline
March 8, 2016
Page 2

16-NWP-051

cc electronic w/enc:

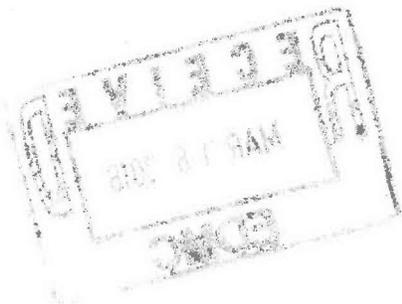
Dave Bartus, EPA
Dennis Faulk, EPA
Jim Hanson, USDOE
Marty Doornbos, CHPRC
W.R. Faught, CHPRC
Jon Perry, MSA
Ken Niles, ODOE
Dib Goswami, Ecology
Nina Menard, Ecology
Tim Mullin, Ecology
Kim Welsch, Ecology
Cheryl Whalen, Ecology
Environmental Portal
Hanford Facility Operating Record
USDOE-RL Correspondence Control

cc w/enc:

Steve Hudson, HAB
Administrative Record
NWP Central File

cc w/o enc:

Rod Skeen, CTUIR
Gabriel Bohnee, NPT
Alyssa Buck, Wanapum
Russell Jim, YN
NWP Reader File



Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
Item (GENERAL) P: 1-1 S: 1 L: 1	This document needs a technical editing in numerous places. Please provide a technical edit on the document.	See comment			
Item (GENERAL) P: 1-1 S: 1 L: 1	Executive summary should be updated after document is revised to ensure it matches main text.	Update executive summary after main text revisions are complete.			
Item 1 P: 1-1 S: 1 L: 15	Change "a nonoperating" to "an inactive."	Revise text			
Item 2 P: 1-1 S: 1 L: 17	Wrong title for the Hanford Dangerous Waste Permit. Provide the correct title, "Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste."	Revise text			
Item 3 P: 1-1 S: 1 L: 33	Provide what the "interim stabilization measures" were so the reader knows what was conducted.	Revise text			
Item 4 P: 1-1 S: 1 L: 34	Insert "groundwater monitoring" between "RCRA" and "plan."	Revise text			
Item 5 P: 1-1 S: 1 L: 37	Change "40 CFR 265.92, "Sampling and Analysis" to 40 CFR 265 Subpart F, "Groundwater Monitoring."	Revise text			
Item 6 P: 1-1 S: 1 L: 38	Revise text to "This monitoring plan is the principal controlling document for conducting interim status groundwater monitoring at B Pond."	Revise text			
Item 7 P: 1-1 S: 1 L: 41-42	Provide why another upgradient well is needed other than "to provide more information on upgradient concentrations."	Provide requested information			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
Item 8 P: 1-2 S: 1 L: 4	Provide if well 699-45-42 is planned for decommissioning. If it is, provide this information in this plan. If not, provide why this well is taken out of service.	Provide requested information			
Item 9 P: 1-2 S: 1 L: 4	According to the text, well 699-45-42 is being sampled under CERCLA. Provide if well 699-45-42 will no longer be sampled for RCRA only or if sampling will cease from well 699-45-42 for CERCLA or other programs once initial sampling for proposed Well #1 is completed.	Provide requested information			
Item 10 P: 1-2 S: 1 L: 4-8	A map in Section 1 is needed of the monitoring well network. It is stated that two upgradient wells and three downgradient wells will be used and provides information on a new well #1 and 699-45-42, yet the reader has no idea where these wells are located around B Pond. Provide a groundwater network well map.	Provide requested information			
Item 11 P: 1-2 S: 1 L: 6-7	It is stated, "All site-specific and supporting constituents with the exception of cadmium are retained in this version." There is not adequate information to justify dropping constituents from further monitoring.	Retain all constituent monitoring.			
Item 12 P: 1-3 S: 1 L: Figure 1-1	October 1, 2008 Part A Form shows a different TSD boundary. Reconcile this discrepancy.	See comment			
Item 13 P: 2-1 S: 2 L: 9-18	Provide a better discussion on how these documents were used. Some of these documents were not approved by Ecology.	Provide requested information			
Item 14 P: 2-1 S: 2 L: 15	DOE/RL-2013-24, 216-B-3 Main Pond Closure Plan was not approved by Ecology and remains with outstanding notice of deficiencies. Provide how this closure plan was used in this document.	Provide requested information			
Item 15 P: 2-1 S: 2.1 L: 31-34	The term "decommissioning" is incorrect because several of these waste sites are TSD units. The 216-B-3 Pond is a TSD unit. If the units had unplanned releases of dangerous waste, then they should be a part of the Hanford Site Permit. Provide why "these ditches" are not included in the permit.	Provide requested information			
Item 16 P: 2-1 S: 2.1	Provide what "stabilized" means or represents and the process that "stabilized" the facility. How did "stabilization" meet the definition as	Provide requested information			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
L: 33	provided in WAC 173-303-040? How do "unplanned releases of dangerous waste" stabilize the TSD?				
Item 17 P: 2-2 S: 2.1 L: 6-8	Provide citation for "Prior to diversion of effluent from the Main Pond, the 3A, 3B, and 3C expansion ponds were clean-closed under RCRA, though the 3C expansion pond continued to receive uncontaminated discharges."	Provide requested information			
Item 18 P: 2-2 S: 2.1 L: 7	Change "RCRA" to Hanford Facility Dangerous Waste Permit" or similar. These expansion ponds were closed under the Permit and not under "RCRA".	See comment.			
Item 19 P: 2-2 S: 2.1 L: 8	Delete the word "RCRA" and start the sentence with "Clean closure ..."	Revise text			
Item 20 P: 2-2 S: 2.1 L: 9-10	According to the Acceptance Letter for the Certification of Clean Closure" groundwater monitoring activities will continue as stated in the closure plan." Provide if groundwater monitoring is continuing around these ponds.	Provide requested information			
Item 21 P: 2-2 S: 2.1 L: 11-13	Provide what type of permit is being referenced for the 200 Areas Treated Effluent Disposal Facility. Provide if this is the Hanford Facility RCRA Permit or a State Discharge Permit or specifically what type of permit.	Provide requested information			
Item 22 P: 2-2 S: 2.1 L: 16-17	Provide the citation or a description of how acids were neutralized and to what extent: "Corrosive hazardous wastes, such as nitric and sulfuric acids, were routinely discharged to B Pond via the ditches, although attempts were made to neutralize these wastes before they were discharged."	Provide requested information			
Item 23 P: 2-2 S: 2.1 L: 17	Delete "volumetrically important chemicals" and identify if the wastes listed are dangerous wastes or not. Identify all dangerous wastes discharged to the 216-B-3 Main Pond TSD.	Revise text			
Item 24 P: 2-2 S: 2.2 L: 27-33	This paragraph is extremely confusing with the various dates. Explain how Ecology has regulation of mixed waste in August 1987, yet EPA authorized Ecology some 3 months later (November 1987). Rewrite this paragraph simply stating that Ecology has regulatory authority over mixed waste.	Revise text			
Item 25 P: 2-3 S: Figure 2-1 L:	This figure is unclear in depicting the 216-B-3 separately from the 216-B-3-1, 216-B-3-2, and 216-B-3-3 ditches. Use a figure that is more of a close-up of the subject facilities (for example the 284E Power House does not even exist).	Revise figure			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
Item 26 P: 2-3 S: 2.2 L: Figure 2-1	In figure legend, 216-B-3 Main Pond is a TSD, and is the only TSD identified in the figure. Change the legend from "Monitoring Facility/Waste sites" to "216-B-3 Main Pond TSD" or some other more specific designation.	Revise figure legend			
Item 27 P: 2-4 S: 2.2 L: 1-7	Dangerous Waste is regulated under the Hazardous Waste Management Act as implemented in WAC 173-303 regulations. It is not regulated under RCRA, as modified in 40 CFR 265. Replace WAC 173-303-400 with WAC 173-303).	Revise text			
Item 28 P: 2-4 S: 2.2 L: 4-7	The AEA gives DOE authority to regulate radionuclide materials at DOE facilities, not RCRA. RCRA excludes regulation of "source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended" as solid wastes per 40 CFR 261.4. Clarity of regulatory basis.	Revise sentence to "The AEA states that these radionuclide materials are regulated at DOE facilities . . ."			
Item 29 P: 2-4 S: 2.2 L: 19	Replace "RCRA" with "groundwater monitoring under the Hanford Dangerous Waste Permit."	Revise text			
Item 30 P: 2-4 S: 2.2 L: 20	Delete "RCRA"	Revise text			
Item 31 P: 2-4 S: 2.2 L: 29	Revise "Final" to "Additional" as Ecology does not agree that the extent and characterization of dangerous waste discharges to soil for 216-B-3 Pond is complete.	Revise text			
Item 32 P: 2-4 S: 2.2 L: 31-38	Delete discussions regarding soil contamination extent and characterization. Some of the information presented is inaccurate. No cleanup levels have been finalized in a closure plan for this TSD, and discussion of these cleanup levels is inappropriate.	Revise text			
Item 33 P: 2-4 S: 2.2 L: 39	Replace "under RCRA" with "under interim status requirements"	Revise text			
Item 34 P: 2-5	Delete this paragraph related to closure strategy and closure plans. No Ecology-approved closure plan exists for this unit.	Revise text			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
S: 2.2 L: 10-12					
Item 35 P: 2-5 S: 2.2 L: 20-21	<p>“The last known reportable discharge of chemical waste (sodium nitrate) occurred in 1987.” Is the “chemical waste” interpreted as “nondangerous waste”?</p> <p>Reiterate the last discharge of dangerous waste to the TSD.</p>	Revise text			
Item 36 P: 2-5 S: 2.3 L: 21 and Table 2-1	There is inconsistency between line 21 mentioning sodium nitrate and Table 2-1 mentioning Cadmium nitrate. Verify the last discharge of these wastes to the 216-A-29 Ditch.	Fix this inconsistency.			
Item 37 P: 2-5 S: 2.3 L: 23	Delete “and dangerous waste/toxic dangerous waste” and add “toxic dangerous waste criteria of extremely hazardous waste (WT01) and dangerous waste (WT02)”	Revise text			
Item 38 P: 2-5 S: 2.3 L: 26	<p>“The most important sources of effluent include the following.”</p> <p>Identify if all sources of dangerous waste are listed in this section. If not, add all sources of dangerous waste to this list.</p>	Revise text			
Item 39 P: 2-6 S: 2.3 L: 10-11	<p>If “these ditches” received unplanned releases of dangerous waste, then these ditches need to be incorporated into the Hanford Facility Dangerous Waste Permit. Provide more detail what was disposed in these ditches and the timeframe that these disposals occurred. Provide specifically which ditches are being referenced by “these ditches.”</p> <p>Again, identify if “stabilized” meets the regulatory term.</p>	Revise text			
Item 40 P: 2-7 S: 2.4 L: 1-5	Provide in this document the “detailed descriptions of stratigraphic relationships at B Ponds instead of referencing another document. Provide the “description of groundwater hydrology and groundwater contamination” and the reinterpretation of well logs and hydrostratigraphy in the 200 East Area and vicinity” in this document. Based on the requirements of interim status groundwater monitoring requirements (40 CFR 265 Subpart F) and WAC 173-303-645, the geologic and hydrogeologic information should be adequately provided in this document.	Provide requested information			
Item 41 P: 2-7 S: 2.4	Provide what is meant and how and what is this “more accurate portrayal of groundwater movement beneath B Pond.” Provide a lot more detail to include the information as required by 40 CFR 265, Subpart F.	Provide additional detail			

O/C = open or closed

Review Comment Record	Washington State Department of Ecology Nuclear Waste Program Cleanup Section/ER Project	Date 3/8/16
		Page 6 of 20

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
L: 4-5					
Item 42 P: 2-7 S: 2.4.1 L: 17	The text introduces a new "unit" that makes it difficult to understand what the author is trying to state. Provide what units are the vadose zone and what units are saturated clearly in the document. As written, it is difficult to understand if the "Ringold Formation units" are saturated	Provide requested information			
Item 43 P: 2-7 S: 2.4.1 L: 39	Provide a map or figure that shows the May Junction Fault and the area associated with the missing Ringold Unit E. It is difficult to "picture" this area. The "far eastern portion of 200 East Area and the May Junction Fault (located to the east of the B Pond area) appears to be describing the same locations. A map is necessary to understand where the "area" is being discussed without having to go to another document.	Provide requested information			
Item 44 P: 2-8 S: 2.4.2 L: 33-36	Based on the cross-sections (Figures 2-3, 2-4, 2-5 and 2-6), it appears that it is not confined under 216-B-3 Ponds. Provide more detail where and how this unit is deemed a "confined aquifer." It is not supported by any of the cross sections and Figure 2-6 shows different aquifers being used that does not confirm it is confined and shows downward vertical gradient that would indicate an unconfined aquifer by definition. For figures 2-3, 2-4 and 2-5 provide where high water table elevation existed.	Provide requested information			
Item 45 P: 2-10 S: Figure 2-3 L:	Add the screen intervals for monitoring wells 699-43-42J and 699-43-41E. If these wells are dry, indicate if they are decommissioned or not.	Provide requested information			
Item 46 P: 2-10 S: Figure 2-3 L:	Is 699-43-41E/699-43-41F/699-43-41G a nested well?	Provide requested information			
Item 47 P: 2-10 S: Figure 2-3 L:	Why the constant generic "RCRA Waste Site" in the legend, when only the 216-B-3 Main Pond TSD is depicted? Revise to make more specific.	Revise figure			
Item 48 P: 2-10 S: Figure 2-3 L:	Is the aquifer beneath the Ringold Lower Mud under confined conditions? As depicted, appears to be an unconfined aquifer.	Provide requested information			
Item 49 P: 2-11 S: Figure 2-4 L:	Cross-section lithology depicted in Figure 2-4 for 299-E26-12 doesn't match cross-section log lithology from DOE/RL-2016-23, Revision 0, Figure 2-3. Reconcile this discrepancy.	Provide requested information			

O/C = open or closed

Review Comment Record

**Washington State Department of Ecology
Nuclear Waste Program
Cleanup Section/ER Project**

Date 3/8/16

Page 7 of 20

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
Item 50 P: 2-11 S: Figure 2-4 L:	Add the screen intervals for wells 699-43-43 and 699-44-42. If these wells have gone dry, indicate if these wells have been decommissioned.	Provide requested information			
Item 51 P: 2-12 S: Figure 2-5 L:	Update legend "RCRA Waste Site" with more specific information and reconcile inset figure TSD extent with Part A form TSD extent.	Revise figure			
Item 52 P: 2-13 S: 2.4.3 L: 2-4	Provide how much of this apex is a results of well placement in the area. Provide more detail on wells in the area and what stratigraphic unit they were completed.	Provide requested information			
Item 53 P: 2-13 S: 2.4.3 L: 11-12	Figure 2-3 does not depict confined aquifer conditions. Revise figure or update text depending on if confined conditions are present or not.	See comment			
Item 54 P: 2-13 S: 2.4.3 L: 20-21	The figures cited do not do an adequate role of providing how this conclusion of B Pond effluent entered Units 9A and 9C. Provide more detail or a better illustration how this occurred.	Provide requested information			
Item 55 P: 2-13 S: 2.4.3 L: 24-26	Based on the figures cited and the lack of well coverage, provide more information that supports the statement, "A stratigraphic "trap" could exist east of the B Pond System (i.e., east of 3C Pond and the TEDF) at the May Junction Fault.	Provide requested information			
Item 56 P: 2-13 S: 2.4.3 L: 26-28	<p>The term "it is postulated" is like an opinion. Provide data that supports the claim that the "May Junction Fault may represent a barrier to groundwater flow in Units 9A and 9C, preventing any appreciable flow to the east (PNNL-12261). The reader should not have to go to another document to find important information on the geology/hydrogeology in a groundwater monitoring plan document.</p> <p>Page 4.28 of PNNL-12261 provides some different insight regarding potential contaminant flow for effluent from B-3 Pond. Figure 2-6 doesn't present any wells screened in the Hanford formation above the Ringold Lower Mud in the vicinity of B-3 Pond to verify there is no perched aquifer present. Provide additional details if these wells exist.</p>	Revise text			

O/C = open or closed

Review Comment Record	Washington State Department of Ecology Nuclear Waste Program Cleanup Section/ER Project	Date 3/8/16
		Page 8 of 20

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	Suggest deleting opinions and conjecture in this document.				
Item 57 P: 2-13 S: 2.4.3 L: 28-32	Provide the basis for this statement. Provide the 'calculations of hydraulic conductivity, stratigraphic relationships recognized in the distal southeast portions of the area and groundwater geochemistry' that supports a "more limited than depicted" east southeast flow direction. No supportive information is provide for the sentence and the figures do not support this statement. All the figures in Figure 2-9 support a southwest flow other than the one cited (PNNL-11604).	Provide requested information			
Item 58 P: 2-13 S: 2.4.3 L: 33-40	Provide the hydraulic conductivity and average linear flow rates for the Hanford formation and unconfined aquifer.	Provide requested information			
Item 59 P: 2-14 S: Table 2-2 L:	Provide why these monitoring plans were modified on the table. Especially the ones that were revised.	Provide requested information			
Item 60 P: 2-15 S: Figure 2-6 L:	Based on head elevations, appears to be only one confined (?) aquifer beneath the Ringold Lower Mud (Unit 8) to east of 216-B-3 Pond. Revise text to indicate that Ringold Unit A (Unit 9) is all one aquifer.	Revise text			
Item 61 P: 2-15 S: Figure 2-6 L:	Provide why some wells have water table elevations listed and others do not. It would be nice to have what the water elevation is in 699-40-33B to compare to 699-41-35. Several of these wells are completed in different geologic units that make the water table shown hard to understand how the actual unconfined aquifer surface is portrayed. Provide which wells are dry. From the figure it appears 699-43-43 is dry.	Provide requested information			
Item 62 P: 2-15 S: Figure 2-6 L:	Figure 2-6 seems to fit better with section 2.4.3 Groundwater Flow Interpretation, or even in section 2.4.2 over section 2.5.	Provide requested information			
Item 63 P: 2-15 S: Figure 2-6 L:	Add meters to "Elevation Head" May not be obvious for all readers that scale for cross-section and the scale for the elevation head are in the same units.	Revise figure			
Item 64 P: 2-18 S: Figure 2-8 L:	Provide why the contour lines are terminated before meeting the May Junction Fault. Provide a map that shows the unit thickness. Provide a map to show the tops of Unit 9A and Unit 9C and the top of the Hanford	Provide requested information			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	unconfined aquifer. These tops and thickness are all important factors in understanding the hydrogeology around B Pond system and its flow regime.				
Item 65 P: 2-19 and 2-21 S: Figures 2-9 and 2-10 L:	This figure shows flow is to the west as late as 2014. This is in direct contradiction of the A-29 Ditch recently submitted, that indicates flow is to the southeast. In this document it states "southeast flow is limited" which again would be in contradiction with the A-29 Ditch groundwater monitoring plan. Provide more information, either through a detailed engineering report or significantly more detail in this groundwater monitoring report for both A-29 Ditch and B-3 Pond the supportive calculations that show groundwater flow in each and every saturated geologic unit including the basalts.	Provide requested information			
Item 66 P: 2-21 S: Figure 2-10 L:	Provide more information on well coverage in the northern part of this figure. No wells exist to support the 124.0 m contour. Few wells exists to support the 123.5 m contour interval. Few wells exists to support any of these contour intervals with the certainty portrayed with the solid lines. Provide the information that supports the contact between Units 9C and 9A and the unconfined aquifer. Provide whether this unconfined aquifer is in the Hanford Formation or Unit 9A. Show where Unit 9A becomes an unconfined aquifer. No wells exists to support the western edge of the "unconfined aquifer." Explain why the contour lines do not correspond to each other when they meet between Unit 9C and Unit 9A, but do for the unconfined aquifer.	Provide requested information			
Item 67 P: 2-23 S: 2.5 L: 3-11	Provide why WHC-SD-EN-AP-030, Rev. 0 was revised in 1992.	Provide requested information			
Item 68 P: 2-23 S: 2.5 L: 27	Delete "RCRA regulated." These words provide no value and are redundant since this is a Dangerous Waste Groundwater Monitoring Plan. All that is needed is to state "B Pond network."	Revise text			
Item 69 P: 2-23 S: 2.5 L: 28-29	Provide more detail in how well 299-E18-1 being removed "reduce redundancy." It is not clear how this well was redundant. Provide why these two far distant wells (299-E18-1 and 299-E32-4) were deemed necessary for upgradient wells for the B Pond System.	Provide requested information			
Item 70 P: 2-23 S: 2.5 L: 33-38	This sentence is missing words. Provide the focus of the contained-in letter which addresses only "hydrazine." As written, it reads that all dangerous constituents received a "contained-in determination." This is not true. 01-GWVZ-015 is a request for a contained in determination from USDOE, and	Rewrite the sentence to describe only the Contained-In Determination for Hydrazine.			

O/C = open or closed

Review Comment Record

Washington State Department of Ecology
Nuclear Waste Program
Cleanup Section/ER Project

Date 3/8/16

Page 10 of 20

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	is not an approval of any contained in determination by Ecology. Rewrite the sentence to accurately describe what occurred. Discuss how these not listed letters could be consistently identified to make them easier to find (e.g., use the link in the references).				
Item 71 P: 2-23 S: 2.5 L: 41-42	Provide why hydrazine is still listed on the Part A Form for 216-B-3 Pond. It is clearly a dangerous constituent of "interest" or "concern" as a listed dangerous constituent.	Provide requested information			
Item 72 P: 2-24 S: 2.5 L: 20-23	If arsenic was detected, then it is part of the groundwater monitoring and should have tripped the monitoring program to a groundwater assessment program. Provide the source of the arsenic that was detected at B Pond.	Provide requested information			
Item 73 P: 2-24 S: 2.4.3 L: 24-33	Comment: This paragraph starts out referencing PNNL-13367, and ends the paragraph that states, "...and silver for a four-year evaluation period based on previous soil investigation results [Section 2.2]." After checking Section 2.2, there is NO mention of PNNL-13367. Justification: Accuracy and completeness.	Correct this inconsistency.			
Item 74 P: 2-24 S: 2.5 L: 27	This well was dry in 1999. Provide how this well was added back to the program in 2002. It is unclear how a dry well with a falling water table becomes usable.	Provide requested information			
Item 75 P: 2-24 S: 2.5 L: 29-30	Provide pH, TOX, and TOC as part of the parenthesis list of analytes. These are part of the indicator parameters required by interim status indicator parameter program.	Provide requested information			
Item 76 P: 2-24 S: 2.5 L: 32	Provide what constituents are "groundwater quality parameters."	Provide requested information			
Item 77 P: 2-24 S: 2.5 L: 36-37	Provide why the "closure plan had not been approved."	Provide requested information			
Item 78 P: 2-24 S: 2.5	Provide pH, TOX, and TOC as part of the parenthesis list of analytes. These are part of the indicator parameters required by interim status indicator parameter program.	Provide requested information			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
L: 40					
Item 79 P: 2-24 S: 2.5 L: 43	Define or delete "no anomalous concentrations"	Revise text			
Item 80 P: 2-24 S: 2.5 L: 44-45	Provide what happened to well 699-43-43. Provide why it was not carried forward into the 2005 revised groundwater monitoring plan.	Provide requested information			
Item 81 P: 2-25 S: 2.5 L: 12	Delete "report", to read "RCRA groundwater monitoring annual report."	Provide requested information			
Item 82 P: 2-25 S: 2.5 L: 28	Provide the "laboratory reporting limit in all three wells." This value is needed to understand if the reporting limits were in context to the results. It is needed for completeness and clarity as required by 40 CFR 265 Subpart F.	Provide requested information			
Item 83 P: 2-25 S: 2.5 L: 34-35	Provide why temporarily. Why not use this well permanently in addition to Well #1. More information is needed for the various aquifers that are present around B Pond to understand the contaminant plumes that exist.	Provide requested information			
Item 84 P: 2-25 S: 2.5 L: 36-40	Discussion of New well #1 should occur in Section 3.2, not here in the Section 2.5, Summary of Previous Groundwater Monitoring. But since it does, Provide why we are located a well next to an existing well. Provide where groundwater "moves from Unit 9C" and "enters the Hanford formation." Figure 2-5 shows Well 2699-45-42 completed in Units 9B and 9C. Does Unit 9A exist in this area or was it eroded away?	Provide requested information			
Item 85 P: 2-25 S: 2.5 L: 40-41	Provide a call out to the figure being discussed. It is hard to follow this discussion with all the generalities.	Provide requested information			
Item 86 P: 2-25 S: 2.5 L: 40-45	Discuss why the upgradient well 699-45-42 has higher concentrations in comparison to downgradient well 699-43-45.	Provide requested information			
Item 87 P: 2-25 to 2-26	Provide the concentration values for all analytes being discussed in this paragraph. Without the values it is somewhat meaningless to understand	Provide requested information			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
S: 2.5 L: 40-47 to 1-6	what is being discussed and emphasized for the reader. Be complete and provide needed clarity to the discussion. As written it is hard to follow with the minimum call-out to figures.				
Item 88 P: 2-25 S: 2.5 L: 46-47	Based on Figures 2-5 and 2-6, Well 699-43-45 is completed in the Hanford formation, not the Ringold Unit A as stated.	Revise text			
Item 89 P: 2-26 S: 2.5 L: 1-6	Provide the concentration values and concentration ranges being discussed on these lines. It is almost impossible to read and understand what the author is trying to communicate. Provide more detail in what these results mean related to the geology and groundwater interpretation.	Provide requested information			
Item 90 P: 2-26 S: 2.5 L: 4-5	Provide the laboratory detection limit for TOX. It is not indicated on the figure and is not provided anywhere in the text. This information is required based on 40 CFR 265 Subpart F.	Provide requested information			
Item 91 P: 2-26 S: 2.5 L:	No place in Section 2.5, does it state whether the statistical comparisons were exceeded or not for indicator parameters. Provide this information in the text. Provide all constituents that were detected in the groundwater monitoring program since it began. This information is not provided in a clear, concise manner in Section 2.5 as required by 40 CFR 265 Subpart F.	Provide requested information			
Item 92 P: 2-26 S: 2.6 L: 8-40	This entire section as written, indicates that groundwater assessment is required for 216-B-3 Main Pond and 216-B-3-3 Ditch. With statements of "Discharges were sufficient for wastewater to reach groundwater" states impacts from dangerous constituents has occurred. Place this unit under an interim status groundwater quality assessment monitoring program.	Revise text			
Item 93 P: 2-26 S: 2.6 L:19-21	Based on the cross sections and information presented, it is difficult to determine where the unconfined aquifer is located and where the confined aquifer is located to the east of B Pond. Provide more detail in Section 2.4. It is obvious that effluent migration downward would run along the Ringold Unit 8 lower mud unit providing a spreading front across this unit. Provide clearly in the cross sections which way this unit dips. Based on figure 2-7, it dips to the west, not south or east as stated in this conceptual site model. It is not predominant of a unit at the Main Pond based on Figure 2-7. Provide a better discussion of this in the text.	Revise text			
Item 94 P: 2-26 S: 2.6 L: 25-27	This sentence is not supported. Based on previous studies, clay units can provide significant recharge to an underlying aquifer through leakage, even substantially thick units. Provide a better presentation of recharge with	Revise text			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	supportive data. As written, this is someone's opinion because it is not supportive by any data. Data has suggested the opposite to be true.				
Item 95 P: 2-26 S: 2.6 L: 28-39	Provide if the constituents of cadmium, lead, mercury and arsenic have been detected in groundwater since the inception of groundwater monitoring at B Pond.	Provide requested information			
Item 96 P: 2-26 S: 2.6 L:	This Conceptual Site Model is missing major components in the discussion of the conceptual site model. No historical description of the processes that led to the high water table is provided. Provide here and in all the figures of pertinent information (i.e., cross-sections, Figures 2-7 and 2-8), the high water table mark. Provide how waste was released and migrated downward through the vadose zone and into the groundwater. Provide how water would move through the vadose zone to groundwater in and around B Pond. Based on the 200-PO-1 RI report [DOE/RL-2009-85], provide where contaminants are located in the vadose zone. Provide the data of the "soil characterization" effort to understand where contaminants now reside.	Provide requested information			
Item 97 P: 2-29 S: 2.6 L: 1-6	Provide how many "uppermost aquifers" exists at B Pond. Provide more detail what is meant by this sentence of how it was "mostly isolated from a significant part of the B Pond effluent discharges." Earlier it was postulated in this section. In this sentence it is stated as fact. Provide the thickness of Unit 8 and Unit 9B and the thickness of Ringold Unit A (9A and 9C) to better understand this discussion. Important information is missing in this document to support many of the statements similar to this one. Provide more information to support this statement, "the intervening, fine-grained units (Ringold low mud Unit 8 and 9B) intercepted infiltrating effluent in some areas around B Pond diverting the wastewater down along the surface of the stratigraphic units, predominantly to the south."	Provide requested information			
Item 98 P: 2-29 S: 2.6 L: 6-8	Provide the groundwater analytical data to support this statement.	Provide requested information			
Item 99 P: 2-29 S: 2.6 L: 9-14	This is useful information, but immediately below the B-3 Main Pond, the aquifer appears to be unconfined. Discussion of declining hydraulic head is related to the unconfined aquifer. Nowhere in the document is this declining water table discussed. Provide the declining water table rate either here or in Section 2.4.	Provide requested information			
Item 100 P: 2-29	This information is redundant with Section 2.2. Delete these lines of the document.	Revise text			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
S: 2.7 L: 16-21					
Item 101 P: 2-29 S: 2.7 L: 22-25	Provide if this information and the Stiff diagrams will be used in the Annual Groundwater Monitoring Reports. This information would be valuable for comparison of contaminant migration.	Provide requested information			
Item 102 P: 2-29 S: Table 2-3 L:	Missing the following citations: 40 CFR 265.90, 265.92(a), 265.93(a) and 265.93(c)(1), 265.94(a)(2)(iii) Appendix III, and Appendix IV. Add these citations to the table.	Provide requested information			
Item 103 P: 3-1 S: 3 L: 4-5	Provide how this monitoring plan has been revised.	Provide requested information			
Item 104 P: 3-1 S: 3 L: 6-7	Delete this information about the closure plan.	Revise text			
Item 105 P: 3-1 S: 3.1 L: 10 and 27	Change "RCRA monitoring" to "groundwater monitoring." RCRA is the regulation, the activity is groundwater monitoring.	Revise text			
Item 106 P: 3-1 S: 3.1 L: 12-14	All upgradient monitoring wells will be required to conduct quarterly monitoring as stated in the Unified Guidance and 40 CFR 265 Subpart F. Provide quarterly monitoring for all the upgradient wells.	Revise sampling interval to quarterly			
Item 107 P: 3-1 S: 3.1 L: 27-28	It is required by 40 CFR 265 Subpart F to monitor for hazardous waste or hazardous waste constituents that may have migrated to groundwater.	Delete sentence in line 27-28			
Item 108 P: 3-1 S: 3.1 L: 31-33	Arsenic needs to be added to the list of constituents. It has been detected with no information provided in this document as to its source, therefore arsenic cannot be ruled out as being disposed in B Pond. This detection would indicate that groundwater assessment monitoring program is required for B Pond.	Add arsenic to sampling list			
Item 109 P: 3-11 S: 3	Provide why dissolved oxygen is being monitored. The aquifer should be an aerobic environment.	Revise text			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line#s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
L: 36					
Item 110 P: 3-1 S: 3.1 L: 41	Based on the sentence, cadmium has been detected in groundwater. These detections warrants further sampling and analyses for cadmium. Add cadmium back into this groundwater monitoring plan.	Add cadmium to sampling list			
Item 111 P: 3-1 to 3-2 S: 3.1 L: 42, 1-7	This paragraph does not provide a clear understanding how it applies to groundwater monitoring frequency and providing representative samples. Samples should be collected over a one week period to be representative of groundwater conditions. If a sample from one well is taken over a month apart from another well, it is not representative for statistical analysis or groundwater quality comparison. Provide clearly how missing a sampling event will be resolved in this paragraph to ensure representative sample collection and analysis. Please state, "If a sample from a monitoring well cannot be collected, the sampling event will start over until a collection of the entire groundwater monitoring network can be conducted over a one week period."	Revise text			
Item 112 P: 3-2 S: 3.2 L: 10	Delete "[to be replaced by New Well #1])." This phrase is not needed here because it is stated later in this paragraph on lines 12-13.	Revise text			
Item 113 P: 3-2 S: 3.2 L: 19-20	Provide what hydrogeologic unit is being cited in "portions of the aquifers southwest and south of the Main Pond and 216-B-3-3 Ditch."	Provide requested information			
Item 114 P: 3-2 S: 3.2 L: 32	Place a period (.) after resource protection well and delete the rest of the sentence.	Revise text			
Item 115 P: 3-2 S: 3.2 L: 36	Provide when "future replacement" is specified in Milestone M-024-58 in the text here.	Provide requested information			
Item 116 P: 3-2 S: Figure 3.1 L:	Numerous areas do not have monitoring wells for monitoring the pond and ditch. Very few monitoring wells exists upgradient and few are shown downgradient to adequately address contaminant migration. More wells are needed to provide adequate monitoring. Provide more monitoring wells in this plan.	Add more monitoring wells to plan			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
Item 117 P: 3-4 S: 3.2 L: Table 3-1	Table 3-1 lists Filtered and Unfiltered parameters will be obtained for Iron, Manganese, Sodium, Arsenic and Metals. A joint letter written by the Environmental Protection Agency (EPA) and the Department of Ecology directly addressed the use of filtered samples for groundwater monitoring at the Hanford Site. Specifically, "... groundwater samples should not be field-filtered unless the turbidity exceeds 5 NTUs. Field-filtering under any circumstance must be specifically requested, with basis provided, and approved by Ecology or EPA in work plans." Provide the basis for the proposal to filter the groundwater samples for the Monitoring Well Network for the 216-B-3 Pond.	Provide the basis for the proposal to filter the groundwater samples for the Monitoring Well Network for the 216-B-3 Pond.			
Item 118 P: 3-4 S: Table 3.1 L:	Remove footnote b because the field parameters are required as are all constituents listed in Appendix III of 40 CFR 265.	Revise text			
Item 119 P: 3-5 S: Table 3.2 L:	Provide in the document and here the rate of decline of the water table.	Provide requested information			
Item 120 P: 3-6 S: 3.2 L: 1-4	Provide the rate of decline of the water table. This information is necessary and required by 40 CFR 265 Subpart F.	Provide requested information			
Item 121 P: 3-6 S: 3.3 L: 16-17	Delete the sentence, "Cadmium is no longer included for monitoring." Cadmium is listed on the Part A Form and needs to be continuously monitored to the end of the groundwater monitoring for this unit.	Revise text			
Item 122 P: 3-6 S: Table 3.3 L:	Add cadmium and put no change under Justification Summary	Revise text			
Item 123 P: 3-6 S: Table 3.3 L:	List the wells under Previous plan and Current Plan for completeness.	Provide requested information			
Item 124 P: 3-7 S: Table 3.3	Provide information under what will occur for New well #1 and 699-45-42 after the 1 st year of monitoring.	Provide requested information			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
L:					
Item 125 P: 3-7 S: Table 3.3 L:	Provide the azimuth directions for groundwater flow under the Previous Plan and the Current Plan.	Provide requested information			
Item 126 P: 3-7 S: Table 3.3 L:	Under Current Plan, need to monitor all upgradient wells quarterly for one year based on 40 CFR 265 Subpart F and the Unified Guidance to use them as paired statistical analysis.	Provide requested information			
Item 127 P: 4-1 S: 4.2 L:	Everywhere the word "background" is stated, place "initial" in front of it to read, "initial background" to be consistent with 40 CFR 265.93.	Revise text			
Item 128 P: 4-1 S: 4.2 L: 25-26	Background statistical data is not allowed to be updated. It is set at the initial background concentration levels based on 40 CFR 265.92(c)(2) and 40 CFR 265.93(b). These initial background values do not change. Please place in this document the initial background values established for this unit. Provide if these values have been exceeded in the past	Provide requested information			
Item 129 P: 4-1 S: 4.2 L: 26	This "rolling mean" is not allowed by the regulations nor is the rationale for a "rolling mean" applicable. The "groundwater remedial actions currently being implemented" do not occur in 200 East Area that would affect groundwater quality. Delete this sentence and do not practice a "rolling mean."	Revise text			
Item 130 P: 4-2 S: 4.5 L: 28	Change "statistical comparison value," to "relative to the initial background value, that information ..."	Revise text			
Item 131 P: 4-2 S: 4.5 L: 33-36	Provide where the sentence, "In some instances, it is possible to determine immediately that the statistical finding is not the result of contamination from the facility. In that case, Ecology is notified, and a groundwater quality program is not instituted" is located in the regulations, either 40 CFR 265 or WAC 173-303. If not in regulations, delete this sentence.	Provide requested information			
Item 132 P: 6-1 through 6-4 S: 6 L:	Comment: The following references are either not in the document, the TPA Administrative Record, or are inconsistent with expected format. The comments are on the following references: 1) 13-AMRP-0155 is not referenced in the document. 2) Becker-Khaleel, Brenda, 2001 is an incorrect method of reference and it is neither in the TPA Administrative Record or PNNL library.	Provide and correct referencing method, as well as provide ALL references in the TPA Administrative Record.			

O/C = open or closed

**Washington State Department of Ecology
Nuclear Waste Program
Cleanup Section/ER Project**

Date 3/8/16

Page 18 of 20

Review Comment Record

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	<p>3) DOE, 1987 is an incorrect method of reference and is not in the TPA Administrative Record.</p> <p>4) DOE, 2002 is an incorrect method of reference. Reference according to the document number DOE/RL-2002-39.</p> <p>5) Goswami, Dib, 2001 is an incorrect method of reference and is not in the TPA Administrative Record.</p> <p>6) Hedges, Jane, 2000 is an incorrect method of reference.</p> <p>7) Izatt, R.D. and R.E. Lerch, 1990 is an incorrect method of reference and is not in the TPA Administrative Record or PNNL library.</p> <p>8) Reidel, S.P., K.A. Lindsey, and K.R. Fecht, 1992 is an incorrect method of reference. Reference according to the document number WHC-MR-0391.</p> <p>9) Thorne, P.D., M.A. Chamness, F.A. Spane, V.R. Vermeul, and W.D. Webber, 1993 is an incorrect method of reference. Reference according to the document number PNL-8971.</p> <p>Justification: Accuracy and completeness.</p>				
<p>Item 133 P: 6-5 S: 6 L: 7-10</p>	<p>This is not the title of the "Hanford Permit, rev. 8C. Provide the correct title for the document. Provide the correct title, "Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste."</p>	<p>Revise text</p>			
<p>Item 134 P: A-6 S: A2.1.11 L: 5-6</p>	<p>In addition to the evaluation under the DOECAP and being State accredited, the text should also state that the laboratories must be evaluated under the Hanford Analytical Services Quality Assurance Requirements Document (HASQARD). The HASQARD serves as the quality basis for all sampling and field/laboratory analytical services provided to support the Hanford Site environmental clean-up mission. The HASQARD establishes quality requirements in response to DOE Order 414.1C or 414.1D, "Quality Assurance" (as applicable). The HASQARD satisfies the requirements from the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement [TPA]) Article XXXI and TPA Action Plan Sections 6.5 and 7.8.</p>	<p>Edit the text as follows:</p> <p>"The laboratories are evaluated under the DOE Consolidated Audit Program, <u>the Hanford Analytical Services Requirements Document</u> and must be accredited by Ecology for the analyses performed for S&GRP.</p>			
<p>Item 135 P: A-11 S: A2.6 L: 24-28</p>	<p>The text states the laboratory is responsible for maintaining, and having available upon request the following items:</p> <ul style="list-style-type: none"> • Analytical logbooks • Raw data and QC sample records • Standard reference material and/or proficiency test sample data • Instrument calibration information 	<p>Also include the following in the list of items:</p> <ul style="list-style-type: none"> • Training records for employees, as they relate to analytical methods. (This will ensure that personnel are qualified to perform the specific analyses.) • Laboratory State Accreditation records. 			

O/C = open or closed

Review Comment Record

Washington State Department of Ecology
Nuclear Waste Program
Cleanup Section/ER Project

Date 3/8/16

Page 19 of 20

Document Title(s)/Number(s):

Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov

Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	<p>Also include the following in the list of items:</p> <ul style="list-style-type: none"> • Training records for employees, as they relate to analytical methods. (This will ensure that personnel are qualified to perform the specific analyses.) • Laboratory State Accreditation records. • Laboratory audit records. <p>The regulatory basis for requiring the requested items for laboratories performing analytical work for the Hanford Site is provided in DOE/RL-96-68, Hanford Analytical Services Quality Assurance Requirements Document. The HASQARD serves as the quality basis for all sampling and field/laboratory analytical services provided to support the Hanford Site environmental clean-up mission. Volume 1 includes guidance related to laboratory personnel training records (Section 3.0), laboratory accreditation records (Section 12.0) and laboratory audit records (Sections 5.5, 10.0 and 10.5).</p> <p>The requirement to comply with DOE/RL-96-68 is included in DOE/RL and DOE/ORP contracts with their contracted entities.</p>	<p>Laboratory audit records.</p>			
<p>Item 136 P: A-19 S: A3.3.2 L: 15-16</p>	<p>The text states, "Data from samples analyzed outside holding times are flagged in the HEIS database with an "H"." It should also be noted that data that do not meet holding time requirements may be deemed Rejected by third party validation.</p>	<p>Include that data that do not meet holding time requirements may be deemed Rejected by third party validation.</p>			
<p>Item 137 P: A-25 S: A5.2 L: 23-24</p>	<p>The text states, "If performed, data validation activities will be based on EPA functional guidelines." Please explain how it will be determined if data validation will be required, and what percentage of the data will be validated.</p>	<p>Please explain how it will be determined if data validation will be required, and what percentage of the data will be validated.</p>			
<p>Item 138 P: B-3 S: B2 L: 15-16</p>	<p>The text states, "... wells are purged utilizing the three borehole volume method." Please explain the process of this method, as it is not intuitive for all reviewers.</p>	<p>Please explain the process of the three borehole volume method, as it is not intuitive for all reviewers.</p>			
<p>Item 139 P: B-3 S: B2 L: 30-33</p>	<p>The text discusses the use of filtered and unfiltered samples. A joint letter written by the Environmental Protection Agency (EPA) and the Department of Ecology directly addressed the use of filtered samples for groundwater monitoring well at the Hanford Site. Specifically, "... groundwater samples should not be field-filtered unless the turbidity exceeds 5 NTUs. Field-</p>	<p>Provide the basis for the proposal to filter the groundwater samples that are not exceeding a turbidity level of 5 NTU's for the Monitoring Well Network for the 216-B-3 Pond.</p>			

O/C = open or closed

Document Title(s)/Number(s):
Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Draft, Revision 1

Document Lead/Phone #/email: Tim Mullin, (509) 372-7970, tim.mullin@ecy.wa.gov Project Manager/Phone #/email: Nina Menard, (509) 372-7941, nina.menard@ecy.wa.gov

Item # Page # Section # Line/¶ #s	Comment and Basis/Justification	Modification Needed	DOE Response	Ecology Response	O/C
	<p>filtering under any circumstance must be specifically requested, with basis provided, and approved by Ecology or EPA in work plans.”</p> <p>Provide the basis for the proposal to filter the groundwater samples that are not exceeding a turbidity level of 5 NTU’s for the Monitoring Well Network for the 216-B-3 Pond.</p>				
Item 140 P: B-4 Sec. B.2.1	This section is missing significant details/information on “Decontamination of Sampling Equipment”. No information is provided on the procedures to ensure “decontamination of sampling equipment”. Add detail. Required as part of 40 CFR 265 Subpart F	Provide additional detail			
Item 141 P: B-4 S: B2 L: 11-12	The text states, “Exceeding required holding times could result in changes in constituent concentrations due to volatilization. . .” It should also be noted that data that do not meet holding time requirements may be deemed Rejected.	Include that data that do not meet holding time requirements may be deemed Rejected.			
Item 142 P: B-7 S: B4	The section for calibration of field equipment is generic. Isn’t there more of a standard operating procedure that is available for groundwater sampling equipment calibration?	Provide additional detail			
	Sufficient detail in order to verify correct completion of field procedures.				
Item 143 P: B-11 S: B6 L:	Provide why dangerous waste requirements are not used. CERCLA requirements are inappropriate for dangerous waste management.	Provide requested information			
Item 144 P: B-13 S: B7 L:	This section seems to be short, vague, and contains generic descriptions.	See comment			
	Improve detail for field procedures. If this were a final status plan, definitely level of detail is insufficient.				
Item 145 P: C-1 Sec. Table C-2	Define what “open interval” represents.	Provide requested information			
Item 146 P: C-1 Sec. Table C-2	Based on outcome of discussions regarding Figure 2-10, Table C-2 may require updating.	Update Table C-2 as required per comment resolution outcome.			

O/C = open or closed