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

17-AMRP-0184

JUN 13 2017

Ms. Alexandra K. Smith, Program Manager
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Smith:

INTERIM STATUS GROUNDWATER MONITORING PLAN FOR THE 216-B-3 POND,
DOE/RL-2008-59, REVISION 1

This letter transmits the Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond, DOE/RL-2008-59, Revision 1 to the Washington State Department of Ecology. If you have any questions, please contact me, or your staff may contact, Mike Cline, of my staff, on (509) 376-6070. Doug Hildebrand has worked closely with Ecology on the comments during the development of this document. The document (Attachment 1) and the associated RCR (Attachment 2) were finalized in a meeting with Ecology.

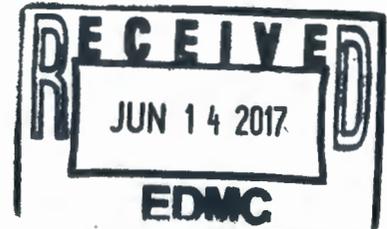
Sincerely,

Joe R. Franco, Assistant Manager
for the River and Plateau

AMRP:RDH

Attachments

cc: See page 2



Attached to: 1243936

D-2-5

Ms. Alexandra K. Smith
17-AMRP-0184

-2-

JUN 13 2017

cc w/attachs:

G. Bohnee, NPT
R. Buck, Wanapum
D. A. Faulk, EPA
S. Hudson, HAB
R. Jim, YN
N. M. Menard, Ecology
K. Niles, ODOE
D. Rowland, YN
R. Skeen, CTUIR

Administrative Record (216-B-3)

Environmental Portal

cc w/o attachs:

J. V. Borghese, CHPRC
S. L. Brasher, MSA
S. W. Davis, MSA
M. H. Doornbos, CHPRC
W. R. Faught, CHPRC
R. E. Piippo, MSA

z5. Document Number(s)/Title(s) DOE/RL-2008-59, Draft Revision 1, <i>Interim Status Groundwater Monitoring Plan for the 216-B-3 Pond,</i>		Project Name: Nuclear Waste Program Cleanup Section/ER Project		Reviewer Names: Tim Mullin	8. Organization/Group	9. Location/Phone	
_____ Date		_____ Organization Manager (optional) (print and sign)		_____ Date		_____ Date	
10. Agreement With Indicated Comment Disposition(s)				11. CLOSED			
_____ Reviewer/Point of Contact (print and sign)				_____ Reviewer/Point of Contact (print and sign)			
_____ Author/Originator (print and sign)				_____ Author/Originator (print and sign)			

Item	12. Page/ Line	13a. Comment/Discrepancy (Provide technical and/or regulatory justification)	13b. Recommended Change	14. Accept or Reject	15. Disposition (Provide justification if NOT accepted)	16. Status
General 1	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	Accept	Document will be edited prior to issuance.	Closed with modification
General 2	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.	Accept	Executive summary will be updated as needed	Closed with modification
1	P: 1-1 S: 1 L: 15	Change "a nonoperating" to "an inactive."	Revise text	Accept	Text will be changed per comment.	Closed with modification
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	Accept	Permit callout and text changed to "WA7890008967, Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste (hereinafter referred to as the Hanford Facility RCRA Permit)." Other text referring to Permit in the document is changed accordingly.	Closed with modification
3	P: 1-1 S: 1 L: 33	Provide what the "interim stabilization measures" were so the reader knows what was conducted.	Revise text	Accept with Modification	This text in Chapter 1, which is the Introduction, will remain as written to provide general information and avoid repetition. Additional information on interim stabilization will be added to Section 2.1.	Closed with modification

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					Section 2.1, p. 2-2, line 4 will be revised: "Also in 1994, the Main Pond and 216-B-3-3 Ditch were <u>interim stabilized-filled with clean soil during stabilization activities. Interim stabilization at Main Pond included draining the pond, backfilling, covering with 0.3 m (12 in) of topsoil, and revegetating (BHI-00219, Section 4.2.1 and 4.3). Activities at the 216-B-3-3 Ditch included consolidating spoil piles into the ditch, removal of the flume, demolition of the concrete headwall, isolation of inflow pipes, and covering the contaminated soil with 0.5 to 0.6 m (18 to 24 in) of fine grained soil (BHI-00219, Section 4.2.1).</u> All vegetation was removed from the perimeter and incorporated with the fill soil (BHI-00219, Section 4.2.1)."	
4	P: 1-1 S: 1 L: 34	Insert "groundwater monitoring" between "RCRA" and "plan."	Revise text	Accept	"Groundwater monitoring" will be added per comment.	Closed with modification
5	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	Accept with Modification	Will revise subject portion of sentence to: "This plan is required by 40 CFR 265.90(a) and (b) and is intended specifically to satisfy groundwater monitoring requirements <u>applicable to interim status TSD units that are not impacting groundwater</u> , as required by WAC 173-303-400(3) and 40 CFR 265, Subpart F."	Closed with modification
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	No Change Needed	The sentence is template language that is being used to standardize the groundwater monitoring plans. The sentence provides that this plan, which is an interim status plan, is the principal	Closed with modification,

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					<p>controlling document for groundwater monitoring.</p> <p>Please note that the first sentence of this paragraph (which is template language) has been modified by comment #6 on 216-A-36B. This comment recommended adding “under interim status” to the end of the first sentence as shown below: “The purpose of this RCRA plan is to present an updated groundwater monitoring program for parameters used as indicators of groundwater contamination from the 216-A-36B Crib, commonly referred to as an indicator evaluation program <u>under interim status.</u>” The change to the 36B plan text will be made to the standardized template text and therefore, will be made to other interim status plans, including 216-B-3.</p>	
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	Accept	<p>The new well is proposed to provide additional information on upgradient concentrations closer to the site. To clarify, lines 41 – 43 will be revised as follows:</p> <p>“This plan adds a second upgradient well to the monitoring network to provide more information on upgradient concentrations. <u>New Well #1</u> This second well will be drilled near the Main Pond to <u>provide more information on upgradient conditions closer to the site.</u> reflect upgradient conditions closer to the site.”</p>	Closed with modification

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					Details on the additional well are provided in Section 3.2, Monitoring Well Network.	
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	Accept with Modification	Well 699-45-42 is not planned for decommissioning and will continue to be sampled for CERCLA according to DOE/RL-2003-04, <i>Sampling and Analysis Plan for the 200-PO-1 Groundwater Operable Unit</i> , after its use in the 216-B-3 network. To better provide a generalized overview of the monitoring plan in Chapter 1 (Introduction) and avoid repetitious discussion within the plan, well specific information and details will be presented in Section 3.2 (also see response to comment 10). Discussion of well 699-45-42 will be moved to Section 3.2. Per this comment, the discussion in Section 3.2 will include that 699-45-42 will continue to be sampled according to DOE/RL-2003-04. Please see comment response to comment 83. 699-45-42 will be utilized as part of the network until New Well #1 is ready to be sampled.	Closed with Modification
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	Accept	See response to comment #8.	Closed
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	Provide requested information	Accept with Modification	See response to comment 8. Chapter 1 is the Introduction and provides summary information for the	Closed with modification.

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		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.			monitoring program. Details of the network wells and their locations are provided in the appropriate sections of Chapter 3, where the 216-B-3 monitoring network is presented (Figure 3-1). The discussion in Chapter 1 will be revised and generalized to better align with the template and avoid repetitious information within the plan. Well-specific information will be removed from the Introduction. This will remove a need for a new figure in Chapter 1.	
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.	Accept	Will add cadmium to the plan as a site-specific constituent.	Closed
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	Accept	The figure will be revised to show the boundary on the Part A form.	Closed with modification
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	Accept with Modification	As with other interim status plans, this list provides the documents used in drafting various sections of Chapter 2. The documents are cited in the text when they are used as a specific reference. As agreed with Ecology at the April 19, 2016 meeting, discussion of future unit closure and reference to current/recent closure plan(s) will be removed from the document. Information from early closure plans (prior to 2005) may be used and referenced as needed for supporting/historical information of the unit.	Closed with modification

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					References to early closure plans (DOE, 1987; DOE/RL-89-28) are retained as these are used for supporting/historical information of the unit.	
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	Accept with Modification	See response to comment 13. Reference to DOE/RL-2013-24 will be removed.	Closed with modification
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	Accept with Modification	<p>"These ditches" refers to 216-B-3-1, 216-B-3-2, 216-B-3-3, and 216-A-29. Operation of 216-B-3-1 and 216-B-3-2 ended in 1964 and 1970, respectively, and predates the effective date of mixed waste regulation in Washington State (August 19, 1987). Therefore these two ditches are not included in the Hanford Facility RCRA Permit. DOE/RL-89-28, Rev 2, Section 2.2 reports that 216-B-3-1 and 216-B-3-2 were "decommissioned" and that "decommissioning of the ditches included backfilling with soil."</p> <p>216-B-3-3 and 216-A-29 are both in the Hanford Facility RCRA Permit. Additional details of the interim stabilization of 216-B-3-3 is added per comment 3. As reported in DOE/RL-89-28, Section 2.2, the 216-A-29 Ditch was removed from service in 1991 and interim stabilized. Further details for 216-A-29 will be added.</p> <p>Text will be modified as shown: These The 216-B-3-1 and 216-B-3-2 Ditches were decommissioned and stabilized (i.e., backfilled with soil) in</p>	Closed with modification

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					1964 and 1970, respectively over time, mostly as the result of unplanned releases of dangerous waste (DOE/RL-89-28, Section 2.2). The 216-A-29 Ditch was removed from service in 1991 and interim stabilized (soil was placed over the radioactively contaminated ditch bottom) (DOE/RL-89-28, Section 2.2).	
16	P: 2-1 S: 2.1 L: 33	Provide what "stabilized" means or represents and the process that "stabilized" the facility. How did "stabilization" meet the definition as provided in WAC 173-303-040? How do "unplanned releases of dangerous waste" stabilize the TSD?	Provide requested information	Accept with Modification	The subject text is not intended to address requirements of WAC 173-303-040. The subject text will be modified per disposition of comments 3 and 15. The term "stabilized" will be removed from the B-3-1 and B-3-2 discussion. Stabilization for A-29 will be presented as shown in the disposition to comment 15.	Closed with modification
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	Accept	Text revised as shown: "Prior to diversion of effluent from the Main Pond, the 3A, 3B, and 3C expansion ponds were clean-closed under RCRA (Wilson, 2005, "Acceptance of Closure Certification for the 216-B-3 Expansion Ponds"), though the 3C expansion pond continued to receive uncontaminated discharges until 1997 (DOE/RL-99-07, 200-CW-1 Operable Unit RI/FS Work Plan and 216-B-3 RCRA TSD Unit Sampling Plan, Table 2-1)."	Closed with modification
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.	Accept with Modification	In accordance with response to comment 2, the text will be changed to "clean-closed under RCRA the Hanford Facility RCRA Permit.."	Closed with modification
19	P: 2-2 S: 2.1	Delete the word "RCRA" and start the sentence with "Clean closure ..."	Revise text	Accept	Change will be made as indicated.	Closed with modification

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	L: 8					
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	Accept	The expansion ponds are not included in this monitoring plan. They were clean closed in 1995. Will clarify the expansion ponds are not included in the monitoring plan. The last sentence of the paragraph will be revised, "Thus, the only portions of the original facilities that are addressed under this groundwater monitoring plan are the Main Pond and the segment of the 216-B-3-3 Ditch between the Main Pond and the 216-A-29 Ditch. The 216-A-29 Ditch is a separate TSD unit and the expansion ponds have been <u>clean closed.</u> "	Closed with modification
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	Accept	Discharge to this facility is controlled by a State Waste Discharge Permit #ST 4502. "State Waste Discharge Permit #ST 4502" will be added to the sentence.	Closed with modification
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	Accept	Will add the following text: "As described in WHC-SD-EN-AP-013, Section 2.1.3.1, the most frequent dangerous waste discharged to the 216-B-3 Pond occurred during the regeneration of the PUREX Plant demineralizers. During regeneration with sulfuric acid and sodium hydroxide, the pH of the effluents routinely alternately dropped below 2 or exceeded 12.5. These corrosive discharges continued frequently until coregeneration practices were instituted in February 1986. Coregeneration practices reduced, but did not eliminate,	Closed with Modification

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					the potential for discharging corrosive effluents to the chemical sewer. Before coregeneration practices, the successive discharges of acidic and caustic waste would have somewhat neutralized the effluents before and on reaching the pond. Residual acidic waste would have been neutralized by the calcareous nature of the soil.”	
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	Accept with Modification	Text will be revised per comment. The dangerous wastes associated with the 216-B-3 and 216-B-3-3 unit are identified in the Part A form and are listed in Table 2-1.	Closed with modification
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	Accept	Text will be changed to: “ In November 1987, the U.S. Environmental Protection Agency (EPA) authorized Ecology to regulate these hazardous waste components within the State of Washington (51 FR 24504, “EPA Clarification of Regulatory Authority Over Radioactive Mixed Waste”). In 1996, the Washington State Attorney General determined that the effective date for regulation of mixed waste in Washington State was August 19, 1987. The hazardous waste components of mixed waste were determined to be subject to Ecology authority to regulate these waste since August 19, 1987.”	Closed with modification
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	Accept	The figure will be revised.	Closed with Modification

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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	Accept	Agree to revise figures to appropriately identify TSD units. "TSD Unit" is the term that would be used (as defined here at Hanford in the TPA and the Hanford Facility RCRA Permit, Rev 8c). The term "TSD Unit", or the specific TSD unit's name, will be used to identify TSD units presented in figures.	Closed with modification
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	Accept with Modification	Text will be modified as shown. "Dangerous waste is regulated under RCW 70.105, "Hazardous Waste Management" and its Washington State implementing regulations (WAC 173-303)."	Closed with modification
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 . . ."	Accept	Text changed as recommended.	Closed with modification
29	P: 2-4 S: 2.2 L: 19	Replace "RCRA" with "groundwater monitoring under the Hanford Dangerous Waste Permit."	Revise text	Accept with Modification	In accordance with comment 2 disposition, "RCRA monitoring" will be replaced with "groundwater monitoring under the Hanford Facility RCRA Permit".	Closed with modification
30	P: 2-4 S: 2.2 L: 20	Delete "RCRA"	Revise text	Accept	Text revised per comment.	Closed with modification
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	Accept	Text will be modified as stated.	Closed with modification
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	Revise text	Accept	The discussion will be deleted.	Closed with modification

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		cleanup levels is inappropriate.				
33	P: 2-4 S: 2.2 L: 39	Replace "under RCRA" with "under interim status requirements"	Revise text	Accept	Text will be modified as stated.	Closed with modification
34	P: 2-5 S: 2.2 L: 10-12	Delete this paragraph related to closure strategy and closure plans. No Ecology-approved closure plan exists for this unit.	Revise text	Accept	Text will be deleted.	Closed with modification
35	P: 2-5 S: 2.2 L: 20-21	"The last known reportable discharge of chemical waste (sodium nitrate) occurred in 1987." Is the "chemical waste" interpreted as "nondangerous waste"? Reiterate the last discharge of dangerous waste to the TSD.	Revise text	Accept	Text is correct as written. Waste disposals to the unit were previously evaluated for dangerous waste, which are included in the Part A form. Designations for these disposals are included in DOE/RL-89-28. The 1987 sodium nitrate disposal was not designated as dangerous. A reference to DOE/RL-89-28, Table 4-3, will be added to the text. To clarify, text will be added to identify the last dangerous waste discharge to the unit was hydrazine in July 1986 (DOE/RL-89-28, Table 4-3).	Closed with modification
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.	Accept	See response to comment 35. The 1987 sodium nitrate disposal was not designated as dangerous. The last dangerous waste discharge will be identified per disposition of comment 35.	Closed
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	Accept	Text changed per comment.	Closed with modification
38	P: 2-5 S: 2.3 L: 26	"The most important sources of effluent include the following:" Identify if all sources of dangerous waste are listed in this section. If not, add all sources of dangerous waste to this list.	Revise text	Accept with Modification	Sentence changed to "Sources of effluent include the following:"	Closed with modification

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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	Accept with Modification	<p>See response to comments 3 and 15 which added additional description of the ditches in Section 2.2.</p> <p>Subject sentence is repetitive and not needed in Section 2.3. Sentence will be deleted.</p> <p>Text is not intended to address requirements of WAC 173-303-040 or infer meeting a regulatory requirement. See responses to comments 3, 15, and 16 which amended the discussion in Section 2.1.</p>	Closed with modification
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	No Change Needed	References to these documents is included for completeness only. The relevant information obtained from the references is presented following line 1-5 on page 2-7, 2.4.1 Stratigraphy and 2.4.2 Hydrology, along with the supporting Figures 2-3 through 2-8, provide the requested information.	Closed
41	P: 2-7 S: 2.4 L: 4-5	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	No Change Needed	The information requested can be found herein in Sections 2.4.1, 2.4.2, 2.4.3 and associated figures.	Closed
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	Accept with Modification	The text will be revised to state: “The majority of the vadose zone above the Ringold Formation units is the Hanford formation as shown on Figure 2-3, 2-4, and 2-5.”	Closed with modification.
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	Provide requested information	Accept with Modification	Several of the subsequent figures in the document show the location of the May Junction Fault, including figures 2-6, 2-	Conceptually Agree

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		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.			7 and 2-8. The text will be revised to state: Unit E has been removed through most of the far eastern portion of 200 East Area, including under the B Pond system, to approximately the May Junction Fault (located to the east of the B Pond area, Figures 2-6, 2-7 and 2-8), by the ancestral Columbia River and Missoula floods.	
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	Accept with Modification	<p>The text will be revised to state: "Near the southeast side of the Main Pond (Figures 2-3 and 2-6), the uppermost aquifer is made up of approximately 7 m (23 ft) of Ringold Formation Unit 9A (unconfined) and 5 m (16 ft) of Ringold Formation Unit 9C (semi-confined).</p> <p>As indicated in the Figure 2-6 cross-section, those units below the Ringold Lower Mud (locally acts as a confining layer) and above basalt become progressively more confined to the east, are indicated by the thickening of the mud and the potentiometric values. The elevation head information presented above the cross-sections indicates the measured heads in each unit at a given well location. The Lower Mud is shown to thin towards the west end of the cross-sections. Near the 216-B-3 Main Pond, where the Ringold Lower Mud is absent (Figures 2-4 and 2-5), hydraulic communication with the laterally adjacent, saturated, unconfined Hanford formation occurs. In this area Ringold units 9A and 9C are both considered unconfined. The vertical hydraulic gradient arrows will be removed from the cross-section.</p>	Conceptually Agree

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					<p>Comparative hydraulic head values for units 9A and 9C are shown in the vertical head data plotted for individual wells above the cross-section.</p> <p>High water table elevations during active B-Pond discharge are shown on the trend plots included with Figure 2-6, to illustrate the groundwater mounding within the Hanford formation and effect of hydraulic loading on Unit 9a and 9C.</p>	
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	Accept with Modification	Well screens are not shown for the wells above the current saturated zone that are dry. These wells are shown on the cross-sections as they provide geologic information. The legend will be modified to include a notation for dry wells.	Closed with modification
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	No Change Needed	These are three separate wells as shown. Not close enough to be considered a nest. With these well's proximity, they would be considered a well cluster.	Closed
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	Accept	See response to comment 26.	Closed with modification
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	Accept	See response to comment 44.	Conceptually Agree
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	Accept	The cross-sections are from different perspectives and the well projection distance to the cross is different in each figure. The major stratigraphic contact depths are approximately the same given the well projection distances. Details concerning small scale changes	Closed with modification

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					in sand and gravel designations are slightly different because different geologists were involved in the development of each cross-section. Figure 2-3 in DOE/RL-2016-23, Revision 0 (also Figure 2-3 in DOE/RL-2008-58 Draft Rev. 1) will be updated for consistency.	
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	Accept with Modification	Well screens are not shown for the wells above the current saturated zone that are dry. These wells are shown on the cross-sections as they provide geologic information. The legend will be modified to include a notation for dry wells.	Closed with modification
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	Accept	See responses to comments 12 and 26.	Closed with modification
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	Accept with Modification	Wells utilized to define the historical groundwater mound are shown on Figure 2.9. All the wells on this figure were used to define the location of the apex. The groundwater mound was identified with wells screened within the Hanford formation.	Closed with modification
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	Accept	The text will be revised to state: "When groundwater mounding was occurring, where the Ringold lower mud unit (Unit 8) isolates Ringold Unit 9 aquifers 9A and 9C (Figure 2-6), B Pond effluent entered the overlying more permeable Hanford formation and spread laterally (Section 2.2, Section 2.3, and Figure 2-2 in PNNL-15479)." Note that the reference in parentheses was corrected after the January 18, 2017	Closed with Modification

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					comment resolution meeting. Each of the referenced items is within PNNL-15479.	
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	Accept	The text will be revised to state: "Some of the B Pond effluent apparently did enter Units 9A and 9C where the overlying confining layers (Ringold lower mud Unit 8 and Unit 9B) are absent. This occurred primarily in the northern portion the main Pond (Figure 2-4) and to the east and southeast of the B Pond where Ringold Units 8 and 9B pinch out or have been eroded and are in contact with the Hanford formation (Figures 2-7 and 2-8). How B Pond effluent may have penetrated into Units 9A and 9C in these areas is illustrated in DOE/RL-2008-59, Rev. 0 on Figure 2-3 and in PNNL-12261 on Figure 4.10."	Closed with modification
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	Accept	The text will be revised to state: "A stratigraphic "trap" could exist east of the B Pond System (i.e., east of 3C Pond and the TEDF) where the May Junction Fault has been identified (Figures 2-7 and 2-8). The stratigraphic and hydrologic lateral discontinuities forming the potential "stratigraphic trap" at the May Junction Fault east of B Pond are discussed in Section 4.1.2.4 and illustrated on Figure 4-4 of PNNL-12261."	Closed with modification
56	P: 2-13 S: 2.4.3 L: 26-28	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	Revise text	Accept with Modification	The text will be revised to state: "The north-south trending May Junction Fault appears to represent a barrier to groundwater flow in Units 9A and 9C, preventing any appreciable flow to the east. An extensive discussion of historical groundwater flow conditions	Closed with Modification

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		<p>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> <p>Suggest deleting opinions and conjecture in this document.</p>			<p>in the 200 East Area in general and in the vicinity of B Pond more specifically, is presented in Section 4.2 of PNNL-12261. In the analysis provided in Section 4.2.3 of PNNL-12261, it was found that a comparison of hydrochemistry data did not support easterly movement of groundwater in the confined Ringold aquifer to the east of B Pond on the upthrown side of the fault."</p>	
57	P: 2-13 S: 2.4.3 L: 28-32	<p>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).</p>	<p>Provide requested information</p>	<p>Accept</p>	<p>The text will be revised to state: "Calculations of hydraulic conductivity, stratigraphic relationships noted to the south and southeast of B Pond (Figures 2-6, 2-7, and 2-8), and groundwater geochemistry (Figure 4.3 in PNNL-13367) suggest that the movement of groundwater in an east and southeast direction was more limited than depicted by some historical interpretations of the water table around B Pond (Figure 2-9 A and C). [Note letters A, B, C and D will be added to identify each of the historical flow pattern depictions provided in Figure 2-9]. Interpretations of flow directions in 1991 (Figure 2-9 B) and 2004 (Figure 2-9 D) indicate an interpreted predominant flow direction to the west and southwest."</p>	<p>Closed with modification</p>
58	P: 2-13 S: 2.4.3 L: 33-40	<p>Provide the hydraulic conductivity and average linear flow rates for the Hanford formation and unconfined aquifer.</p>	<p>Provide requested information</p>	<p>Accept</p>	<p>Additional text will be added following line 40 to state: "Based on recent groundwater flow and transport modeling iterations, the average hydraulic conductivity for the Hanford formation gravel-dominated</p>	<p>Closed with modification</p>

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					<p>sequence (H3) and CCU, where channelized flow occurs, is estimated to be approximately 17,000 m/day (55,777 ft/day) and 2.27 m/day (7.45 ft/day) in those areas without channelized flow where older sediment occurs (CP-57037, Table 3-1). A synopsis of hydraulic properties for Hanford Site stratigraphic units is provided in Section 2.5 of PNL-10886. Hydraulic conductivity of the sand and gravel dominated sequence in Hanford formation and the pre-Missoula gravel deposits (i.e. Cold Creek Unit) generally ranges from 1 to 1,000,000 m/d and is much higher than any of the other units that compose the unconfined aquifer. The estimated flow velocity of the Hanford formation and Cold Creek Unit comprising the unconfined aquifer to the southwest of B Pond is estimated to range from 0.0036 m/day to 0.6 m/day (0.012 ft/day – 1.97 ft/day) (Table B-1 in DOE/RL-2015-07).”</p>	
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	No Change Needed	The table format follows the template format. The requested information is provided in the text following Table 2-2.	Closed
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	Accept	The text will be revised to state: “Head differences between wells completed in Units 9A versus 9C that are indicative of aquifer separation are most notable in reviewing the historical hydrographs at the top of Figure 2-6 for wells 699-43-41G completed in Unit 9C versus wells 699-43-41E and 699-43-41F, completed in Unit 9A. As noted in the head data for the period shown	Closed with Modification

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					<p>when B Pond water table mounding was prevalent and a hydraulic loading effect on the confined aquifers was occurring (from January 1988 to approximately April 1996), there is marked separation in heads in the wells completed in Units 9A versus 9C. Wells 699-43-41E and 699-43-41F that are both completed in Unit 9A show similar head values, both during the mounding and loading effect and subsequently, as the groundwater mounding and hydraulic loading dissipated. Whereas well 699-43-41G, completed in Unit 9C, shows different head values both pre and post-mounding, because of aquifer separation.”</p> <p>The vertical hydraulic gradient arrows on the figure will be removed so that connectivity between the aquifers is not inferred.</p>	
61	<p>P: 2-15 S: Figure 2-6 L:</p>	<p>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.</p>	<p>Provide requested information</p>	<p>Accept</p>	<p>The elevation head values that are posted on the figure next to a well are provided for as close to the same period of measurement as possible. This measurement period is identified in the “Notes” section in the lower left corner of the figure. A water table elevation was provided, if a value was available for the well included in the cross-section during the specified measurement period. No historical or current water table measurements are available for Well 699-40-33B. This well is not in use. Those wells that are currently dry will be identified on the figure.</p>	<p>Closed with modification</p>

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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	Accept	Figure 2-6 provides a wealth of information. It is referenced several times in different sections related to the information being provided. It is referenced in sections 2.4.1 (Stratigraphy), 2.4.2 (Hydrogeology) and 2.4.3 (Groundwater Flow Interpretation). It is not called out in Section 2.5. Its location within Section 2.5, was a function of document format and figure placement to reduce white/blank space in this draft version. Figure placement will be improved when the document is finalized and the figure will be presented nearer to its initial callout in 2.4.1.	Closed
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	Accept with Modification	Please refer to the "Note" section in the lower left corner of the figure. It is stated that the well label includes hydraulic head in M amsl. The abbreviations will be spelled out as meters above mean seal level.	Closed with modification
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 unconfined aquifer. These tops and thickness are all important factors in understanding the hydrogeology around B Pond system and its flow regime.	Provide requested information	Accept	Footnote will be added to figure legend to indicate that insufficient data were available to project the contours to the fault. As noted in the Figure 2-8 title, this elevation contour map (i.e., structure contour map) of the top of the Ringold Unit 9B confining unit is based on PNNL-12261, Plate 5 (http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0906180659). In PNNL-12261, a structure contour map of the top of Ringold Unit 9C is presented on Plate 3 and the top of Unit 9A on Plate 5. The additional information requested about thicknesses can be found in another document.	Closed with Modification

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					Information concerning unit thicknesses is presented in WHC-SD-EN-AP-013, Rev. 1. This document presents an isopach map of Ringold lower mud (Figure 13); an isopach map of Ringold unit A (Figure 14), and an isopach map of the Hanford Formation (Figure 16).	
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	Not Accepted	Additional discussion concerning the information presented on the figure with regard to the groundwater relationship between 216-A-29 and 216-B-3 will be provided in the comment resolution meeting. Figure 2-9, shows the groundwater flow interpretations around the B Pond area for 1989, 1991, 1997, and 2004. The flow interpretation for 2004 shows the groundwater flow direction in Ringold Unit 9A (indicated with the black flow direction arrows) and Ringold Unit 9C (indicated with the red flow direction arrows) beneath the mud units (Units 8 and 9B). As the flow regime under the mud units transitions from confined to semiconfined as flow within Units 9A and 9C moves towards the southwest, it mixes with unconfined flow within the adjacent Hanford and Cold Creek (indicated with the blue flow arrows). Once in the Hanford or Cold Creek, the direction of flow transitions to south-southeast. The flow direction interpretation shown in the northern portion of the 216-A-29 Ditch presented in the 2004 depiction (south and southeast) is consistent with the new 216-A-29 Ditch monitoring plan.	Closed

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66	P: 2-21 S: Figure 2-10 L:	<p>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 exist to support the 123.5 m contour interval. Few wells exist to support any of these contour intervals with the certainty portrayed with the solid lines.</p> <p>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 exist 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.</p>	Provide requested information	Accept with Modification	<p>The 124.0 contour interval was provided based on the gradient indicated by wells establishing the downgradient contours (where data is available). The 124.0 contour will be removed. Dashed lines will be used on the figure instead of solid lines to indicate that the locations of the potentiometric contours are estimated, based on available head data.</p> <p>The cross-sections shown on Figures 2-3, 2-4, and 2-5 were used to establish the contact on Figure 2-10 where Unit 8 (pink color code) and Unit 9B (green color code) are above the water table. The contact between Units 9A and 9C and the Hanford formation is shown in cross-section Figures 2-3, 2-4, and 2-5 but not on Figure 2-10.</p> <p>Utilizing Figures 2-4 and 2-7, where the erosional limit of the Ringold Unit 8 is shown, Unit 9A becomes an unconfined aquifer to the north. As noted in the structure maps (Figures 2-7 and 2-8), the Ringold Unit 9 bedding dips to the south and southeast. As shown in Figure 2-4, Ringold Unit 8 has been removed by erosion, exposing Unit 9A as part of the uppermost unconfined aquifer in the area of this cross-section.</p> <p>Units 9A and 9C have slightly different hydraulic heads (see Figure 2-6), so the potentiometric contours do not meet. In those locations where ground water flows from Units 9A or 9C (from under the mud units) into the unconfined</p>	Closed with modification

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					aquifer, the hydraulic head has to be the same (unconfined).	
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	Accept	The text will be revised as shown: “A groundwater quality assessment plan (WHC SD EN AP 030, Rev. 0) was prepared in 1990 and revised in 1992, <u>to include two additional monitoring wells (ECN 166756, Section 12).</u> ” And, “Seven downgradient wells (699-40-40A, 699-40-40B, 699-42-39A, 699-42-39B, 699-42-41, 699-43-40, and 699-43-41G) installed in 1991 <u>and two downgradient wells (699-41-42 and 699-44-39B) installed in 1992</u> were also included (Figure 2-11).	Closed with modification
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	Accept	Text revised per comment.	Closed with modification
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	Accept	The justification for selecting wells 299-E18-1 and 299-E32-4 for upgradient monitoring is presented in the 1989 WHC-SD-EN-AP-013 Rev. 0, Section 3.0, p. 55. In that document, well selection was justified as follows. These wells were completed in the uppermost portion of the unconfined aquifer, downgradient from 200-West Area, and along flow paths that presumably would have moved through the northern and southern parts of the 200-East Area if the groundwater mound were not present beneath B Pond. The wells were located as near B Pond as possible, at the time of inclusion in the plan, yet outside the influence of the B Pond mound. Text on	Closed with modification

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					<p>p. 2-14, line 11 will be revised to "...and two existing (299-E18-1 and 299-E32-4) upgradient wells (Figure 2-11). <u>Wells 299-E18-1 and 299-E32-4 were located as close to B Pond as possible while located outside the influence of the B Pond mound (WHC-SD-EN-AP-013 Rev. 0, Section 3.0).</u>"</p> <p>299-E18-1 was removed from the monitoring program following the clean closure of the 2101-M Pond. Text will be revised to "In 1996, an upgradient well (299-E18-1) was removed from the network <u>following closure of the 2101-M Pond to reduce redundancy.</u>"</p>	
70	<p>P: 2-23 S: 2.5 L: 33-38</p>	<p>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 is not an approval of any contained in determination by Ecology. Rewrite the sentence to accurately describe what occurred.</p> <p>Discuss how these not listed letters could be consistently identified to make them easier to find (e.g., use the link in the references).</p>	<p>Rewrite the sentence to describe only the Contained-In Determination for Hydrazine.</p>	<p>Accept</p>	<p>Text will be rewritten as follows: "During the investigation of the Main Pond and 216-B-3-3 Ditch, a "contained-in" determination <u>for hydrazine</u> was requested from USDOE and approved by Ecology for soils associated with investigation derived waste and any future contaminated soil designations for the Main Pond and 216-B-3-3 Ditch (Hedges, 2000, "Approval of the Contained-In Determination Request for Hydrazine").</p> <p>The second sentence addressing 01-GWVZ-015 will be deleted.</p> <p>The references (letters in the case) used in the text are included in the references chapter (Chapter 6). This is consistent with the format of DOE/RL documents. Weblinks to AR for the letters are provided in Chapter 6 and will be verified before issuance of this plan.</p>	<p>Closed with modification</p>

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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 is a listed dangerous constituent.	Provide requested information	No Change Needed	It would be inappropriate to remove historical waste information from the Part A. The Part A form was prepared over 20 years ago and identified that hydrazine was included in releases from the PUREX plant as wastewater routed to the B-3 Pond. The Part A will be used as a basis for the closure plan.	Closed
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	Not Accepted	<p>The only mechanism available within 40 CFR 265 Subpart F to activate GW quality assessment is the exceedance of indicator parameters.</p> <p>Arsenic in groundwater is discussed in Section 2.5, 2.6, and 3.1. Arsenic was identified as a previously detected groundwater contaminant but is not known to be associated B Pond. Arsenic was originally included for groundwater sampling at 216-B-3 as part of a sitewide surveillance effort in 2000. From 1989-2016, 93 analyses for arsenic were completed in network wells. Only two detections (both 12 ug/L) were recorded above the arsenic background value of 11.8 ug/L. The two detections occurred in 1990 and 1993 at Well 699-43-45.</p> <p>Arsenic will continue to be analyzed as a site-specific constituent under indicator parameter monitoring.</p>	Closed
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.	Correct this inconsistency.	Accept with Modification	<p>Note that subject text is in Section 2.5, not 2.4.3.</p> <p>The reference to Section 2.2 was intended to point the reader to discussion of the soil investigation results. However, the pertinent portion</p>	Closed with Modification

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		Justification: Accuracy and completeness.			<p>of that discussion is deleted per comment 32 disposition. "[Section 2.2]" will be deleted.</p> <p>Text regarding the 2002 revisions will be clarified as shown: "In 2002, PNNL-13367 was revised (PNNL-13367-ICN-1) to update the constituents and well network and <u>incorporate certain criteria required for obtaining a variance from interim status regulations a control chart statistical analysis method based on Ecology guidance concerning the monitoring network, constituent list, statistical analysis, and reporting procedures (PNNL-13367-ICN-1, Section 1.0) Goswami, 2001, "Statistical Assessment for the 300 Area Resource Conservation and Recovery Act of 1976 [RCRA] Ground Water Monitoring Plan".</u>"</p>	
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	Accept	<p>In 1999, a new downgradient well was installed to compensate for the drying of 699-43-43. The well was not yet dry.</p> <p>The text will be modified as shown: "The plan added a downgradient well (699-43-43) (Figure 2-11). Well 699-43-43 (Figure 2-11) was added back to the network in 2002 per agreement with Ecology to serve as a historical surrogate for 699-43-44 to establish the degree of data comparability between wells (PNNL-13367-ICN-1). 699-43-43 was considered part of the network and was to be sampled as long as it remained serviceable, which was estimated to be less than one year. Well</p>	Closed with Modification

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					699-43-43 was later decommissioned in 2004.	
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	Accept with Modification	Subject text is correct as written. The interim change notice revision to PNNL-13367 (PNNL-13367-ICN-1) did not include the standard 40 CFR 265.92 indicator parameters. It included "site specific indicator parameters" (specific conductance, gross alpha, and gross beta) (PNNL-13367-ICN-1, Table 5.1). Many changes have occurred to the analytes monitored at 216-B-3 since 1987 due to the 1990 GW quality assessment and the 2000 revision to merge the monitoring requirements for interim status and final status, with a subsequent return to interim status monitoring. To simplify and clarify text in Section 2.5, only deviations from those parameters required in 40 CFR 265.92(b) will be specifically identified in text. To further clarify, text in Section 2.5 that addresses parameters required in 40 CFR 265.92(b) will be modified to include '40 CFR 265.92(b)' or similar derivation, and remove any individual parameter callouts or callouts to "contamination indicator parameters", "groundwater quality parameters", and "drinking water parameters" as these are already clearly identified by the 40 CFR 265.92(b) reference. See examples of this revision in comment 76 and 78 responses.	Closed with Modification
76	P: 2-24 S: 2.5 L: 32	Provide what constituents are "groundwater quality parameters."	Provide requested information	Accept with Modification	Text will be modified per comment 75 disposition to "Annual sampling for <u>40</u>	Closed with Modification

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					CFR 265.92(b) groundwater quality parameters was also included.”	
77	P: 2-24 S: 2.5 L: 36-37	Provide why the “closure plan had not been approved.”	Provide requested information	No Change Needed	The documents used to prepare this plan were reviewed, however, specific information regarding that subject was not found.	Closed
78	P: 2-24 S: 2.5 L: 40	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	Accept with Modification	Text modified per comment 75 disposition to “Semiannual-sampling was included for <u>indicator parameters required under 40 CFR 265.92(b) indicator required parameters...</u> ”	Closed with Modification
79	P: 2-24 S: 2.5 L: 43	Define or delete “no anomalous concentrations”	Revise text	Accept with Modification	The term “no anomalous concentrations” is used without definition or clarification in PNNL-13367-ICN-1, Section 5.3 and PNNL-15479, Section 1.2.1. The text is retained to accurately report the previous findings from the information source. The reference to PNNL-15479 at the end of the sentence will be revised to include “Section 1.2.1”.	Closed with modification
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	Accept	See response to comment 74.	Closed with Modification
81	P: 2-25 S: 2.5 L: 12	Delete “report”, to read “RCRA groundwater monitoring annual report.”	Provide requested information	Accept	Text changed per comment.	Closed with Modification
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	Accept	Will add the typical reporting limit of 5 ug/L to the sentence.	Closed with Modification
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	Accept with Modification	A meeting with the Ecology hydrogeologists was conducted in September of 2015. At this meeting the proposed monitoring network for B Pond was presented. Ecology staff indicated that an upgradient well closer	Closed with Modification

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					<p>to TSD unit would be preferable. Figures 2-10 and 3-1 show the proposed new upgradient monitoring well location.</p> <p>As indicated in Table 3-1, footnote f, "after new well #1 is ready for sampling, 699-45-42 will no longer be sampled." Until the new well is installed, well 699-45-42 will be utilized. This information will be added to the subject text.</p> <p>Information pertaining to aquifer thickness and characteristics is presented in Sections 2.4.1 and 2.4.2, and graphically displayed on figures 2-3, 2-4, 2-5, 2-6 and 2-10.</p>	
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 exists in this area or was it eroded away?	Provide requested information	Accept with Modification	The discussion concerning the location and use of the new well in Section 2.5 and in Section 3.2 is appropriate. Location of this well is shown on Figure 2-10 and Figure 3-1. Figure 2-5 shows the location of New Well #1 next to well 699-44-43B (which is currently dry). Figures 2-5 and 2-10 will be revised to indicate that well 699-44-43B is dry. Unit 8 and Unit 9A have been eroded in the area of well 699-45-42. The Figure 2-5 cross-section shows where groundwater moves from Unit 9C into the Hanford formation. This coincides with the region on Figure 2-10 where Unit 9C flow (green map color) transitions to unconfined flow of the Hanford (white map color).	Closed with Modification
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	Accept	A callout to Figure 2-13, which provides the trends for pH and specific conductance values for wells 699-45-42	Closed with Modification

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					and 699-43-45, will be added to the text.	
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	Accept	Additional text will be inserted on Line 40 following (Figure 2-10) to state: "With the addition of New Well #1, some of the differences in water chemistry noted between upgradient Well 699-45-42 and downgradient well 699-43-45 are expected to be minimized. Because of the groundwater flow path and mixing of Ringold Unit 9C groundwater with Hanford groundwater, constituent concentrations measured at well 699-43-45 display some differences in concentration trending in comparison to well 699-43-45." Since 1990, pH and specific conductance values for wells 699-45-42 and 699-43-45 have both generally displayed a level trend.	Closed with Modification
87	P: 2-25 to 2-26 S: 2.5 L: 40-47 to 1-6	Provide the concentration values for all analytes being discussed in this paragraph. Without the values it is somewhat meaningless to understand 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.	Provide requested information	Accept	All discussion including in Lines 40-47 is associated with concentration trend plots shown on Figure 2-13. Additional figure callouts will be added to direct the reader to Figure 2-13.	Closed with Modification
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	Accept with Modification	As stated on lines 36 to 38 "Because of the geology and local flow patterns in the area, groundwater moves from Unit 9C near well 699-45-42, enters the Hanford formation, and is then directed toward well 699-43-45, which is located downgradient of the Main Pond and the 216-B-3-3 Ditch (Figure 2-10)." Well 699-43-45 is in the Hanford formation. On line 47 a text change will be made to state: "...TOC values for downgradient well 699-43-45	Closed with Modification

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					(completed in the Hanford formation) have shown an...."	
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	Accept with Modification	All the concentration data being discussed in lines 1-6 refers to the data presented on Figure 2-13. Additional callouts to Figure 2-13 will be added following each statement concerning the concentration trending for a particular constituent.	Closed with Modification
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	Accept	See response to comment 82. Will add the typical reporting limit of 5 ug/L to the sentence.	Closed with Modification
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	Accept with Modification	<p>Discussion of the elevated indicator parameters (TOC and TOC) results in 699-43-41E and 699-43-41F) in 1990 that led to a groundwater quality assessment monitoring program is provided on p. 2-23, on lines 1-3. Will add text to specify that TOC and TOX are indicator parameters and that the critical mean was exceeded.</p> <p>Discussion of the assessment findings issued in 1997 is presented on p. 2-23, lines 12-15.</p> <p>This monitoring plan provides a summary of previously evaluated sample results. Updates for the results obtained since the previous plan (DOE/RL-2008-59, Rev. 0) was issued in 2010 are included as needed. Critical mean values have been calculated and compared on an annual basis. Groundwater monitoring information, including the critical mean values, has been reported annually in compliance</p>	Closed with modification

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					<p>with 40 CFR 265.94(a)(2)(ii) and is available in Hanford Site annual groundwater monitoring reports. This information will now be provided in the RCRA annual monitoring report (e.g., DOE/RL-2016-12, Section 2.7), as well as the Hanford Site annual groundwater monitoring report (e.g., DOE/RL-2015-07, Appendix B).</p> <p>Groundwater sampling results have been made available by DOE via searchable databases (e.g., EDA and VL). PRC will meet with Ecology separately to explain applicable Hanford Site data management structure and the query methods used to obtain this data.</p>	
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	Accept with Modification	Consistent with comment 81 from 216-A-36B, cadmium and nitrate will continue to be analyzed as site-specific constituents under indicator parameter monitoring.	Closed with Modification
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	Accept with Modification	<p>The transition from confined to unconfined flow is depicted in Figures 2-7, 2-8 and 2-10, in conjunction with the cross-sections provided.</p> <p>The direction of dip is shown on Figures 2-7 and 2-8. These structure contours maps show the general direction of dip based on the tops of Units 8 and 9B. Erosion along the western margin of Unit 8 results in the 420 structure contour line indicating a drop in elevation towards the west.</p>	Closed with Modification

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					<p>This is not a structural dip direction but is an erosional thinning resulting in a change in the unit's elevation. Some component of effluent movement along this horizon could have been directed to the west. The text will be revised to state: "Some effluent could have been intercepted in the vadose zone by the Ringold lower mud unit (Unit 8), potentially moving laterally along this perching layer toward the Hanford unconfined aquifer to the west, south and east." The stratigraphic direction of dip is best depicted in Figure 2-8. Supporting information on the dip direction is provided on Plate 2 in PNNL-12261 and Figure 7 in WHC-SD-EN-AP-013, which shows a south to southeast dip for the underlying basalt surface.</p>	
94	P: 2-26 S: 2.6 L: 25-27	<p>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 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.</p>	Revise text	Accept	<p>The bulleted section with the sentence in question will be revised to state: "The potential for continued migration of residual contamination from the vadose zone to groundwater is unlikely due to the cessation of liquid effluent discharges and lack of any water pipelines or other direct sources of recharge. Infiltration of natural precipitation is the only potential force capable of moving a significant portion of the remaining contaminants to the groundwater. Based on records from the Hanford Meteorological Station, the average annual precipitation at the Hanford Site between 1950 and 2015 has been 6.78 inches. Recharge in the B Pond area has been estimated to be between 26 and 52 mm (1.02 and 2.05</p>	Closed with Modification

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					in.) annually based on Table 4.15 in PNNL-14702, <i>Vadose Zone Hydrogeology Data Package for Hanford Assessments</i> . The range of recharge rates depends on a variety of factors, such as soil texture and vegetation cover. The risk of infiltration and the potential for vertical migration of contaminants in the B pond area is considered low because of low annual precipitation.	
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	Accept	Yes, these metals have been detected in groundwater. Each of these metals has an established background concentration and drinking water standards. Arsenic detections are discussed in response to comment 72. Between 1989 and 2016, 145 analyses for cadmium have been completed with network wells. Background for cadmium in groundwater is 1.29 ug/L. Four detections have occurred above the background value: in 1989 and 1992 concentrations of 2 ug/L, 2 ug/L and 3.9 ug/L were measured at Well 699-42-42B. A concentration of 3.3 ug/L was measured at Well 699-43-45 in 1995. From 1988 – 2016, 63 analyses for lead were completed with 9 detections ranging in concentration from 0.85 – 7.4 ug/L. Eight values were above the background concentration of 1.3 ug/L, occurring during 1992-1994. The highest value was measured in upgradient well 699-44-39B. No detections of mercury have been recorded in network wells during the period from 1988-2016. Detection limits have been an order of magnitude	Closed with Modification

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					lower than the drinking water standard for mercury.	
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	Accept with Modification	<p>A new first bullet will be added that states: "B Pond received effluent from several 200 East Area facilities, including the PUREX Plant, B Plant, 241-A Tank Farm, 242-A Evaporator, 244-AR Vault, and 284-E Power Plant. Several sources of wastewater and effluent contributed to B Pond discharges during the operational life of the facility. The greatest volume consisted of raw Columbia River water. Discharge volumes to the main Pond averaged around 1.0×10^{10} L/year (2.6 billion gal/year), except for a short period in the mid-1980s. From 1986 to 1991, discharges to the B Pond totaled over 6.4×10^{10} L (1.7×10^{10} gal), with a maximum in 1988 of over 1.0×10^{11} L/year (2.6×10^{10} gal/year). Total discharge to the facility since 1945 is estimated to have exceeded 1.0×10^{12} L (260 billion gal). The large volume liquid discharges resulted in raising the water table surface and development of groundwater mound centered near the 216-B-3B expansion pond with an outward radial flow pattern (Figure 2-9). The effluent discharges to B Pond locally raised the water table more than 30 ft from pre-operation levels. The groundwater mound and resulting induced gradients in the area have now essentially dissipated.</p> <p>A new final bullet on page 2-29 will be added to state: "Local flow directions in the B-Pond area are now predominantly</p>	Closed with Modification

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					influenced by changes in hydraulic head driving flow in confined units 9A and 9C (Figure 2-6) or the small gradient changes locally influencing the direction of flow in the high conductivity Hanford and Cold Creek sediments (DOE/RL-2015-07 Rev 0, Section 10.2)"	
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	Accept with Modification	The bullet will be revised to state: "The uppermost aquifers in the B Pond area consisting of Ringold Units 9A and 9C, appear to have been mostly isolated from a significant part of the B Pond effluent discharges. The intervening, fine-grained units (Ringold lower mud Units 8 and 9B) intercepted infiltrating effluent in some areas around B Pond diverting the wastewater down along the surface of the confining stratigraphic units, predominantly to the south (Figures 2-7 and 2-8; and Figure 2.3 in PNNL-13367). Where these fine-grained confining units are thin or absent, generally near the western end of the Main Pond (Figures 2-7 and 2-8), under an induced gradient caused by groundwater mounding, some effluent migrated to the east into Units 9A and 9C. The historical distribution of radiological constituents in the effluent such as iodine-1-29 and tritium (equivalent to a radiologic tracers) within Units 9A and 9C (Figures 10-7 and 10-12, DOE/RL-2015-07) shows that constituents were driven, primarily laterally, into these units (Figures 2-3 and 2-6 in DOE/RL-	Closed with Modification

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					2008-59). Groundwater sampling data indicate that constituents associated with the B Pond effluent apparently did not migrate very far to the east or south (Figure 4.3 in PNNL-13367; Sections 10.4 and 10.5 in DOE/RL-2015-07; also see the Web-based interactive historical plume tool found with the online version of DOE/RL-2015-07), even though there was a hydraulic gradient in these directions due to groundwater mounding beneath B Pond.”	
98	P: 2-29 S: 2.6 L: 6-8	Provide the groundwater analytical data to support this statement.	Provide requested information	Accept	See response to comment 97.	Closed with Modification
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	Accept	The bullet will be revised to state: “Artificial recharge, groundwater mounding, and the resultant loading effect caused an increase in confined aquifer hydrostatic pressure in stratigraphic units both below the point of infiltration and to the east and southeast of the B Pond. Declining hydraulic head has been occurring since cessation of surface discharges to B Pond circa 1997 (Figure 2-6). Aquifer head losses in the confined portions of the Ringold 9A and 9C Units are expected to continue but at a lower rate as groundwater returns to pre-Hanford conditions. The rate of decline over the last several years has averaged approximately 0.2 m (0.7 ft)/year.”	Closed with Modification

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100	P: 2-29 S: 2.7 L: 16-21	This information is redundant with Section 2.2. Delete these lines of the document.	Revise text	Not Accepted	This paragraph is required to introduce Table 2-3. The statements are part of the document template that is being used to standardize the RCRA monitoring plans.	Closed
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	Accept with Modification	Table 2-4 is Additional Monitoring Objectives. Sentence will be changed to: "Site-specific constituents (Table 2-4) will also be collected for general groundwater chemistry, which will support the evaluation of upgradient and downgradient water chemistry variations."	Closed with Modification
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	Accept with Modification	Will add 40 CFR 265.90, 265.92(a), 265.93(a), and 265.94(a)(2)(iii).. Section 2.7 states "Regulatory requirements applicable to this groundwater monitoring plan are found in WAC 173-303-400(3) and 40 CFR 265.90, "Applicability," through 265.94, "Recordkeeping and Reporting," therefore, there are no missing citations. Table 2-3 is used to point out discrete locations within the GW monitoring plan where information may be found. 40 CFR 265.90(a) and (b), Applicability, will be referenced to Chapter 1, 40 CFR 265.93(c)(1) is a reporting requirement and will be referenced to Section 4.5 Appendix IV is not listed on its own as it is embedded in 40 CFR 265.93(b).	Closed with Modification
103	P: 3-1 S: 3 L: 4-5	Provide how this monitoring plan has been revised.	Provide requested information	Accept	A brief list of the primary, unit-specific changes (for example, changes to well network, flow direction, etc.) will be added to tell the reader the major changes.	Closed with Modification

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104	P: 3-1 S: 3 L: 6-7	Delete this information about the closure plan.	Revise text	Accept	Text will be deleted.	Closed with Modification
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	Accept with Modification	Text changed per comment on line 10. The term "RCRA" does not appear in line 27. "RCRA" will be removed in line 20.	Closed with Modification
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	Accept with Modification	Quarterly monitoring will be performed for 1 year at well 699-45-42 and New Well 1 for indicator parameters, groundwater quality parameters, and Appendix III parameters.	Closed with Modification
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	Not Accepted	216-B-3 is monitored under 40 CFR 265.92. Only indicator parameters and groundwater quality parameters are required to be included in this plan. Other constituents are included as supporting information or as site-specific constituents (e.g., arsenic, cadmium and nitrate).	Closed
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	Not Accepted	Arsenic is already included for monitoring as a site-specific constituent and will continue to be analyzed as a site-specific constituent under indicator parameter monitoring. The only mechanism available within 40 CFR 265 Subpart F to activate GW quality assessment is the exceedance of indicator parameters.	Closed
109	P: 3-11 S: 3 L: 36	Provide why dissolved oxygen is being monitored. The aquifer should be an aerobic environment.	Revise text	Accept	The text will be revised to state: "Field parameters (dissolved oxygen, temperature, and turbidity) will be sampled semiannually and used as indicators of sample quality and general aquifer/well environment conditions."	Closed

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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	Accept	See response to comment 11.	Closed
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	Accept with Modification	<p>Neither WAC 173-303-645 or Unified Guidance (EPA 530/R-09-007) specify a required window for sample collection within monitoring well networks. As described in subject text, wells are scheduled for sampling by month and delayed sampling events are rescheduled as soon as possible. Sampling delays result from multiple factors including environmental (i.e., inclement weather) and access restrictions (i.e., heightened fire danger, area access restriction due to work by other Hanford contractors such as in the tank farms). In the event that a sampling delay has occurred and the representativeness of the samples is in question, DOE and ECY may agree to resampling wells.</p> <p>As discussed with ECY on March 16, 2016, CHPRC will change the pre-well sampling walkdown process. If it is observed that one or more network wells cannot be sampled during the walkdown, then sampling of the well network will not begin and management will be notified. Depending on the situation, the network sampling will be rescheduled within a short time frame (such as 3 to 4 weeks). In some cases, it may not be obvious that sampling cannot be performed until a well is accessed (e.g., an issue with a pump). DOE will provide informal notification</p>	Conceptually agree

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					to Ecology if sampling of the network is expected to be delayed for longer than 4 weeks. Ecology may provide input in a timely fashion to DOE on how to proceed. Applicable portions of this comment response will be added to Section 3.1.	
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	Accept	Change will be made per comment.	Closed with modification
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	Accept	Text will be revised to clarify the downgradient aquifers to match Section 2.4.2: “Groundwater locally flows beneath the Ringold Unit 8 mud and/or Ringold 9B confining layers near these wells and discharges to downgradient portions of the <u>Hanford formation and unconfined Ringold Unit 9A</u> aquifers southwest and south of the Main Pond and 216-B-3-3 Ditch (Figures 2-10 and 3-1).”	Closed with modification
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	Accept with Modification	Text will be revised consistent with disposition of 216-A-37-1 comment 91 (which accepted the recommended change): “...but it is not compliant with WAC 173-160 as resource protection well that is suitable as a RCRA standard or equivalent well.”	Closed with modification
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	Accept with Modification	The date of future replacement of 699-45-42 is not yet scheduled. Current replacements are scheduled through 2018. Replacement of 699-45-42 is tentatively planned to occur in the following years. The text will be revised: “Well 699-45-42 is included in	Closed with modification

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					this milestone for future replacement, but the replacement date has not yet been scheduled.”	
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	Not Accepted	This was discussed at the comment resolution meeting. Based on that discussion, the proposed well network for the 216-B-3 TSD unit was presented and discussed with Ecology in a meeting held in September 2015. The well network presented in this plan, with the addition of drilling of a new upgradient monitoring closer to the facility was considered acceptable. The proposed network is believed to be adequate based on available information. An engineering evaluation for 216-B-3 will be prepared to support the upcoming change to final status. This evaluation will propose a monitoring network and may include additional wells.	Closed
117	P: 3-4 S: 3.2 L: Table 3-1	<p>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."</p> <p>Provide the basis for the proposal to filter the groundwater samples for the Monitoring Well Network for the 216-B-3 Pond.</p>	Provide the basis for the proposal to filter the groundwater samples for the Monitoring Well Network for the 216-B-3 Pond.	Accept with Modification	<p>Joint letter from EPA/Ecology, dated August 7, 2007, states "It should also be noted that individual project managers may require duplicate filtered and unfiltered analyses in some situations." Unfiltered GW samples are used to satisfy Ecology requirements. Filtered GW samples are requested by the individual project manager in this situation.</p> <p>http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=DA05584485</p> <p>The information below will be added to Table 3-1: Unfiltered samples will be collected in conjunction with filtered samples for</p>	Closed

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					select analysis to determine if metal constituents being monitored occur as both suspended and dissolved phases, or in only one state. The evaluation of suspended and dissolved metals provide supporting information for groundwater geochemical characteristics, as well as indication of well integrity such as the presence of dislodged well encrustation, well corrosion products, or failure of the well screen filter pack.	
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	Accept	Footnote will be deleted.	Closed with modification
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	Accept with Modification	The decline of the water table over time is shown in the hydrographs presented in Figure 2-6. The rate of decline will also be provided in text per response to comment 120.	Closed with modification
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	Accept	Additional text will be added to state: "The rate of decline over the last several years has averaged approximately 0.2 m (0.7 ft)/year."	Closed with modification
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	Accept	See response to comment 11.	Closed with modification
122	P: 3-6 S: Table 3.3 L:	Add cadmium and put no change under Justification Summary	Revise text	Accept	See response to comment 11.	Closed with modification
123	P: 3-6 S: Table 3.3 L:	List the wells under Previous plan and Current Plan for completeness.	Provide requested information	Accept	Wells will be listed in Table 3-3.	Closed with modification
124	P: 3-7 S: Table 3.3 L:	Provide information under what will occur for New well #1 and 699-45-42 after the 1 st year of monitoring.	Provide requested information	Accept	Text clarified as shown: First year monitoring for New Well #1 and Well 699-45-42 – quarterly sampling for <u>the first year.</u>	Closed with modification

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					Will add text to Well Network row: <u>Once New Well #1 is ready for sampling, 699-45-42 will no longer be included in the 216-B-3 monitoring network.</u>	
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	Not Accepted	The azimuth directions have not been provided in the updated SAPs. For consistency, this approach will not be included in this plan. The flow directions are variable and dependent on the specific location. Depictions of groundwater flow are provided on Figure 2-9 (historical); and Figures 2-10 and 3-1 (current).	Closed
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	Accept with Modification	See response to comment 106.	Closed with modification
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	Not Accepted	As described in Section 4.2, "The background statistical analysis is updated annually to establish comparative values for indicator parameters. A rolling mean is used because of changing upgradient concentrations and groundwater flow conditions." [modified template language]." Annual review and evaluation of critical means is performed as stated in 16-ESQ-0027, January 27, 2016 Letter from DOE to ECY, "Response to Inspection Report Groundwater Operation and Maintenance Dangerous Waste Compliance Inspections on May 19, 20, 21, and 27, 2015, at the Hanford Site, Resource Conservation and Recovery Act (RCRA) Site ID: WA7890008967, Nuclear Waste	Closed

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					<p><i>Program (NWP) Compliance Index Nos. 15.521 thru 15.533 (15-NWP-174)</i>", p. 5: "Critical means and initial means values for every TSD network will be reviewed and evaluated every year. Recalculation of these values will be in accordance with the U.S. Environmental Protection Agency "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities - Unified Guidance," EPA 530/R-09-007, dated March 2009."</p> <p>Text will be added to Section 4.2: "The statistical evaluation utilized is consistent with requirements under WAC 173-303-645(8)(h) for final status TSD units."</p>	
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	Not Accepted	See response to comment 127.	Closed
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	Not Accepted	See response to comment 127.	Closed
130	P. 4-2 S: 4.5 L: 28	Change "statistical comparison value," to "relative to the initial background value, that information ..."	Revise text	Not Accepted	See response to comment 127.	Closed
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	Provide requested information	Accept with Modification	Sentences deleted.	Closed with modification

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		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.				
132	P: 6-1 through 6-4 S: 6 L:	<p>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:</p> <ol style="list-style-type: none"> 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. 3) DOE, 1987 is an incorrect method of reference and is not in the TPA Administrative Record. 4) DOE, 2002 is an incorrect method of reference. Reference according to the document number DOE/RL-2002-39. 5) Goswami, Dib, 2001 is an incorrect method of reference and is not in the TPA Administrative Record. 6) Hedges, Jane, 2000 is an incorrect method of reference. 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. 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. 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>Justification: Accuracy and completeness.</p>	Provide and correct referencing method, as well as provide ALL references in the TPA Administrative Record.	Accept	The reference format for these items will be reviewed. Those references used in the Rev. 0 version of this document will be available in the AR when the plan is issued.	Closed with Modification
133	P. 6-5 S: 6 L: 7-10	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	Revise text	Accept	Reference will be changed to: WA7890008967, <i>Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste</i>	Closed with modification

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		Portion for the Treatment, Storage, and Disposal of Dangerous Waste.”			<i>Portion for the Treatment, Storage, and Disposal of Dangerous Waste, Revision 8c, as amended, Washington State Department of Ecology, Richland, Washington. Available at: http://www.ecy.wa.gov/programs/nwp/p/ermitting/hdwp/rev/8c/.</i>	
134	P: A-6 S: A2.1.11 L: 5-6	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.	Edit the text as follows: “The laboratories are evaluated under the DOE Consolidated Audit Program, the <u>Hanford Analytical Services Requirements Document</u> and must be accredited by Ecology for the analyses performed for S&GRP.	Accept with Modification	Description of Analytical Laboratories as provided is adequate for GW monitoring plan. HASQARD is not a 40 CFR 265 Subpart F or WAC Dangerous Waste requirement. DOE HQ requires only one audit program be used with analytical laboratories and that program is the DOE CAP. PRC contract requirements require flowdown of HASQARD. HASQARD has been crosswalked to DOE CAP requirements. Will add “ <u>Statements of work flowdown quality requirements of the HASQARD</u> ” before “The laboratories are evaluated under the DOE Consolidated Audit Program and must be accredited by Ecology for the analyses performed for S&GRP.”	Closed
135	P: A-11 S: A2.6 L: 24-28	The text states the laboratory is responsible for maintaining, and having available upon request the following items: <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 Also include the following in the list of items: <ul style="list-style-type: none"> • Training records for employees, as they relate to 	Also include the following in the list of items: <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. 	Accept	List of laboratory items as provided is adequate for GW monitoring plan. DOE/RL contract requirements are not a 40 CFR 265 Subpart F or WAC Dangerous Waste requirement. HASQARD requirements are embedded in the statement of work with the analytical laboratories. Statement of work gives PRC the right to require this type of additional information if needed to ensure lab QA.	Closed

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		<p>analytical methods. (This will ensure that personnel are qualified to perform the specific analyses.)</p> <ul style="list-style-type: none"> • 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>	<ul style="list-style-type: none"> • Laboratory audit records. 		<p>The text will be modified to include the additional three bullet items: “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 • <u>Training records for employees, as they relate to analytical methods.</u> • <u>Laboratory state accreditation records</u> • <u>Laboratory audit records”</u> 	
136	P: A-19 S: A3.3.2 1L: 15-16	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.	Include that data that do not meet holding time requirements may be deemed Rejected by third party validation.	Not Accepted	Samples that exceed holding times may receive a "flag"; e.g., it might be the case that a sample that exceeds a hold time by less than 2x the specified hold time might be flagged with a "J" for estimated concentrations. Third party validation procedures/practices are outside the scope of the GWMP.	Accept and Closed
137	P: A-25 S: A5.2 L: 23-24	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.	Please explain how it will be determined if data validation will be required, and what percentage of the data will be validated.	Accept with Modification	Multiple quality control reviews and correction processes are exercised, as appropriate, during the sampling and analysis progression to ensure the quality and usefulness of analytical and field data. These review/correction processes are conducted during the	Closed

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					<p>groundwater sampling package generation, field paperwork generation, shipping, laboratory analysis, chain-of-custody verification, data package verification, data reviews, data quality assessments, and independent data validations. Processes used to identify and resolve analytical and sampling quality issues include review of data QC parameters, identification of administrative and technical errors in data packages, identification of trends adverse to quality and of possible programmatic issues, identification of out of trend data, corrective actions requiring reanalysis or assignment of data review codes, evaluation of field QC and laboratory QC, determination of usability of entire data set, independent assessment of laboratory accuracy and precision in groundwater, laboratory performance evaluations, blind standards program and data validation. Data validation is performed at the discretion of the RCRA groundwater program manager based on the results of the QC samples for an individual network, discussions with the project scientist, and discussions with the laboratory services manager. If defined as appropriate, data validation (third party) will be performed at a minimum frequency of 5 percent.</p> <p>Will change Section A5.2 to state: Data validation is performed at the discretion of the Project Delivery Manager for</p>	

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					Groundwater Science and under the direction of the SMR group. It is based on the results of the QC samples for an individual network, discussions with the project scientist, and discussions with the laboratory services manager. If defined as appropriate, data validation (third party) will be performed at a minimum frequency of 5 percent and be based on EPA functional guidelines.	
138	P: B-3 S: B2 L: 15-16	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.	Please explain the process of the three borehole volume method, as it is not intuitive for all reviewers.	Accept	Change sentence to read "...wells are typically purged utilizing using the equivalent volume as that of 3 borehole diameters multiplied by the length of the <u>saturated portion of the well screen.</u> "	Closed
139	P: B-3 S: B2 L: 30-33	<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- 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>	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.	No Change Needed	See response to comment 117. The technical basis for collection of filtered samples will be provided in Table 3-1.	Closed
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	Accept with Modification	Summary paragraphs describing the decontamination process are added to Section B2.1.	Conceptually Agree
141	P: B-4 S: B2	The text states, "Exceeding required holding times could result in changes in constituent concentrations due to	Include that data that do not meet holding time	Not Accepted	Samples that exceed holding times may receive a "flag"; e.g., it might be the	Accept and Closed

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	L: 11-12	volatilization. . ." It should also be noted that data that do not meet holding time requirements may be deemed Rejected.	requirements may be deemed Rejected.		case that a sample that exceeds a hold time by less than 2x the specified hold time might be flagged with a "J" for estimated concentrations. Third party validation procedures/practices are outside the scope of the GWMP.	
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? Sufficient detail in order to verify correct completion of field procedures.	Provide additional detail	Accept with Modification	This comment disposition is identical to that for comment 94 on 216-A-36B RCR: No requirement for field calibration procedures exists in interim status regulations found at 40 CFR 265 Subpart F or WAC 173-303-400(3)(c)(v). However, a summary description of field instrument calibration will be added to Section B4.	Closed with Modification
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	Accept with Modification	In order to provide a consistent waste management approach during groundwater well sampling activities which routinely are conducted for both RCRA and CERCLA actions, a common waste management plan is used for both actions. Both actions will follow the substantive requirements of WAC 173-303 for container waste storage, packing, labeling, and eventual waste disposal. Additional details of the waste management process are added to Section B6.	Closed with modification
144	P: B-13 S: B7 L:	This section seems to be short, vague, and contains generic descriptions. Improve detail for field procedures. If this were a final status plan, definitely level of detail is insufficient.	See comment	Not Accepted	This comment disposition is identical to that for comment 97 on 216-A-36B RCR: Level of detail is sufficient for GW monitoring plan. The GW monitoring plan is not a field procedure. 40 CFR 265 Subpart B (40 CFR 265.14/Security and 40 CFR	Closed

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					265.16/Personnel Training) are not required by 40 CFR 265 Subpart F.	
145	P. C-1 Sec. Table C-2	Define what "open interval" represents.	Provide requested information	Not Accepted	Already defined. See line 9 on page C-1 ("Open interval length (i.e., difference between top and bottom of the screen or perforated interval)").	Closed
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.	Accept	Table C-2 will be revised as needed.	Closed with modification