Central Plateau Cleanup Company

Comments for the IDF draft permit are attached in both PDF and Word format.

Comments for IDF Class 3 Active Life Permit Modification

1. Response to Comments, Attachment 2.
   Ecology accepted comments from May 1, 2012, to Oct 22, 2012, on the Hanford Facility Dangerous Waste Permit, Rev. 9. This section provides a summary of comments that we received during the public comment period and our responses, as required by RCW 34.05.325(6)(a)(iii).

   Response: Consistent with Washington State Department of Ecology's official position, comments provided for the 2012 Rev. 9 Hanford Facility Dangerous Waste Permit Renewal will not be included in this permit modification request. The Permittees and the Washington State Department of Ecology have a separate forum to address Rev. 9 comments, thus the Permittees will address Ecology's responses outside of this public comment period. Further, Ecology's official position is that Ecology will reopen the comment period to address the Rev. 9 public comments. Comments are not being made on Ecology's responses to Rev. 9 comments; this is not an indication of agreement.

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2. Fact Sheet, Section 2.0, Integrated Disposal Facility Dangerous Waste Management Unit Description.
   Ecology has defined the "pre-active life" period as the time between the end of construction and 180 days before the receipt of waste.

   Response: In Section 2.0 of the fact sheet, Ecology states the "WAC 173-303-040 defines the "active life" of a facility as "the period from the initial receipt of dangerous waste at the facility until the department receives certification of final closure." However, Ecology also defines the "pre-active life" period as the time between the end of construction and 180 days before the receipt of waste. These two timelines do not align with one another. Permittees recommend revising the "pre-active life" definition to align with the "active life" definition in WAC 173-303-040.
   "Ecology has defined the "pre-active life" period as the time between the end of construction and the initial receipt of waste."

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3. Fact Sheet, Section 2.0, Basis for Permit Conditions.
   Ecology worked with the Permittees to develop permit conditions that apply to the operation and maintenance of the DWMUs and associated ancillary equipment. As a result, Ecology has written conditions that require compliance with the regulations in WAC 173-303.

   Response: Meetings were initiated between Ecology and the Permittees to negotiate Ecology-drafted permit conditions. However, resolution was not attained on all permit conditions. The Permittees apprised Ecology of the Permittees' intent to comment on unresolved permit conditions during the public comment period.

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4. Fact Sheet, Section 2.0, Basis for Permit Conditions.
   The intent of this draft permit and associated permit conditions is to protect human health and the environment while ensuring proper disposal of low-level radioactive waste and mixed waste at the IDF.

Response: This permit does not regulate low-level radioactive waste. This is promulgated in the unit description to the permit conditions that states, "Additionally, the landfill cells may be used for disposal of nondangerous radioactive low-level waste [LLW], which is outside of the scope of this permit."

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5. Fact Sheet, Section 4.0, Draft Permit Conditions
Permit conditions were added to address the SSW. These SSW proposed permit conditions address issues like: addition of a Solid Waste Technical Requirements Document, inclusion of Secondary Waste in the Risk Budget Tool, waste performance modeling, waste form performance criteria, and protection of groundwater. Proposed permit conditions also address a certification from USDOE that the SSW is not High Level Waste. These permit conditions reflect Ecology's expectation that the SSW stream, to be disposed at the IDF, will be evaluated using the similar requirements that are used for the evaluation of the ILAW glass.

Response: There is no justification for the added permit condition for secondary solid waste. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

In addition, Ecology failed to provide any justification in accordance with WAC 173-303-840(2)(f)(iii)(C) and (D), which states that the fact sheet will include "a brief summary of the basis for the draft permit conditions including supporting references" and "reasons why any requested variances or alternatives to required standards do or do not appear justified."

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6. Permit Conditions Addenda
Appendix C6 Construction Specifications, RPP-18489, Rev. 1

Response: Appendix C6 is listed in the control log table, but the appendix was not included in the documents out for public review. The Permittees submitted formatting changes to this document in the 2019 submittal (20-AMRP-0007).

Recommendation: If no additional changes were made, the Permittees recommend that Appendix C6 be added to the IDF permit.

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7. Permit Condition III.11.A Acronyms.
The following acronyms are specific to the IDF unit:

Response: Acronyms listed in the acronym list do not reflect acronyms within the permit conditions. For example, HELP and MEMO are in the acronym list, but not within the permit conditions. Alternately, acronyms within the permit conditions, such as IQRPE and LS are not listed within the acronym list.

Recommendation: Ensure acronyms in list reflect acronyms within the permit conditions.

8. Permit Condition III.11.A Definitions.
Critical System: A list identifying the critical systems for the IDF is included in Permit Condition III.11.C.1.a.

Response: This does not provide a definition of the critical system term. As "critical systems" are not defined in WAC 173-303, the definition Ecology included in Part I Standard and Part II General Facility Conditions should be incorporated.

Recommendation: Include the definition from the Part I Standard and Part II General Facility Conditions. "Critical Systems: Specific portions of a TSD unit's structure, or equipment, whose failure could lead to the release of dangerous waste into the environment, and/or systems which include processes which treat, transfer, store, or dispose of regulated wastes. A list identifying the critical systems for the IDF is included in Permit Condition III.11.C.1.a."

9. Permit Condition III.11.A Definitions
Leachate collection and removal system: Leachate is liquid generated from rainfall and the natural decomposition of waste that is filtered through the landfill to a leachate collection system. The leachate collection system's job is to direct the leachate to collection sumps so it can be properly removed from the landfill.

Response: The Permit does not address the "natural decomposition of waste." This permit condition should not introduce new concepts. In addition, leachate originates from precipitation and the application of nonhazardous liquids for dust suppression.

Recommendation: Revise permit condition to remove "natural decomposition," add language about liquids for dust suppression, and revise anthropomorphic reference to the leachate collection system: "Leachate collection and removal system (LCRS): Leachate is liquid generated from precipitation and the application of nonhazardous liquids for dust suppression (as applicable), that is filtered through the landfill to a leachate collection system. The leachate collection system directs the leachate to collection sumps where it can be properly removed from the landfill."

10. Permit Condition III.11.A Definitions
Leak detection system: A method in which the existence of a leak within a system is determined. The techniques are utilized across a wide range of systems where a container must seal in some material. The variety of detection methods can be classified as internal or external, depending on where the LDS is located.

Response: The leak detection system (LDS) for each disposal cell is located below the LCRS. The LDS provides a method for detecting and capturing leachate from the LCRS into the LDS sump, as described in Addendum C.

Recommendation: Revise definition to reflect Addendum C description: "Leak detection system (LDS): The LDS provides a method for detecting and capturing leachate from the LCRS into the LDS sump, and serves as a secondary LCRS for each IDF disposal cell. Leachate collected in the LDS sump will be measured to determine any leakage through the primary liner."

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11. Permit Condition III.11.A Definitions.
Microencapsulation: The process of enclosing chemical substances in microcapsules. Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the hazardous contaminants is reduced: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time and/or compressive strength, or to reduce the leachability of the hazardous constituents.

Response: The first sentence, "The process of enclosing chemical substances in microcapsules" is not consistent with the land disposal requirements definition.

Recommendation: Delete the first sentence: "The process of enclosing chemical substances in microcapsules."

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12. Permit Condition III.11.A Definitions.
Response action plan (RAP): A detailed report that includes the steps to remediate waste materials, soil, surface water, ground water. The RAP includes the intended level of cleanup to support closure.

Response: The response action plan does not support closure. It is a site-specific plan that establishes actions to be taken if leakage through the upper (primary) lining system of a landfill exceeds a certain rate.

Recommendation: Revise the definition to "Response action plan (RAP): A site-specific plan that establishes actions to be taken if leakage through the upper (primary) lining system of a landfill exceeds a certain rate."

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13. Permit Condition III.11.D.2.a.
Prior to the start of the Active Life of the IDF, the Permittees will manage the discharge of such water in accordance with the pollution prevention and best management practices required by State Waste Discharge Permit Number ST-4511.

Response: This disposal cell condition would not apply to the storage and treatment pads. The addition of the storage and treatment pad DWMUs make it necessary to differentiate the conditions that would apply only to the disposal cells.

Recommendation: Revise this section title to specify the disposal cells.
"III.11.D.2 Rainwater Management for the Disposal Cells"

14. Permit Condition III.11.D.2.b.
The Permittees will inspect for liquids after significant rainfall events.

Response: This disposal cell condition would not apply to the storage and treatment pads. The addition of the storage and treatment pad DWMUs make it necessary to differentiate the conditions that would apply only to the disposal cells.

Recommendation: Revise this section title to specify the disposal cells.
"III.11.D.2 Rainwater Management for the Disposal Cells"

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15. Permit Condition III.11.D.5.b.
The Permittees will implement the Appendix C4, "Construction Quality Assurance Plans" during construction of the IDF.

Response: The construction quality assurance plans are not required for the storage or treatment pads.

Recommendation: Revise condition to specify the disposal cells: "The Permittees will implement the Appendix C4, 'Construction Quality Assurance Plans' during construction of the IDF disposal cells."

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16. Permit Condition III.11.E.3.
The only ILAW form acceptable for disposal at IDF is approved glass canisters that are produced in accordance with the terms, conditions, and requirements of the WTP portion of the Permit, as well as melters, glass shards, and other ILAW forms that are acceptable.

Response: The revision to this permit condition implies there is only one ILAW form acceptable due to "form" being singular. However, the permit condition continues to list the approved glass canisters, "as well as, melters, glass shards, and other ILAW forms" as acceptable waste forms.

Recommendation: Revise to ensure continuity of plural form: "ILAW wastes that can be disposed of at IDF are approved glass canisters that are produced in accordance with the terms, conditions, and requirements of the WTP portion of the Permit, as well as melters, glass shards, and other ILAW forms that are acceptable."

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17. Permit Condition III.11.E.4.c.
The PA required by Permit Condition III.11.E.4.b was submitted on May 26, 2020; expectations for future PA revisions are ongoing.

Response: This is a narrative statement and not a condition. This statement is seeking to regulate a radioactive waste management document and is therefore outside the authority of the Washington Administrative Code (WAC) and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1. The objective

of DOE O 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of human health and the environment. A PA is the computer modeling analysis that simulates the impacts from radiological constituents and determines whether the waste will meet the radiological performance objective established in DOE O 435.1. There are no similar processes used under WAC 173-303 to operate a landfill pursuant to WAC 173-303-665. As the IDF PA (RPP-RPT-59958) was developed to assess the radiological constituents to be disposed of in IDF, this document is not subject to WAC 173-303. Hazardous constituents that were addressed in the PA were included for informational purposes. Permit conditions specific to hazardous constituents are addressed in draft Permit Conditions III.11.E.8.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

This permit modification does not request changes to the Immobilized Low-Activity Waste Technical Requirements Document (IWTRD). In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding additional requirements for the IWTRD is outside the scope of this permit modification.

Recommendation: Delete the language concerning "expectations for future PA revisions are ongoing" from this permit condition.

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18. Permit Condition III.11.E.4.c.
The QA/QC requirements process required by Permit Condition III.11.E.4.c which was to be submitted for Ecology review as soon as possible after issuance of the Final Tank Closure and Waste Management Environmental Impact Statement (EIS) and receipt of underlying codes and data packages, and at least one hundred and eighty (180) days prior to the date the Permittees expect to receive waste at the IDF.

Response: The language revision made to this portion of the permit condition causes this sentence to be incomplete. Language is undecipherable and does not provide distinct direction for the Permittees to comply.

Recommendation: Delete incomplete sentence from permit condition.

19. Permit Condition III.11.E.4.c.
At a minimum, the Permittees will submit updates to the IWTRD to Ecology every five (5) years or more frequently, if any of the following conditions exist:
    - *The Permittees submit a permit modification request allowing additional waste forms to be disposed of at IDF. New waste forms could include ILAW glass not previously described, additional SSW, supplemental ILAW treatment, and other waste from the Hanford Site.*

Response: This permit condition is under the heading of "Immobilized Low-Activity Waste Form Technical Requirements Document." Per Permit Condition III.11.E.4, "For any ILAW glass form(s) that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, an ILAW Waste Form Technical Requirements Document." "Additional SSW" and "other waste from the Hanford Site" are not considered an ILAW form, thus are not applicable for the IWTRD.

Supplemental ILAW treatment is not discussed in the Permitting addenda, nor is it defined in the permit conditions. Permit Condition III.11.E.3, states that the "LDR standard for ILAW disposed to IDF is HLVIT." Changes to the treatment method would require a future permit modification. As supplemental ILAW treatment is not discussed in permitting documents and the permit condition states that ILAW will be treated to HLVIT, supplemental ILAW treatment should not be included.

This permit modification does not request changes to the IWTRD. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding additional requirements for the IWTRD are outside the scope of this permit modification.

Recommendation: Revise bullet to remove reference to additional SSW, supplemental ILAW treatment, and other waste from the Hanford Site. "At a minimum, the Permittees will submit updates to the IWTRD to Ecology every five (5) years or more frequently, if any of the following conditions exist:
- The Permittees submit a permit modification request allowing additional waste forms to be disposed of at IDF."

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20. Permit Condition III.11.E.4.c.
Ecology comments will be dispositioned through the Review Comment Record (RCR) process and will be reflected in further modeling to modify the IDF ILAW waste acceptance requirements as appropriate.

Response: The current permit condition states that "Ecology comments… will be reflected in further modeling to modify the IDF ILAW Chapter 3.0, "Waste Analysis Plan" as appropriate. For this updated condition, the Waste Analysis Plan was replaced with "waste

acceptance requirements." The term "waste acceptance requirements" is vague and does not provide clear direction for Permittee action.

Recommendation: Revise permit condition language to reference the Waste Analysis Plan: "…and will be reflected in further modeling to modify Addendum B, 'Waste Analysis Plan,' as appropriate."

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21. Permit Condition III.11.E.4.d
The Permittees will not dispose of any WTP ILAW or other waste streams not described and evaluated in the IWTRD.

Response: The phase "or other waste streams" was added to the permit condition. This permit condition is under the heading of "Immobilized Low-Activity Waste Form Technical Requirements Document." Per Permit Condition III.11.E.4, "For any ILAW glass form(s) that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, an ILAW Waste Form Technical Requirements Document." Reference to other waste streams is not appropriate in the IWTRD section.

Recommendation: Delete "or other waste streams."

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22. Permit Condition III.11.E.5.
Secondary Waste Form Technical Requirements Document

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State

Hazardous Waste Act.

Recommendation: Delete all Secondary Waste Form Technical Requirements Document permit conditions.

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23. Permit Condition III.11.E.5.a.
Secondary Waste (SW) includes, but is not limited to, 1) WTP waste – equipment, carbon beds, high-efficiency particulate air filters, encapsulate other debris, silver mordenite media, melters; and 2) Effluent Management Facility (EMF) - grouted ETF brines from WTP EMF overheads. For any SW forms produced in conjunction with producing ILAW glass, that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, a Secondary Waste Form Technical Requirements Document (SWTRD). The SWTRD will contain:

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

In addition, this condition is not clear as to whether there is one SWTRD for all secondary waste or one SWTRD for each secondary waste form.

Recommendation: Delete permit condition.

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24. Permit Condition III.11.E.5.a.i.
A description of each SW form and the mechanisms of immobilization that the Permittees

intend to use on these forms. In addition, this description will include SW waste form formulations for each waste form and the characteristics of key parameters (such as coefficient of diffusion) necessary to establish satisfactory performance after disposal that will protect human health and the environment. The description must include information which will demonstrate the cumulative impact from the disposed waste forms will not exceed 75% of state and federal performance standards for drinking water.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR)."* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable land disposal restriction treatment standard. Permittees ensure that all waste meets LDR requirements as described in Addendum B, Waste Analysis Plan.

Further, Permit Condition III.11.E.10.a already provides direction on meeting drinking water

standards: *"The groundwater impact will be modeled in a concentration basis and should be compared against various performance standards including but not limited to drinking water standards (40 CFR 141 and 40 CFR 143)."* As drinking water standards are legally enforceable standards that protect public health by limiting the level of contaminants, additional restrictions (i.e., 75%) are an arbitrary exercise of power.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Recommendation: Delete permit condition.

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25. Permit Condition III.11.E.5.a.ii.
A PA that provides a reasonable basis for assurance that each SW formulation will, once disposed in the IDF in combination with the other waste volumes and waste forms planned for disposal at the entire IDF, be adequately protective of human health and the environment; and will not violate or be projected to violate, any or all applicable state and federal laws, regulations, and environmental standards. Cumulative impact will not exceed 75% of the performance standard.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-

815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

This condition is seeking to regulate a radioactive waste management document and is therefore outside the authority of the WAC and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1, and is not subject to WAC 173-303.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Further, EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR)."* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable land disposal restriction treatment standard. Permittees ensure that all waste meets LDR requirements as described in Addendum B, Waste Analysis Plan.

Recommendation: Delete permit condition.

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26. Permit Condition III.11.E.5.a.iii.
A description of production processes including management controls and QA/QC requirements which demonstrate that SW produced for each formulation will perform in a reasonably similar manner to the SW formulation assumed in the PA.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for

imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Per draft Permit Condition III.11.E.5.a, this Secondary Waste Technical Requirements Document applies to secondary waste from ILAW production at WTP. Information on production processes is located in the WTP portion of the RCRA Permit. QA/QC controls for another facility's production processes are not applicable to the disposal facility.

Recommendation: Delete permit condition.

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27. Permit Condition III.11.E.5.b.
For SW forms which demonstrate acceptable performance in the PA and in the modeling-risk budget tool, the waste must be treated and confirmed to be treated to meet a range of 10^{-9} cm^2/sec-$10^{-13} cm^2/sec$ diffusion coefficient (EPA1315). The Permittees will provide to Ecology a report every five years to demonstrate confirmation.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this

condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

EPA Method 1315 states: "*The method [1315] is not required by federal regulations to determine whether waste passes or fails the toxicity characteristic as defined at 40 CFR 261.24*." It also states, "*The information contained in this method is provided by the Environmental Protection Agency (EPA or the Agency) as guidance to be used by the analyst and the regulated community in making judgments necessary to generate results that meet the data quality objectives for the intended application."* This method is not intended to demonstrate compliance for RCRA disposal requirements.

EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable land disposal restriction treatment standard.

Recommendation: Delete permit condition.

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28. Permit Condition III.11.E.5.c.
For SW forms which demonstrate unacceptable performance in the PA and in the modeling-risk budget tool, the Permittees must meet with Ecology to discuss a path forward on these waste streams to be protective of the groundwater beneath the IDF prior to the disposal of the questionable waste form. If needed, the waste forms final treatment may need to be modified or an alternative disposal pathway may be identified.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources

such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

In addition, EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR).* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable Land Disposal Restriction treatment standard. Wastes that do not meet the LDR treatment standard will not be accepted for disposal.

In addition, this condition is void because the State has included requirements in the condition that are ambiguous. "Unacceptable performance" in relation to a performance assessment is not defined in the Hazardous Waste Management Act. A "Questionable Waste Form" is not defined in the Hazardous Waste Management Act. This condition does not provide the Permittees with sufficient information to ensure future compliance with the condition. Accordingly, this condition violates DOE's right to due process under the Washington and United States constitutions and should be stricken from the Permit.

Recommendation: Delete permit condition.

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29. Permit Condition III.11.E.5.d.
The uncertainty analysis must be included in all future performance assessments and modeling, and will contain the effects of variability in the grout mix formulation and the uncertainty in the paste and mortar formulations. Measurement error, variability from sample to sample for a given mix, and variability across different mixes will be included. American Society for Testing and Materials Coefficient of Diffusion methodology and U.S. Environmental Protection Agency (EPA) Leaching Procedures uncertainty in the diffusion coefficients will also be included.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR).* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable Land Disposal Restriction treatment standard. Wastes that do not meet the LDR treatment standard will not be accepted for disposal.

In addition, this condition is void because the State has included requirements in the condition that are ambiguous. An "uncertainty analysis" in relation to a performance assessment is not defined in the Hazardous Waste Management Act. This condition does not provide the Permittees with sufficient information to ensure future compliance with the condition. Accordingly, this condition violates DOE's right to due process under the Washington and United States constitutions and should be stricken from the Permit.

Recommendation: Delete permit condition.

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30. Permit Condition III.11.E.5.e.
At a minimum, the Permittees will submit updates to the SWTRD to Ecology every five (5) years or more frequently if any of the following conditions exist:
· The Permittees submits a permit modification request allowing additional SW forms to be disposed of at IDF. New waste forms could include additional secondary solid waste and other waste from the Hanford Site.
· An unanticipated event or condition occurs that Ecology determines would warrant an update to the SWTRD.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Permit Condition III.11.E.5.a states that "*SW includes, but is not limited to, 1) WTP waste - equipment, carbon beds, HEPA filters, encapsulate other debris, silver mordenite media, melters; and 2) EMF - grouted ETF brines from WTP EMF overheads. For any Secondary Waste (SW) forms produced in conjunction with producing ILAW glass that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, a Secondary Waste Form Technical Requirements Document (SWTRD)*." Per Permit Condition III.11.E.5.a, only waste forms produced in conjunction with producing ILAW glass would be included in the SWTRD. However, this permit condition states that other waste from the Hanford Site would apply. These permit conditions are contradictory.

In addition, this condition is void because the State has included a requirement in the condition that is ambiguous. “An unanticipated event or condition” in relation to a SWTRD is not defined in the Hazardous Waste Management Act. This condition does not provide the Permittees with sufficient information to ensure future compliance with the condition. Accordingly, this condition violates DOE's right to due process under the Washington and United States constitutions and should be stricken from the Permit.

Recommendation: Delete permit condition.

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31. Permit Condition III.11.E.5.f.
The Permittees will not dispose of any SW or other waste streams not described and evaluated in the SWTRD.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Recommendation: Delete permit condition.

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32. Permit Condition III.11.E.8.
No WTP SSW may be disposed in the IDF until certification, as described in Permit Condition III.11.E.7, is provided by the Permittees via letter. Once certification is received by Ecology, disposal of the WTP SSW can become authorized via a Final Permit modification decision. Requests for Permit modifications must be accompanied by an analysis adequate for Ecology to comply with SEPA, as well as by a risk assessment and groundwater modeling to

show the environmental impact. Permit Condition III.11.E.10 outlines the process by which waste sources in the IDF are modeled in an ongoing risk budget and a groundwater impact analysis.

Response: Per draft Permit Condition III.11.E, IDF can accept SSW from WTP, and this permit modification would authorize disposal, as specified in the fact sheet ("Upon approval and issuance of this permit modification, the IDF will be authorized to begin treatment, storage, and disposal of dangerous and mixed waste."). The statement in this permit condition that "…disposal of the WTP SSW can become authorized via a Final Permit modification decision" does not align with Permit Condition III.11.E or the fact sheet. As certification requirements for SSW is described in Permit Condition III.11.E.7, it is unclear if Ecology is requiring an additional permit modification for current acceptance of WTP SSW or what parts of the permit would require a change.

NEPA/SEPA considerations are addressed in the *Final Tank Closure and Waste Management Environmental Impact States for the Hanford Site, Richland, Washington* (DOE/EIS-0391). The Hanford Facility Dangerous Waste Permit should not contain permit conditions to meet other requirements under the State Environmental Policy Act (SEPA). EPA Memorandum 9524.1983(01) addresses "Recurring Issues in Preparing RCRA Permits." Under section "Other Federal Authorities," the EPA states the following: "Therefore, as a general matter, permit writers should not include the RCRA permits conditions based on other Federal authorities merely for repetition or emphasis. Such conditions should only be used if the permit writer decides they are needed to meet RCRA regulatory requirements." In addition, this permit condition conflicts with Section 6.0 of the fact sheet that states, "Ecology made a State Environmental Policy Act (SEPA) determination # 202004362 for the IDF on August 24, 2020. Additional SEPA review is not required for the current permit modification to support the operations of the IDF.*"*

There are also no requirements under WAC 173-303 to perform risk assessments for land disposal activities or groundwater modeling.

Recommendation: Delete permit condition.

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33. Permit Condition III.11.E.10.a.
The Permittees will maintain a modeling-risk budget tool (RBT) (RPP-CALC-61194)…

Response: RPP-CALC-61194 is not the correct RBT reference. RPP-CALC-63176 is the correct citation.

Recommendation: Update language to refer to RPP-CALC-63176. "The Permittees will maintain a modeling-risk budget tool (RBT) (RPP-CALC-63176)…"

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34. Permit Condition III.11.E.10.a.
Whenever the model is updated with additional information, the Permittees will perform an updated modeling run and submit the information to ECY.

Response: This addition to Permit Condition III.11.E.10.a would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Recommendation: Delete the language that has been added to Permit Condition III.11.E.10.a.

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35. Permit Condition III.11.E.10.a.
Ecology will review PA modeling assumptions, input parameters, and results and will provide comments to the Permittees. Ecology comments will be dispositioned through the RCR process and comments will be reflected in further modeling to modify the IDF ILAW waste acceptance requirements as appropriate. The Permittees will provide responses to Ecology on comments and inform Ecology how the comments will be reflected in further modeling within one hundred and twenty (120) days of receipt of comments.

Response: Ecology added the PA review and following language, which were not requested by the Permittees: "The Permittees will provide responses to Ecology on comments and inform Ecology how the comments will be reflected in further modeling within one hundred and twenty (120) days of receipt of comments." This permit modification does not request changes to the risk budget tool. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding additional requirements for the risk budget tools are outside the scope of this permit modification.

These additions to this permit condition seek to regulate a radioactive waste management document and is therefore outside the authority of the WAC and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1. The objective of DOE O 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of human health and the environment. A PA is the computer modeling analysis that simulates the impacts from radiological constituents and determines whether the waste will meet the radiological performance objective established in DOE O 435.1. There are no similar processes used under WAC 173-303 to properly operate a landfill pursuant to WAC 173-303-665. As the IDF PA (RPP-RPT-59958) was developed to assess the radiological constituents to be disposed of in IDF, this document is not subject to WAC 173-303. Hazardous constituents that were addressed in the PA were included for informational purposes. Permit conditions specific to hazardous constituents are addressed in draft Permit Condition III.11.E.8.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Recommendation: Delete language that has been added to existing permit condition.

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36. Permit Condition III.11.E.10.a.i.
The RBT will include a sensitivity analysis reflecting parameters, their uncertainties, and changes to parameters as requested by Ecology.

Response: The language "…their uncertainties…" was added to the current permit condition language. There are no requirements under WAC 173-303 to perform an uncertainty analysis.

Requiring an uncertainty analysis would require administrative development under omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

Requiring an uncertainty analysis in this permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate

specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

In addition, this permit modification does not request changes to the risk budget tool. In accordance with WAC 173-303-840(10)(c), “In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit.” Per WAC 173-303-830(3), “When a permit is modified, only the conditions subject to modification are reopened.” Adding additional requirements for the Risk Budget Tool are outside the scope of this permit modification.

Recommendation: Delete “their uncertainties” from permit condition.

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37. Permit Condition III.11.E.10.a.iv.
The Permittees will provide access to PA modeling for the RBT reports to Ecology with the input provided by Ecology.

Response: This condition is seeking to regulate a radioactive waste management document, and is therefore outside the authority of the WAC and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1. The objective of DOE O 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of human health and the environment. A PA is the computer modeling analysis that simulates the impacts from radiological constituents and determines whether the waste will meet the radiological performance objective established in DOE O 435.1. There are no similar processes used under WAC 173-303 to properly operate a landfill pursuant to WAC 173-303-665. As the IDF PA (RPP-RPT-59958) was developed to assess the radiological constituents to be disposed of in IDF, this document is not subject to WAC 173-303. Hazardous constituents that were addressed in the PA were included for informational purposes. Permit conditions specific to hazardous constituents are addressed in draft Permit Condition III.11.E.10.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Recommendation: Delete permit condition.

38. Permit Condition III.11.F.4.
The Permittees will operate the IDF in accordance with all specifications contained in Appendix C6.

Response: The Permittees cannot operate to Appendix C6 based on the process outlined by the permit conditions. The construction specifications of Appendix C6 are the original plans for construction activities for the IDF landfill cells and leachate tanks. In accordance with Permit Conditions II.L.2, II.R, and III.11.D.7, changes to the facility that deviate from the specifications of Appendix C6 are documented through the ECN or NCR process, and incorporated into the as-builts, as required. As design changes may not result in a permit modification, Appendix C6 will not include the most recent design changes. Appendix C3 would contain the latest design specification drawings.

Recommendation: Change permit condition to refer to Appendix C3: "The Permittees will operate the IDF in accordance with all specifications contained in Appendix C3."

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39. Permit Condition III.11.F.5.c.
Waste packages will be placed in the landfill in a manner that limits interactions between waste packages to ensure reduction of chemical deterioration of waste packages and waste inside containers.

Response: This condition is not clear to the Permittees. The language "…limits interactions between waste packages…" implies the concern is between two containers. The language "…to ensure reduction of chemical deterioration of waste packages and waste inside containers" implies the concern is within a single container. The permit condition does not provide direction for actions required to "ensure reduction of chemical deterioration."

As described in Addendum B, "Waste Analysis Plan," incompatible waste is prohibited for acceptance at IDF, and all waste must be treated to LDR standards. Draft Permit Condition III.11.G.1 requires the Permittees to comply with the waste analysis plan requirements specific to Addendum B.

Recommendation: Delete permit condition.

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40. Permit Condition III.11.F.5.d.
Grouted waste forms should not be disposed above vitrified waste forms.

Response: Request flexibility to allow grouted waste to be disposed above vitrified based on a demonstration of safe disposal.

Recommendation: Recommend revising permit condition to state: *"Grouted waste forms should not be disposed above vitrified waste unless the Permittees can demonstrate in the Risk Budget Tool (Permit Condition III.11.E.10) that commingling of waste types will not impact underlying vadose or groundwater."*

41. Permit Condition III.11.F.9.a.iv and v.
III.11.F.9.a.iv Primary Liner Integrity: The Permittees will ensure that procedures for waste placement in the IDF, and the selection and operation of any equipment used within the lined portion of the IDF does not pose a risk of puncture or other damage to the primary liner, or damage berms. Only equipment that can be adequately supported by the operations layer, considering the geotechnical properties of the operating layer soils and the design and configuration of such equipment, will be used within the lined portion of the IDF.

III.11.F.9.a.v The Permittees will conduct waste management operations according to procedures for waste placement in the IDF and the selection and operation of any equipment used within the lined portion of the IDF to ensure such activities do not pose a risk of puncture or other damage to the primary liner or damage berms. These procedures will ensure that only equipment that can be adequately supported by the operations layer will be used. The Permittees will maintain a current copy of these procedures in the Hanford Facility Operating Record, IDF portion, and submit permit modifications for Addendum C appendices as necessary.

Response: Permit Conditions III.11.F.9.a.vi and III.11.F.9.a.v provide similar direction.

Recommendation: Recommend deletion of Permit Condition III.11.F.9.iv.

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42. Permit Condition III.11.F.9.a.vi.
The Permittees will construct berms and ditches to prevent run-on and runoff in accordance with the requirements of Addendum C. Before the first placement of waste in the IDF, the Permittees will submit to Ecology a final grading and topographical map on a scale sufficient to identify berms and ditches used to control run-on and runoff. Upon approval, Ecology will incorporate these maps into the permit as a permit modification.

Response: Current Permit Condition III.11.H.2 states that: "Upon approval, Ecology will incorporate these maps into the permit as a Class [1]1 modification." For this modification, Ecology deleted reference to a "Class [1]1." This permit modification does not request changes associated with this permit condition. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit."

Recommendation: Reinstate permit condition as currently written: "Upon approval, Ecology will incorporate these maps into the permit as a Class [1]1 modification."

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43. Permit Condition III.11.F.9.c.
Prior to the first placement of waste in the IDF, the Permittee will apply soil stabilization materials as needed to prevent soil erosion in and around the landfill.

Response: As described in the Fact Sheet, the Permittees include both the U.S. Department of Energy and the Central Plateau Cleanup Company.

Recommendation: Pluralize Permittee: "…the Permittees will apply soil stabilization…"

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44. Permit Condition III.11.F.9.d.
The Permittees will inspect the various liquid collection sumps for liquids after significant rainfall events.

Response: The terms "various liquid collection sumps" and "significant rainfall events" are vague, and do not provide clear compliance direction. Addendum I, Inspection Plan, outlines the sumps that will be inspected, and defines a "significant rainfall event." Draft Permit Conditions III.11.M.1 through 4 direct the Permittees to comply with Addendum I and conduct inspections according to Tables I-1 and I-2.

Recommendation: Delete permit condition or revise to state: "The Permittees will inspect the collection sumps for liquids after significant rainfall events, as defined in Addendum I, 'Inspection Plan.'"

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45. Permit Condition III.11.F.9.e.ii.
At least one hundred and twenty (120) days prior to initial waste placement in the IDF, the Permittees will submit a leachate monitoring plan to Ecology for review, approval, and incorporation into the permit. Upon approval by Ecology, this plan will be incorporated into the Permit as a Class [1]1 modification. The Permittees will not accept waste into the IDF until the requirements of the leachate monitoring plan have been incorporated into this Permit.

Response: The leachate monitoring plan was submitted to Ecology through a Class 3 permit modification request (21-ECD-001573).

Recommendation: Revise language to allow incorporation of the leachate monitoring plan through an alternate permit modification class: "Upon approval by Ecology, this plan will be incorporated into the Permit through a permit modification."

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46. Permit Condition III.11.F.9.e.iii.
At least one hundred and twenty (120) days prior to initial waste placement in the IDF, the Permittees will submit to Ecology for review, approval, and incorporation into the permit information on the Leachate Collection System, including adding the systems DWMUs as Miscellaneous Units. Upon approval by Ecology, this information will be incorporated into the Permit as a Class 3 modification. The Permittees will not accept waste into the IDF until the leachate collection system DWMUs have been incorporated into this Permit.

Response: A Class 3 permit modification request was submitted to Ecology on May 20, 2021 to include the Leachate Collection System (21-ECD-001573) as a miscellaneous DWMU, in accordance with Ecology letter 20-NWP-157. Please note that the Leachate Collection System consists of two units that have been managed as central accumulation area tanks since construction in 2006.

The permit condition states, "The Permittees will not accept waste into the IDF until the leachate collection system DWMUs have been incorporated into this Permit." The leachate

tanks are already incorporated into the permit as critical systems. As critical systems, Ecology required inclusion of all information (e.g., design drawings, construction specifications) necessary to demonstrate safe operation of the tanks; therefore, ensuring protection to human health and the environment. Adding a permit condition requiring the leachate collection systems as DWMUs before acceptance of waste is not required to demonstrate safe operation, and could have the potential of delaying start-up of direct feed low activity waste (DFLAW).

Further, this permit modification request does not include modifications to the Leachate Collection System. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding a condition concerning the leachate collection system is outside the scope of this permit modification.

Recommendation: Delete permit condition.

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47. Permit Condition III.11.G.2.
The Permittees are authorized to accept dangerous/MW that satisfies the waste acceptance requirements listed in Addendum B.

Response: As described in Addendum B, Section B.1.1, "IDF provides treatment, storage, and disposal of Hanford Site mixed waste, as defined by WAC 173-303-040, Definitions, and Hanford Site low-level waste (LLW)." IDF will not treat, store, or dispose of dangerous-only waste.

Recommendation: Remove reference to dangerous waste: "The Permittees are authorized to accept MW that satisfies the waste acceptance requirements listed in Addendum B."

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48. Permit Condition III.11.H.6
For wells subject to this Permit, the Permittees will comply with WAC 173-160 and Chapter 18.104 RCW by replacing non-compliant wells subject to the permit with new wells under the schedule in Hanford Federal Facility Agreement and Consent Order (HFFACO) Milestone M-24, as amended, incorporated by reference into this Permit.

Response: The Permittees agree to comply with WAC 173-160 and Chapter 18.104 RCW, and agree to use the TPA milestone M-024 process to maintain a schedule of well installation as needed.

However, the Permittees disagree with incorporating M-024 by reference. By incorporation of the M-024 milestone, this condition seems to also allow for creation of an alternative schedule through the permit modification process. The language should not infer an expectation that the permit modification process could be used as a separate, redundant process. The schedule for well decommissioning is determined through the M-024 milestone.

Recommendation: Remove Milestone M-024 language, and revise permit condition to the following: "For wells subject to this Permit, the Permittees will comply with WAC 173-160 and Chapter 18.104 RCW by replacing non-compliant wells subject to the permit with new wells."

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49. Permit Condition III.11.H.6.a.
The Permittees will submit a permit modification request to Ecology to decommission wells as necessary to ensure compliance with WAC 173-303-645. This permit modification request will include a schedule of compliance, which may incorporate by reference applicable schedule(s) in HFFACO Milestone M-24. For wells to be decommissioned, this permit modification must also include a request for installation of replacement wells, if necessary, to ensure compliance with WAC 173-303-645 requirements.

Response: The WAC 173-160 regulations already regulate and provide the needed requirements for when a well needs to be decommissioned, the notice provided to the State, and the submittals after decommissioning of the well. Ecology agreed to delete the permit condition during discussions between the Permittees and Ecology on proposed permit conditions. The Permittees received communication from Ecology on 06/17/2021 stating this condition would be deleted.

In addition, the Permittees disagree with incorporating M-024 by reference. By incorporation of the M-024 milestone, this condition seems to also allow for creation of an alternative schedule through the permit modification process. The language should not infer an expectation that the permit modification process could be used as a separate, redundant process. The schedule for well decommissioning is determined through the M-024 milestone.

Recommendation: Delete permit condition.

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50. Permit Condition III.11.L.5.
Proposed closure performance standards are presented in Addendum H. No later than six (6) months prior to acceptance of the last shipment of waste at the IDF, the Permittees will update the IDF "Closure Plan," Permit Addendum H, with the Closure Performance Standards identified in Ecology Letter 20-NWP-132 (or updated version of Closure Performance Standards) and submit to Ecology for review, approval, and incorporation into the Permit.

Response: The closure performance standards identified in Letter 20-NWP-132 were calculated for the WRPS tank systems and used Cleanup Levels and Risk Calculation (CLARC) values that are already outdated. The values in the letter do not include all waste codes listed in the IDF Part A, and do not use the most current CLARC table values. In addition, including a letter in a permit condition fails to comply with the rulemaking requirements of the Washington Administrative Procedures Act, as letters have not been vetted through the rule making process.

Recommendation: Revise permit condition to state: "*Proposed closure performance standards are presented in Addendum H. No later than six (6) months prior to acceptance of*

the last shipment of waste at the IDF, the Permittees shall update the IDF Closure Plan, Permit Addendum H, with the most current Closure Performance Standards agreed to by DOE and Ecology, and submit to Ecology for review, approval, and incorporation into the Permit."

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51. Permit Condition III.11.M.1.
The Permittees will comply with the inspection requirements specific to Addendum I, "Inspection Plan," and Permit Condition II.O, in accordance with WAC 173-303-320, -395, -630, -640, -665, and -680, incorporated by reference.

Response: This permit modification does not include the leachate collection tanks; thus, inspections in accordance with WAC 173-303-640 and 680 should not be included.

Recommendation: Delete reference to WAC 173-303-640 and -680.

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52. Permit Condition III.11.O.2.
The Permittees will maintain institutional controls during post-closure to prevent damage from intrusion and ensure the cover functions as designed and approved. These controls may include, but are not limited to active maintenance and repair of vegetative cover to ensure evapotranspiration.

Response: This permit condition includes the term "may include, but are not limited to." This is vague and does not provide clear compliance direction. The post-closure plan addresses applicable requirements, and Permit Condition III.11.O.1 requires the Permittees to comply with the post-closure requirements specific to Addendum K.

Recommendation: Delete permit condition.

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53. Permit Condition III.11.P.2.a.
A description of and quantity of each dangerous/MW accepted for disposal by the IDF, and documentation of its disposal. [WAC 173-303-380(1)(a)].

Response: As described in Addendum B, Section B.1.1, "IDF provides treatment, storage, and disposal of Hanford Site mixed waste, as defined by WAC 173-303-040, Definitions, and Hanford Site low-level waste (LLW)." IDF will not treat, store, or dispose of dangerous-only waste.

Recommendation: Remove reference to dangerous waste: "A description of and quantity of each MW accepted for disposal by the IDF, and documentation of its disposal. [WAC 173-303-380(1)(a)]"

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54. Appendix C1.Phase I Critical Systems Design Report.

Response: The submitted appendix was based on the native 2019 permit file. Since receipt of the native file, PCN-IDF-2020-04 was submitted to Ecology and incorporated into the Permit.

Language changes in PCN-IDF-2020-04 revised Appendix C1 to reflect the construction plan to remove the floating covers from the leachate collection tanks and install domes. In this version of Appendix C1 out for public comment, Ecology has used the current permit file, deleted references to the dome and associated piping, and added back in the floating cover language. The Permittees did not request these changes.

Recommendation: Ensure language changes made in PCN-IDF-2020-04 are included in the issued IDF permit.

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55. Appendix C1.Phase I Critical Systems Design Report – Appendices.
Note: Copies of each of the appendices listed below are located in the Integrated Disposal Facility (IDF) Administrative Record and can be viewed in the Ecology library.

Response: The Critical Design Report appendices were submitted to Ecology as Official Use Only, thus are withheld from public inspection and copying, which was stated in the 2004 IDF permit application submittal letter (04-TPD-021).

Recommendation: Delete added language "Note: Copies of each of the appendices listed below are located in the Integrated Disposal Facility (IDF) Administrative Record and can be viewed in the Ecology library."

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56. Appendix C3. Design Drawings.

Response: The submitted appendix was based on the native 2019 permit file. Since receipt of the native file, PCN-IDF-2020-04 and PCN-IDF-2021-01 were submitted to Ecology and incorporated into the Permit. Drawing changes in PCN-IDF-2020-04 and PCN-IDF-2021-01 revised Appendix C3 to reflect the construction plan to install domes on the leachate collection tanks and build a pipeline between the tanks. In this version of Appendix C3 out for public comment, Ecology has used the current permit file, but deleted the drawings previously added. The Permittees did not request the deletion of these drawings.

Recommendation: Ensure the following drawings from PCN-IDF-2020-04 and PCN-IDF-2021-01 are included in the issued IDF permit. Include the following drawings:

- H-2-830829 sh2
- H-2-830846 sh 1
- H-2-830846 sh 2
- H-2-830850 sh 2
- H-2-830851 sh 1
- H-2-830852 sh 1
- H-2-830854 sh 4
- H-2-830858 sh 1
- H-2-830869
- H-2-830872 sh 1
- 602899-10-00

57. Addendum D, Section D.2.5, Sample Schedule Impacts, p. D.56, lines 29-30.
DOE will provide informal notification to Ecology if sampling of the network is expected to be delayed 4 weeks.

Response: The notification information requires modification.

Recommendation: Revise the instruction for the notification: "DOE will provide informal notification[1] to Ecology if sampling of the network is expected to be delayed past the end of the sampling period (e.g., quarterly, semiannual). Notification will be made within 4 weeks of the end of the sampling period."

Add the following associated footnote: "Informal notification may be an email, or a telephone call that is later documented via email."

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58. Addendum D, Section D.2.5, Sample Schedule Impacts, p. D.56, lines 35-36.
Missed or cancelled sampling events are documented in the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66, Hanford Site Groundwater Monitoring Report for 2017).

Addendum D, Section D.2.6, Annual Determination of Groundwater Flow Rate and Direction, p. D.57, lines 13-14.
The annual determination of groundwater flow rate and direction is documented in the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66).

Addendum D, Section D.2.9, Data Submittals to Ecology, p. D.58, lines 23-24.
Sample data will be summarized in the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66).

Addendum D, Section D.2.11, Reporting, p. D.65, lines 37-39.
Formal reporting will be made within the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66). This report will be placed in the Hanford facility operating record. DOE will include the following in the report:

Addendum D, Section D.2.11, Reporting, p. D.66, lines 10-11.
A copy of the annual Hanford Site groundwater monitoring report will be placed into the Hanford facility operating record.

Addendum D, Section DA.2.5, Documents and Records p. Appendix DA.11, lines 26-27.
Groundwater monitoring results are reported in the Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66, Hanford Site Groundwater Monitoring Report for 2017.

Response: Change instruction to remove reference to the annual Hanford Site groundwater monitoring report.

Recommendation: Revise the sentences above to the applicable sentences:
Addendum D, Section D.2.5, Sample Schedule Impacts, p. D.56, lines 35-36.

"Sample data will be reported annually."

Addendum D, Section D.2.6, Annual Determination of Groundwater Flow Rate and Direction, p. D.57, lines 13-14.
"The annual determination of groundwater flow rate and direction will be reported annually."

Addendum D, Section D.2.9, Data Submittals to Ecology, p. D.58, lines 23-24.
"Sample data will be summarized and reported annually."

Addendum D, Section D.2.11, Reporting, p. D.65, lines 37-39.
"Formal reporting will be performed annually and will be placed in the Hanford facility operating record)."

Addendum D, Section D.2.11, Reporting, p. D.66, lines 10-11.
"A copy of the annual groundwater monitoring report will be placed into the Hanford facility operating record."

Addendum D, Section DA.2.5, Documents and Records p. Appendix DA.11, lines 26-27.
"Groundwater monitoring results are reported annually."

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59. Addendum D, Section D.2.10.1, Statistical Methods, p. D.61, line 19 - 28.
Prior to calculating a prediction interval, the baseline/background dataset will be evaluated for outliers, statistical (sample) distribution, temporal trends, and spatial variance. Outliers will be determined through a combination of statistical tests (e.g., Grubbs, Dixon, or Rosner tests) together with visual inspection of the data using, for example, time-series plots, probability plots, and boxplots. As part of this evaluation, any data determined to be the result of well corrosion will be considered an outlier. Identified outliers will be removed from the baseline/background dataset prior to calculating prediction intervals.

Initially, UPLs will be calculated for each constituent at each well (as appropriate), based on the baseline/background dataset. UPLs may be updated after it has been determined that the data are representative of the baseline/background condition; however, UPLs are not updated at each sampling event....

Response: Additional statistical information should be added.

Recommendation: Revise lines to include underlined text shown below:
"Prior to calculating a prediction interval, the baseline/background dataset will be evaluated for outliers, statistical (sample) distribution, temporal trends, and spatial variance. Outliers will be determined through a combination of statistical tests (e.g., Grubbs, Dixon, or Rosner tests) together with visual inspection of the data using, for example, time-series plots, probability plots, and boxplots. As part of this evaluation, any data determined to be the result of well corrosion will be considered an outlier. Identified outliers will be removed from the baseline/background dataset prior to calculating prediction intervals and the outliers and methods used to identify outliers will be reported with the results. The site-wide false positive rate will be minimized by balancing the number of individual tests, the individual test false

positive rate and the size of the background dataset. Effective power curves will be compared to EPA reference power curves to determine the appropriate parameters needed to obtain acceptable to good statistical power.

Initially, UPLs will be calculated for each constituent at each well (as appropriate), based on the baseline/background dataset. Statistical distribution testing, such as the Shapiro-Wilk test, will be used to determine if a parametric or nonparametric method is appropriate for calculating UPLs for a specific well-analyte pair, consistent with Chapters 18 and 19 of EPA 530/R-09-007. A 1-of-2 retesting strategy will be used for detection monitoring. The 1-of-2 retesting strategy requires a resample be collected if the regularly scheduled sample exceeds the UPL. If both the regularly scheduled sample and its' resample exceed the UPL, then there is statistically significant evidence of a release from the facility. If the resample does not exceed the UPL, then there is no statistically significant evidence of a release and the site will remain in detection monitoring. UPLs may be updated after it has been determined that the data are representative of the baseline/background condition; however, UPLs are not updated at each sampling event…"

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60. Addendum D, Section D.2.10.1, Statistical Methods, p. D.62, line 24 – 29.
For monitoring constituents that are not detected in the baseline/background dataset, the Double Quantification rule from EPA 530/R-09-007 will be applied. The Double Quantification rule states that "[a] confirmed exceedance is registered if any well-constituent pair in the '100% non-detect' group exhibits quantified measurements […] in two consecutive sample and resample events" (pp. 6-11 in EPA 530/R-09-007). A sample result will be identified as detected if the concentration is above the practical quantitation limit.

Response: Add instruction for this evaluation.

Recommendation: After lines 24-29, add the following paragraph and bullets:
"If a constituent, which was not previously detected in groundwater, is determined to be present in groundwater through detection in each of the four sample and resample events, the well is considered to have failed the Double Quantification test for that constituent. If the constituent is not detected in the sample or resample, the test is complete and no resample or other action is needed. The sampling sequence is as follows:

- Sample 1 – if constituent is detected; collect Resample 1. If constituent is not detected, the test is complete and end sampling (no further action).
- Resample 1 – if constituent is detected, collect Sample 2. If constituent is not detected, the test is complete and end sampling (no further action).
- Sample 2 – if constituent is detected, collect Resample 2. If constituent is not detected, the test is complete and end sampling (no further action).
- Resample 2 – end of sampling. If detected, the constituent has failed the Double Quantification test for that well. If constituent is not detected, the test is complete (no further action)."

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61. Addendum D, Section D.2.10.4, Evaluation of Routine Monitoring Sample Data.

b. For constituents where a UPL could not be determined during the baseline/background phase because the constituent was not detected in more than 50% of the samples.
c. Sample data collected during routine monitoring will be evaluated using the Double Quantification rule (EPA 530/R-09-007). If two consecutive sample and resample events (four data points) show detection of a constituent (above a practical quantitation limit), that constituent will be considered to be present in groundwater.

Response: Items b. and c. should not be separate.

Recommendation: Revise text to make items b and c into a single instruction: "For constituents where a UPL could not be determined during the baseline/background phase because the constituent was not detected in more than 50% of the samples, sample data collected during routine monitoring will be evaluated using the Double Quantification rule (EPA 530/R-09-007). If two consecutive sample and resample events (four data points) show detection of a constituent (above a practical quantitation limit), that constituent will be considered present in groundwater."

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62. Addendum D, Section D.3.
The monitoring well network consists of two background (upgradient) wells (299-E24-24) and five point of compliance (downgradient) wells (existing wells 299-E17-22, 299-E24-18, and 299 E24-21, and new wells 299-E17-56 and 299-E24-164).

Response: Sentence states there are two upgradient wells but only one well is identified.

Recommendation: Add 299-E17-57 as the second upgradient well: "The monitoring well network consists of two background (upgradient) wells (299-E17-57 and 299-E24-24) and five point of compliance (downgradient) wells (existing wells 299-E17-22, 299-E24-18, and 299 E24-21, and new wells 299-E17-56 and 299-E24-164)."

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63. Addendum D, Table D-4, Attributes for Wells in the Integrated Disposal Facility Groundwater Monitoring Network.

Response: Table D-4 should be updated to include current information and format. In addition, "Depth of Water in Screen" entries are incorrect due to the update to the 2020 water level information for existing wells and are no longer included in groundwater monitoring plans.

Adding updated information for 299-E17-56 will also preclude the need for the footnote regarding proposed well coordinates.

Recommendation: Replace table content in entirety with content from table below, ensuring to remove the column for "Depth of Water in Screen."

Table. Attributes for Wells in the IDF Groundwater Monitoring Network

Well Name	Completion Date	Easting[a] (m)	Northing[a] (m)	Top of Casing Elevation (m [ft]) (NAVD88)	Water Table Elevation (m [ft]) (NAVD88)	~~Depth of Water in Screen (m [ft])~~	~~Water Level Date~~
299-E17-22	4/16/2002	574841.09	135195.54	221.45 (726.55)	121.53 (398.71)	~~9.1 (31.7)~~	~~9/28/2020~~
299-E17-56 [b]	9/12/2019	574649.83	135370.57	220.75 (724.26)	121.54 (398.74)	~~5.5 (18.2)~~	~~8/14/2020~~
299-E17-57 [b]	7/26/2019	574169.76	135314.80	221.55 (726.88)	121.89 (396.63)	~~5.9 (19.4)~~	~~8/14/2020~~
299-E24-18	9/19/1988	574647.09	135469.76	220.35 (722.93)	121.52 (398.68)	~~1.9 (6.2)~~	~~9/28/2020~~
299-E24-21	3/28/2001	574635.76	135698.20	218.65 (717.34)	121.53 (398.72)	~~4.9 (16.2)~~	~~9/28/2020~~
299-E24-24	5/26/2005	574179.85	135459.79	221.22 (725.79)	121.53 (398.71)	~~9.7 (31.7)~~	~~9/28/2020~~
299-E24-164 [b]	9/24/2019	574637.27	135534.90	219.83 (721.23)	121.43 (398.40)	~~7.3 (24.0)~~	~~8/14/2020~~

Reference: NAVD88, *North American Vertical Datum of 1988.*

a. Coordinates are in Washington State Plane (south zone), NAD83, *North American Datum of 1983*; 1991 adjustment.

b. Water-table elevation in this well has not been corrected for deviation of boreholes from vertical, which may cause the reported head to be less than the actual head.

64. Addendum D, Table D-5, Monitoring Wells and Sample Schedule for Integrated Disposal Facility.

Response: Footnote f is presented in the table notes but there is no footnote f in the table.

Recommendation: Remove footnote f from the table.

65. Appendix DA, Table DA-2, Analytical Methods for Integrated Disposal Facility Constituents, p. Appendix D.A.16:

Response: The entry for cyanide should be changed to have separate entries for cyanide (total) and cyanide (free).

Recommendation: Revise the existing row for "Cyanide" to "Cyanide (free)" as shown below. Add a new row for Cyanide (total) as shown below. Changes are underlined.

CAS Number	Waste Constituent (Alternate Name)	Analytical Method	Practical Quantitation Limit (µg/L)
57-12-5	Cyanide (total)	335.4, 9012, 9014, Standard Method 4500	15.75
57-12-5	Cyanide (free)	9014	4

66. Appendix DA, Table DA-2, Analytical Methods for Integrated Disposal Facility Constituents, p. Appendix D.A.16 - Appendix D.A.23:

Response: Several identified Practical Quantitation Limits are not the most current.

Recommendation: Revise Practical Quantitation Limits:
- Copper: change from 12.6 µg/L to 10 µg/L
- Manganese: change from 5.25 µg/L to 10.5 µg/L
- Selenium: change from 10.5 µg/L to 9.5 µg/L
- Carbon disulfide: change from 10.5 µg/L to 5 µg/L
- Vinyl chloride: change from 2.1 µg/L to 10 µg/L
- 2-Acetylaminofluorene: change from 100 µg/L to 105 µg/L
- 2,4-Dinitrophenol: change from 50 µg/L to 52.5 µg/L
- 3,3′-Dichlorobenzidine: change from 52.5 µg/L to 105 µg/L
- Bis(2-ethylhexyl) phthalate: change from 10.5 µg/L to 15.7 µg/L

67. Appendix DA, Table DA-2, Analytical Methods for Integrated Disposal Facility Constituents, p. Appendix D.A.18:

Response: There is no entry for n-butyl alcohol (1-butanol) in Table DA-2.

Recommendation: Add a new entry in "Volatile Organic Compounds" category for n-butyl alcohol (1-butanol):

CAS Number	Waste Constituent (Alternate Name)	Analytical Method	Practical Quantitation Limit (µg/L)
71-36-3	n-Butyl alcohol (1-Butanol)	8260	262.5

68. Appendix DA, Table DA-3, QC Samples, p. D.A.24, footnote a.:
For portable pumps, equipment blanks are collected (1 for every 10 well trips).

Response: The information in this footnote needs correction.

Recommendation: Revise footnote: "For portable pumps, equipment blanks are collected (1 for every 20 well trips)."

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69. Appendix DB, Section DB.2 Sampling Methods, p. Appendix DB.7, line 19 to Appendix DB.8, line 33:

Response: The information in this section is not the most current.

Recommendation: Revise the text on the subject lines with that provided below:
"Groundwater samples will be collected according to the current and applicable field practices. Groundwater samples are collected after field measurements of purged groundwater have stabilized as follows:

- pH – two consecutive measurements agree within 0.2 pH units
- Temperature – two consecutive measurements agree within 0.2°C (0.4°F)
- Conductivity – two consecutive measurements agree within 10% of each other
- Turbidity – less than 5 nephelometric turbidity units prior to sampling (or the recommendation by staff assigned by the Prime Contractor Project Manager at the time of collection)

Dissolved oxygen will also be measured in the field. Dissolved oxygen is not required to be stable prior to sample collection.

Environmental-grade electric submersible pumps will typically be used for well purging and sample collection in existing wells with a flow rate not exceeding 7.6 L/min (2 gal/min). In the event a well exhibits insufficient productivity to support purging and sampling using the environmental-grade electric submersible pumps, adjustable-rate bladder pumps with typical flow rates of 0.1 to 0.5 L/min (0.026 to 0.13 gal/min) may be employed. As environmental-grade electric submersible pumps are replaced when they reach the end of their service lives due to age, normal wear, or failure, they will be replaced with adjustable-rate bladder pumps. The same purge protocol described for environmental-grade electric submersible pumps will be used for the adjustable-rate bladder pumps.

Dedicated pumps (i.e., submersible pumps placed semi-permanently in monitoring wells) may be used for well purging and sampling. In all wells using dedicated pumps, the depth to the water table will be determined at each well, and the placement of the pump intake will be in the upper portion of the unconfined aquifer (e.g., within 3.1 m [10 ft] of the measured water table depth). Pump depths will be confirmed before purging and sample collection. Dedicated pumps will be reset as needed to maintain the pump intake depth within the upper portion of the unconfined aquifer. Groundwater monitoring wells will be purged and sampled

using purge and sample techniques and selected pump placement that are representative of groundwater conditions near the observed water table at the time of sampling.

The use of purge and sample techniques with a flow rate not exceeding 7.6 L/min (2 gal/min) allows collection of representative samples of groundwater near the water table in wells that have been constructed using longer screens (e.g., up to 9.1 m [30 ft]) than typically used for water table monitoring. The use of longer screens for RCRA groundwater monitoring wells contributes to a longer service life for wells in areas where declining water table elevations have historically rendered wells unusable after relatively short periods of time.
Unless special directions are provided by the staff assigned by the Prime Contractor Project Manager at the time of sample collection, wells are typically purged at a flow rate not to exceed 7.6 L/min (2 gal/min). Purging will continue until stable readings of selected field water quality parameters are achieved (as described above).

Field measurements (except for turbidity) are typically obtained using an instrumented flow-through cell located at the wellhead. Groundwater is pumped directly from the well to the flow-through cell. At the beginning of the sample event, field crews attach a clean stainless steel sampling manifold to the riser discharge. The manifold has two valves and two ports: one port is used only for purgewater, and the other port is used to supply water to the flow-through cell. Probes are inserted into the flow-through cell to measure pH, temperature, specific conductance, and dissolved oxygen, if required by the main text. Turbidity is measured by collecting an aliquot of water from the purgewater valve and inserting the sample vial into a turbidimeter. Purgewater, including the water passing through the flow-through cell, is then discharged to a tank on a purgewater truck.

Collection of the field measurement data will commence when a volume of water equal to the volume of the pump riser pipe has been extracted and discharged to a purgewater truck, field measurements have stabilized, the hose supplying water to the flow-through cell is disconnected, and a clean stainless steel drop leg is attached for sampling collection. The flow rate does not exceed 7.6 L/min (2 gal/min) during sampling to minimize the loss of volatiles (if any) and prevent overfilling the bottles. Sample bottles are filled in a sequence designed to minimize loss of volatiles (if any). If both filtered and unfiltered samples are required (see Table 4-1), filtered samples are collected after collection of the unfiltered samples.

Samples may be filtered in the field, using a 0.45 µm filter, as noted on the chain-of-custody form. Unfiltered samples are collected in conjunction with filtered samples to determine if metal constituents being monitored (excluding hexavalent chromium, if one of the monitored constituents) occur as both suspended and dissolved phases, or in only one state. The evaluation of suspended and dissolved metals provides 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."

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70. Appendix DB, Section DB.5.3 Sample Custody, p. Appendix DB.12, lines 4 - 5
The field sampling team will make a copy of the signed record before sample shipment and transmit the copy to the Sample Management and Reporting group.

Response: The information in this sentence is not the most current.

Recommendation: Remove the entire sentence from Section DB.5.3.

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71. Appendix DB, Section DB.5.3 Sample Custody, p. Appendix DB.12, end of Section D5.3

Response: The information in this section is not the most current.

Recommendation: Add the sentence below at the end of Section D5.3:
"Sample custody will be maintained within subcontract laboratories in accordance with documented protocols."

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72. Appendix DB, Section DB.6 Management of Waste, p. Appendix DB.12, lines 30 – 33
Waste materials generated during sample activities, including purgewater and decontamination fluids, will be collected and managed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as authorized under Ecology et al., 1989, Hanford Federal Facility Agreement and Consent Order Action Plan Milestone M-024.

Response: The information in this section is not the most current.

Recommendation: Revise the sentence as follows: "Waste materials generated during sample activities, including purgewater and decontamination fluids, will be collected and managed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as authorized under Ecology et al., 1989, Hanford Federal Facility Agreement and Consent Order Action Plan, Milestone M-024, and the waste control plan or waste management plan associated with the applicable groundwater operable unit."

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73. Appendix DC, Section DC.1 Introduction, p. DC.3, lines 13 – 17, Table DC-2, Sampling Interval Information for Wells Within the IDF Network, and Table DC-3, Planned Locations, Surface Elevations, and Estimated Water Elevations and Depths for Proposed Wells Within the Integrated Disposal Facility Network, pp. Appendix DC.5 - Appendix DC.7.
For proposed wells, the following information is provided in Table C-3:
    - *Well location*
    - *Surface elevation*
    - *Estimated water elevation*
    - *Estimated water depth*

Response: The proposed wells have been drilled.

Recommendation: Remove lines 13-17. Remove Table DC-3. Replace Table DC-2 with the table below that includes the 3 new wells (299-E17-56, 299-E17-57, and 299-E24-164).

Table DC-2. Sampling Interval Information for Wells Within the Integrated Disposal Facility Network

Well Name	Hydrogeologic Unit Monitored	Elevation Top of Open Interval (m [ft] NAVD88)	Elevation Bottom of Open Interval (m [ft] NAVD88)	Open Interval Length (m [ft])	Drilling Method
299-E17-22	TU	122.6 (402.1)	111.9 (367.0)	10.7 (35.1)	Becker hammer
299-E17-56	TU	97.9 (321.2)	104.0 (341.2)	6.1 (20.0)	Dual rotary
299-E17-57	TU	99.7 (327.1)	105.8 (347.2)	6.1 (20.0)	Becker hammer
299-E24-18	TU	126.0 (413.4)	119.0 (390.4)	7.0 (23.0)	Cable tool
299-E24-21	TU	122.7 (402.5)	116.6 (382.5)	6.1 (20.0)	Becker hammer
299-E24-24	TU	122.5 (402.0)	111.9 (367.0)	10.6 (35.0)	Becker hammer
299-E24-164	TU	97.3 (319.2)	105.0 (344.3)	7.7 (25.1)	Cable tool

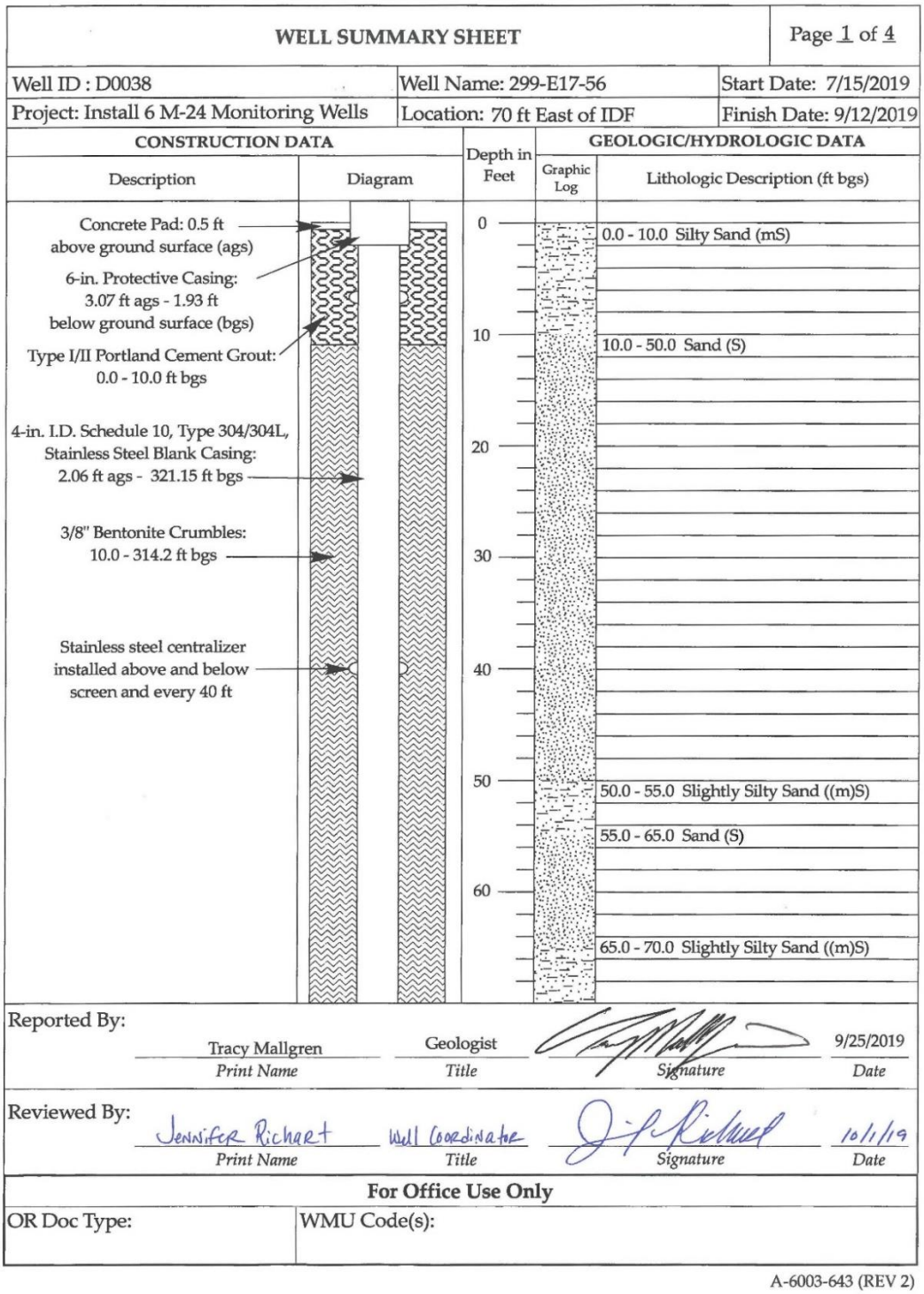
Reference: NAVD88, *North American Vertical Datum of 1988*.

TU = Top of Unconfined, as described in Table C-1

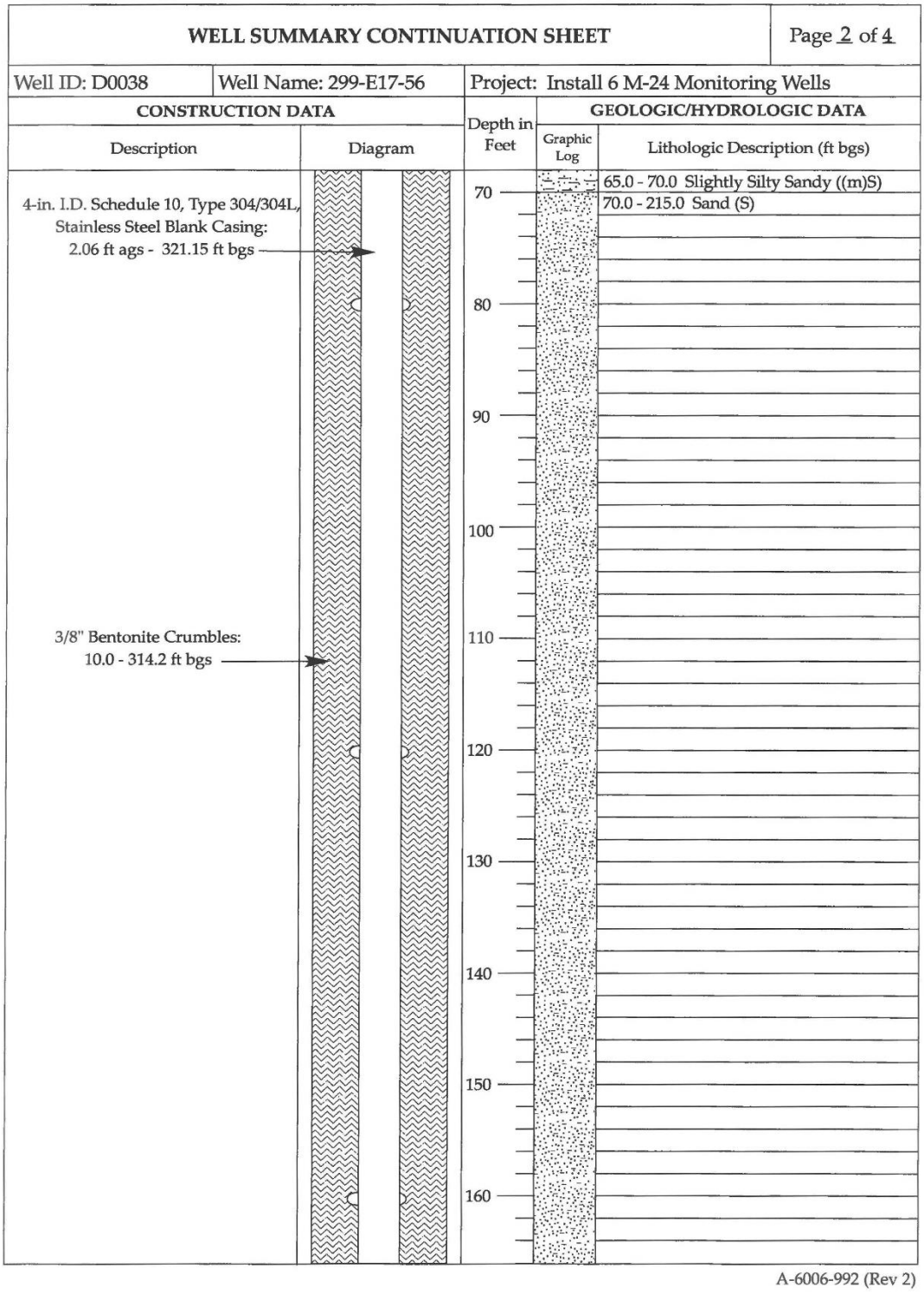
74. Appendix DC, Section DC.1, Introduction, p. DC.3, lines 18-19, and Figures, pp. Appendix DC.9 - Appendix DC.15.
Figures DC-1, DC-3, and DC-4 provide construction and completion summaries for the existing network wells

Response: The proposed wells have been drilled.

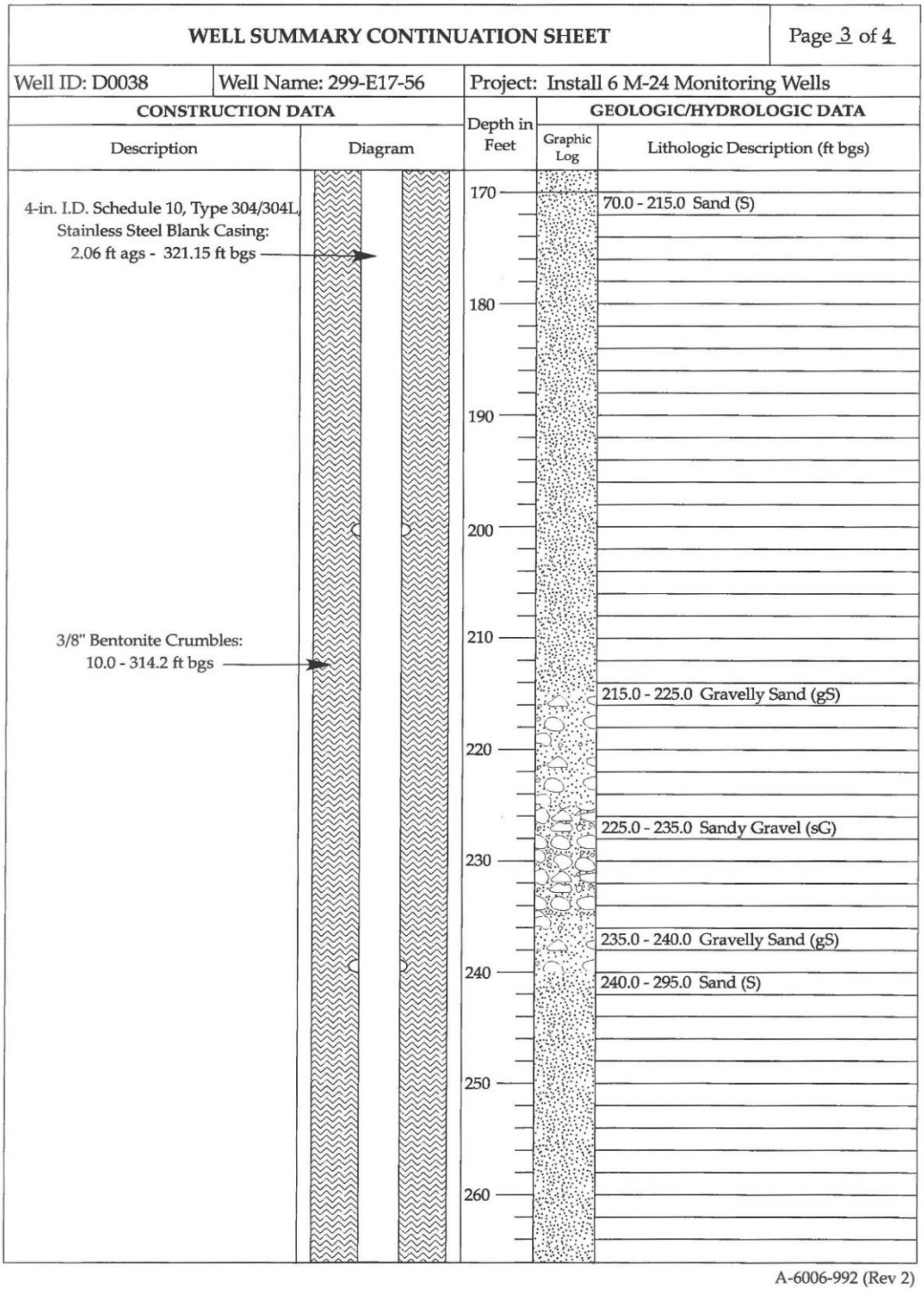
Recommendation: Add construction figures for the 3 new wells (299-E17-56, 299-E17-57, and 299-E24-164). Change lines 18 -19 to appropriately reference the additional construction figures for the 3 new wells. Update table of contents for the construction figures. Construction figures for these 3 wells are provided below.



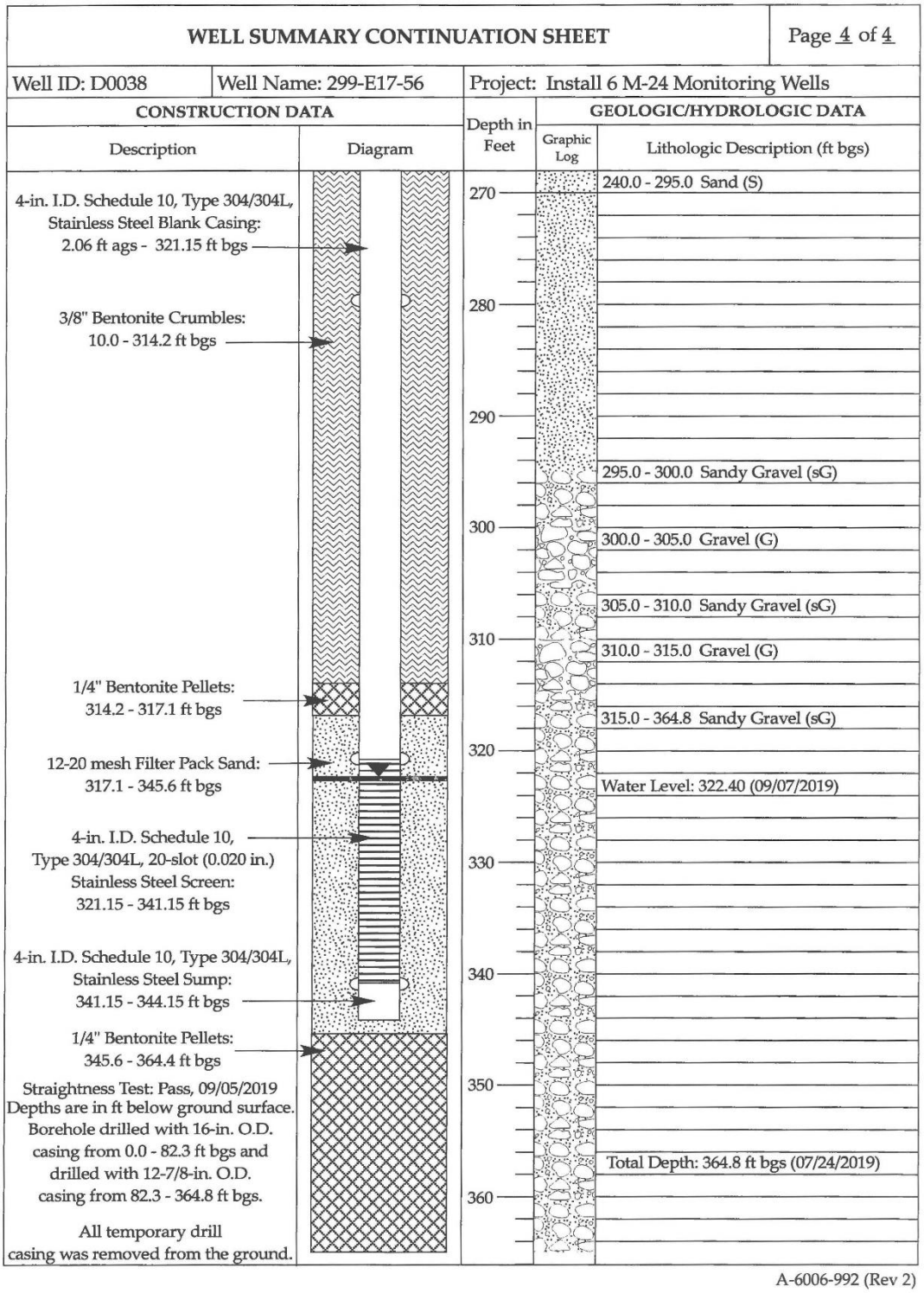
Well 299-E17-56 Construction and Completion Summary (1 of 4)



Well 299-E17-56 Construction and Completion Summary (2 of 4)



Well 299-E17-56 Construction and Completion Summary (3 of 4)

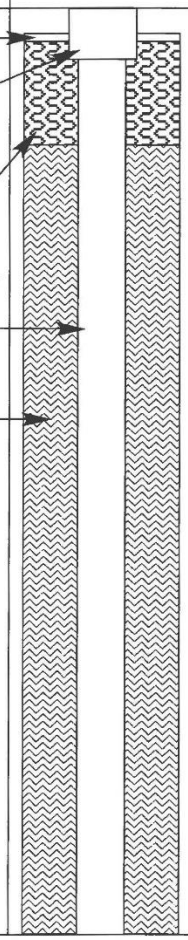


Well 299-E17-56 Construction and Completion Summary (4 of 4)

WELL SUMMARY SHEET | Page 1 of 4

Well ID : D0041	Well Name: 299-E17-57	Start Date: 5/20/2019
Project: Install 6 M-24 Monitoring Wells	Location: 85ft West of IDF	Finish Date: 7/26/2019

CONSTRUCTION DATA

Description	Diagram
Concrete pad: 0.5 ft above ground surface (ags) 6-in. Protective Casing: 3.02 ft ags - 1.98 ft below ground surface (bgs) Type I/II Portland Cement Grout: 0.0 - 8.6 ft bgs 4-in. I.D. Schedule 10, Type 304/304L, Stainless Steel Blank Casing: 1.99 ft ags - 327.13 ft bgs Bentonite Crumbles: 8.6 - 322.7 ft bgs	

GEOLOGIC/HYDROLOGIC DATA

Depth in Feet	Graphic Log	Lithologic Description (ft bgs)
0		0.0 - 10.0 Sand (S)
10		10.0 - 25.0 Gravelly Sand (gS)
20		
		25.0 - 46.0 Sand (S)
30		
40		
		46.0 - 50.0 Sandy Gravel (sG)
50		50.0 - 60.0 Sand (S)
60		60.0 - 85.0 Slightly Silty Sand ((m)S)

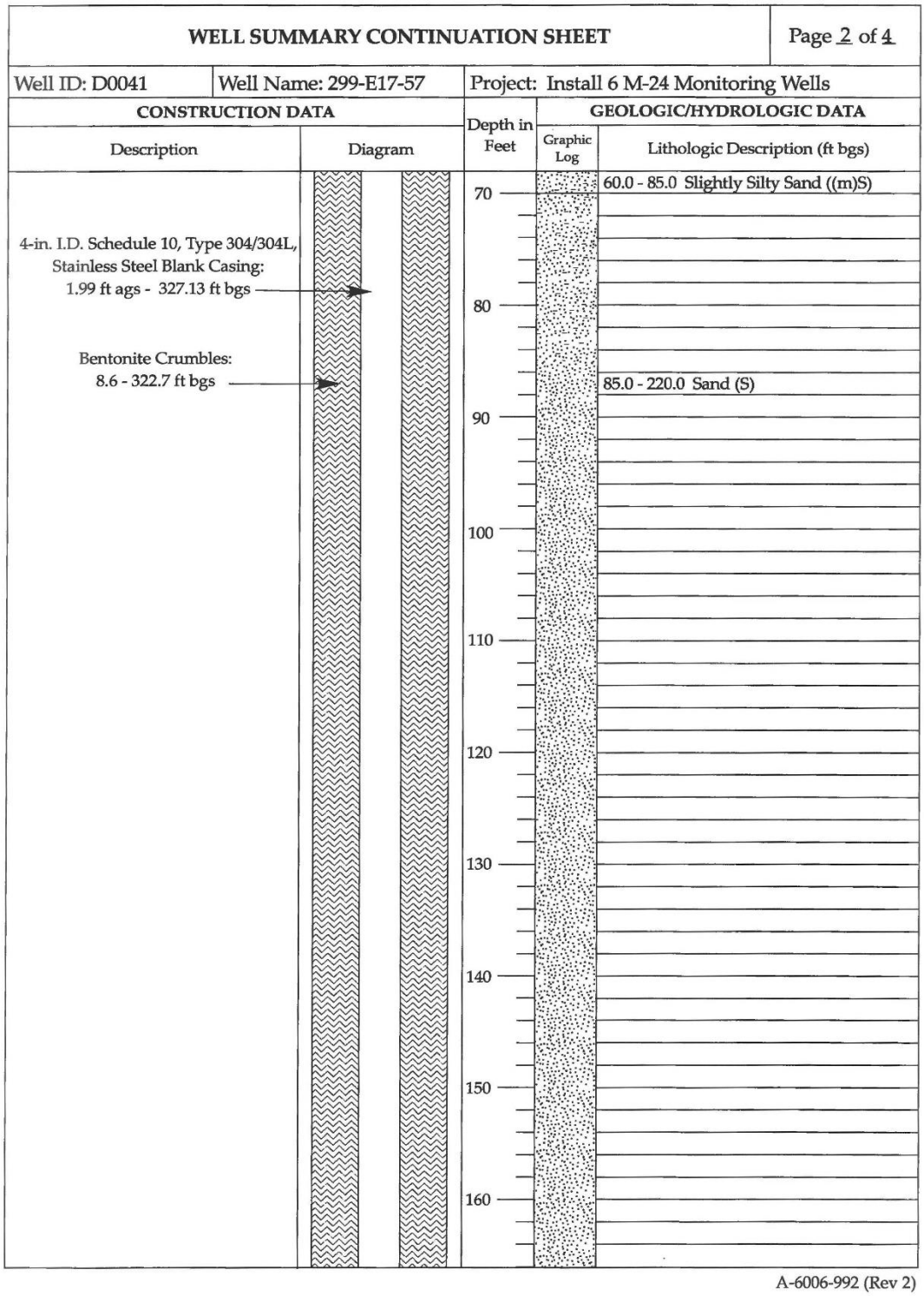
Reported By:	Print Name	Title	Signature	Date
	Tracy Mallgren	Geologist		7/29/2019
Reviewed By:	Jennifer Richart	Well Coordinator	J. Richart	8/7/19

For Office Use Only

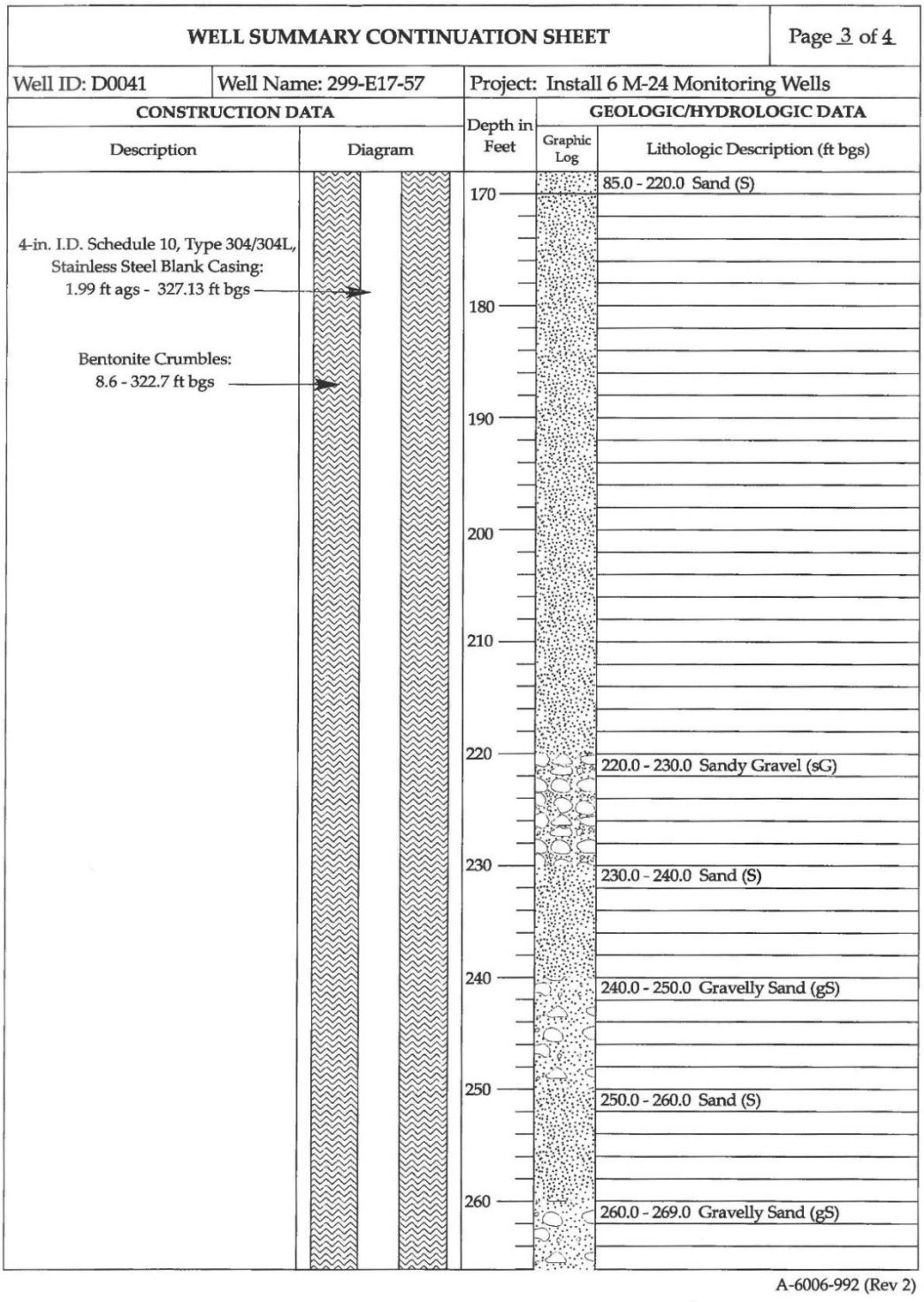
OR Doc Type:	WMU Code(s):

A-6003-643 (REV 2)

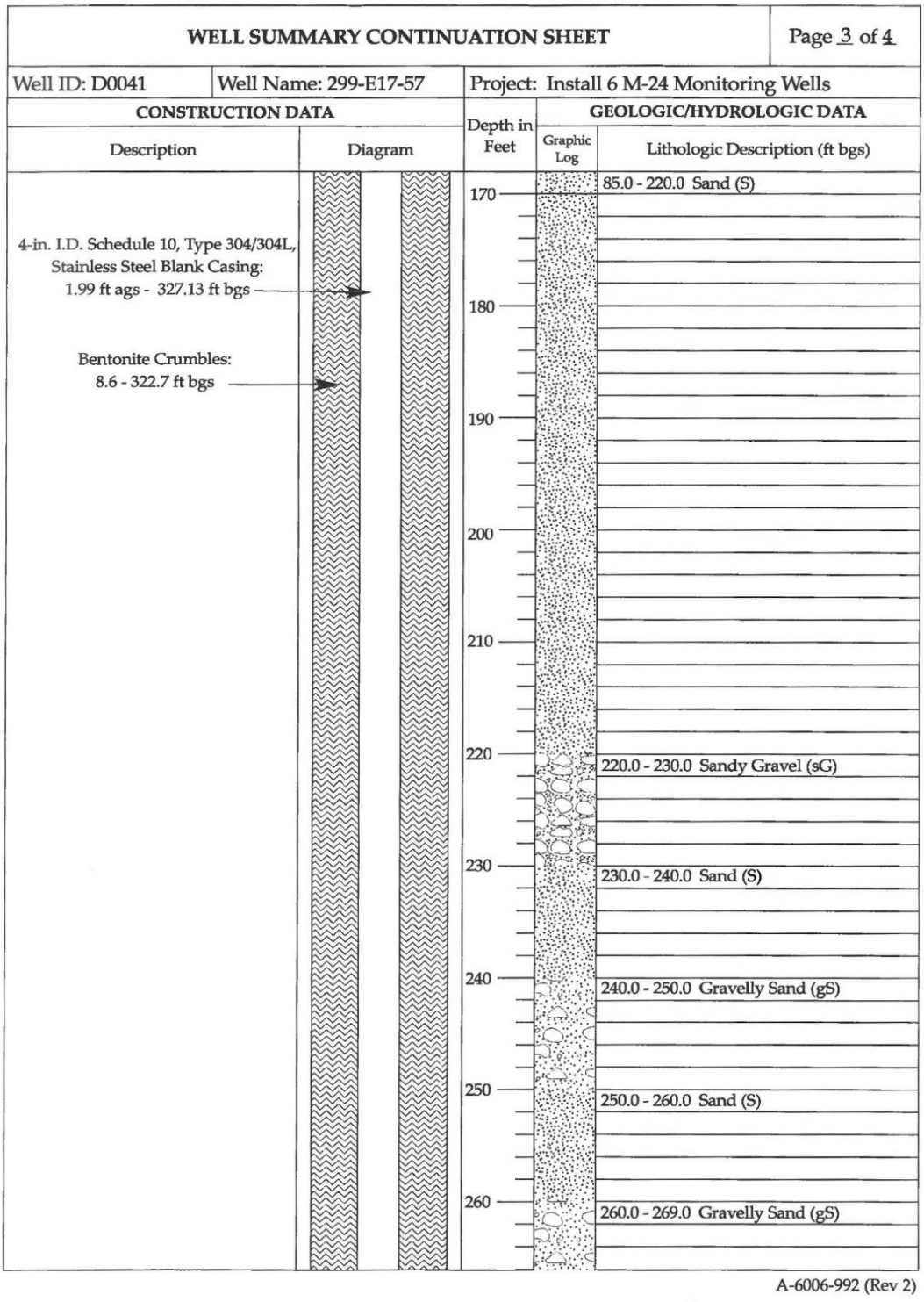
Well 299-E17-57 Construction and Completion Summary (1 of 4)



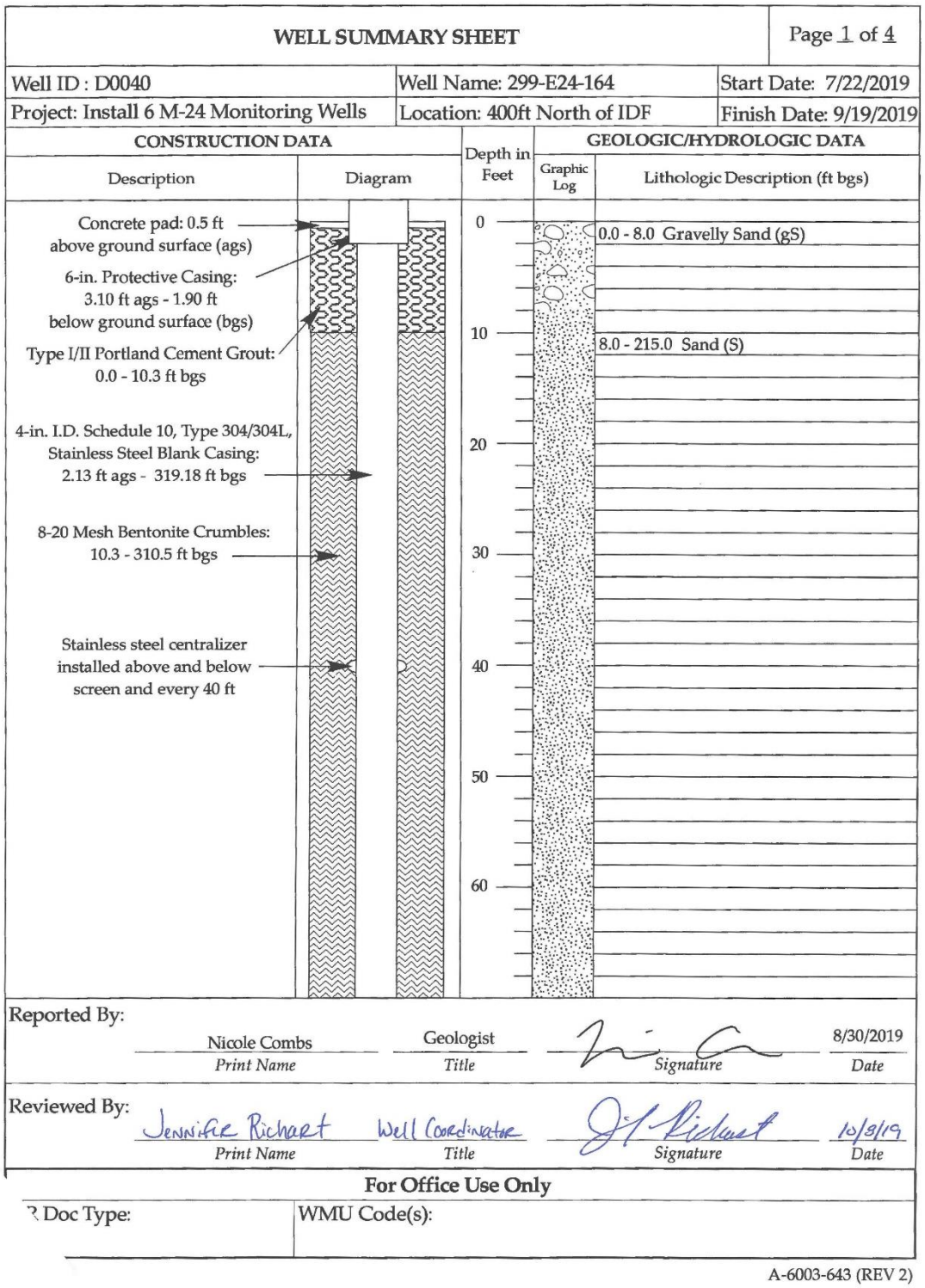
Well 299-E17-57 Construction and Completion Summary (2 of 4)



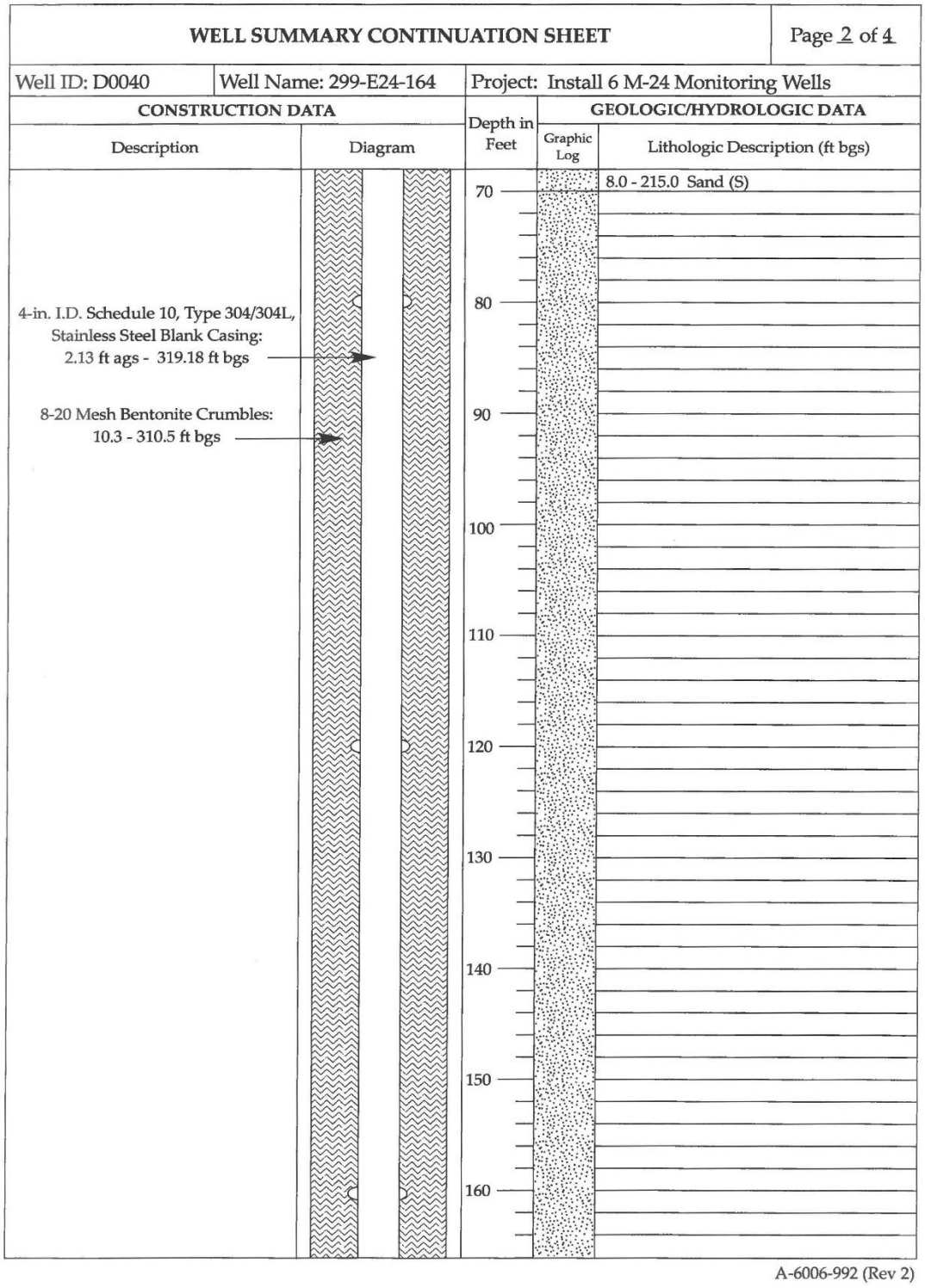
Well 299-E17-57 Construction and Completion Summary (3 of 4)



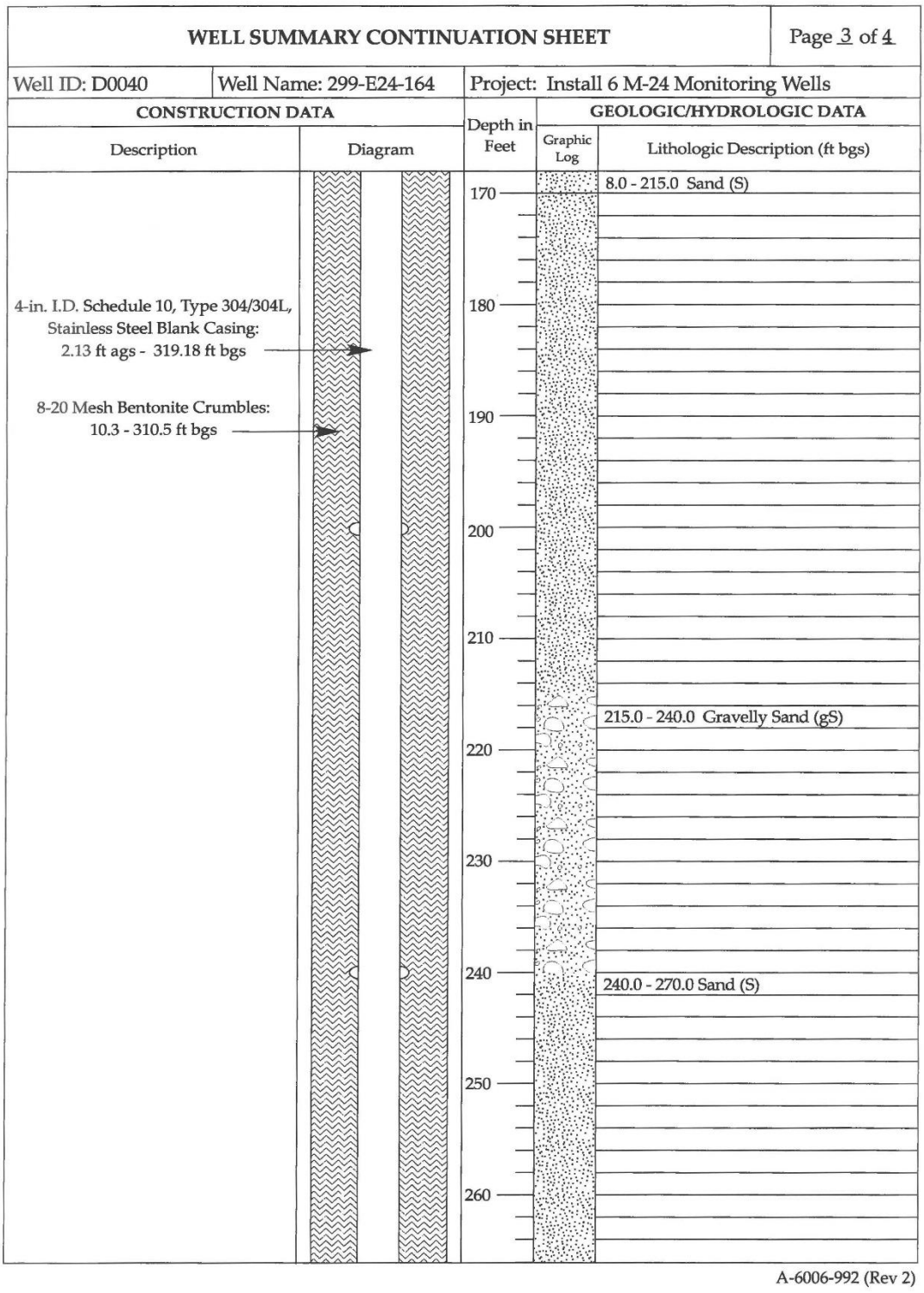
Well 299-E17-57 Construction and Completion Summary (4 of 4)



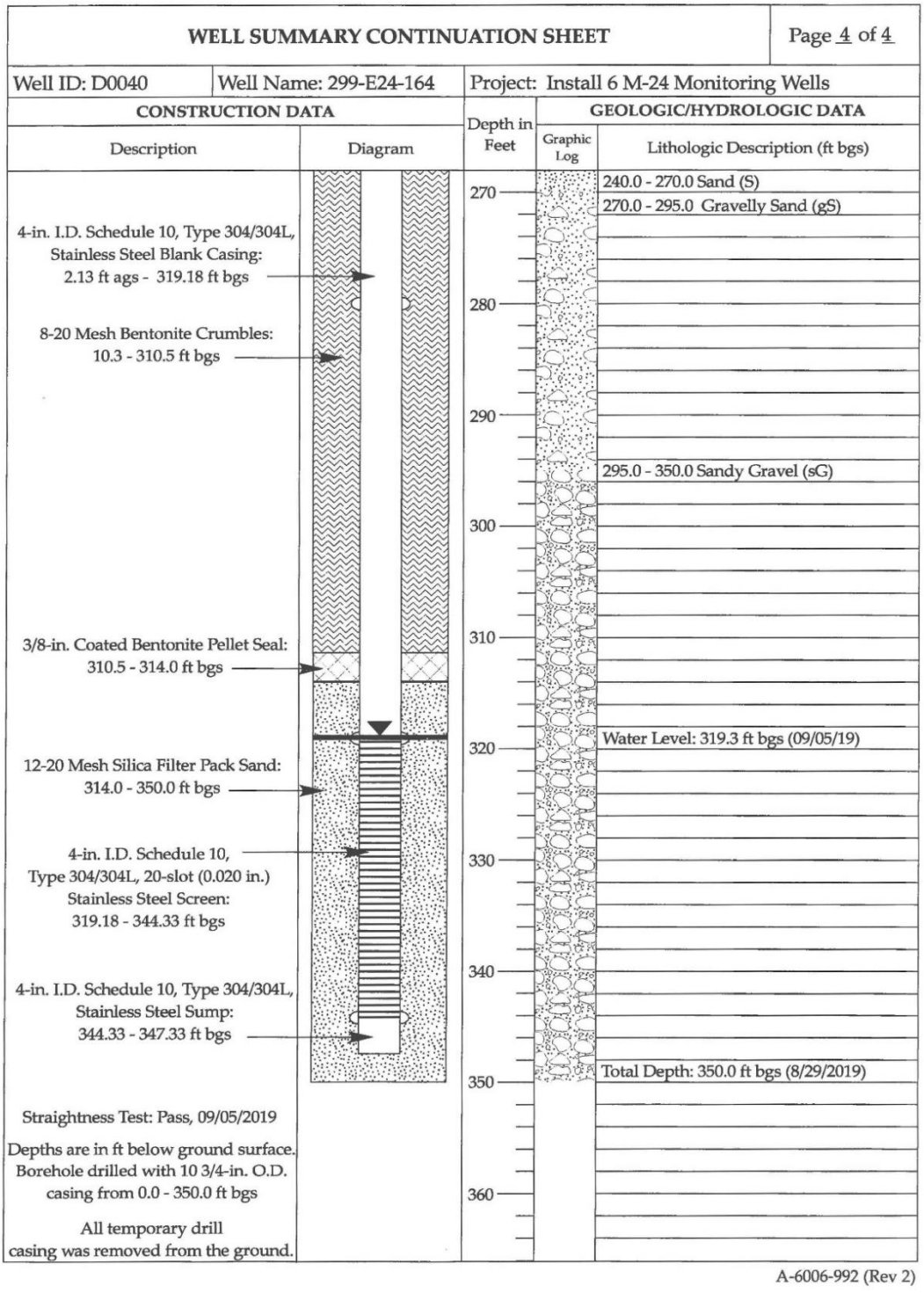
Well 299-E24-164 Construction and Completion Summary (1 of 4)



Well 299-E24-164 Construction and Completion Summary (2 of 4)



Well 299-E24-164 Construction and Completion Summary (3 of 4)



Well 299-E24-164 Construction and Completion Summary (4 of 4)

75. Addendum HA, Sampling and Analysis Plan: Table HA-1 Data Quality Indicators.
Table HA-3 (should be Table HA-4) Field and Laboratory Quality Control Requirements.
Section 2.2.3.2. Laboratory Quality Control Samples.
Carrier: A known quantity of nonradioactive isotope that is expected to behave similarly and is added to an aliquot of sample. Sample results are generally corrected based on carrier recovery.

Response: The Permittees requested the carrier sample type be deleted from this document. This sample type is for collection of radioactive samples and there are no radioactive constituents listed in the document. It is incorrect and may cause confusion to leave this sample type in the document.

Recommendation: Delete all references to the "carrier" sample type.

---

76. Addendum HA, Sampling and Analysis Plan, Table HA-5 (should be Table HA-6)
Sample Preservation and Holding Time Requirements EPA Method 9056 Anions

Response: The Permittees removed EPA Method 9056 from the table since it is no longer used for any of the analytes listed in the document. It is incorrect and may cause confusion to leave this method in the table.

Recommendation: Delete EPA Method 9056.

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77. Addendum HA, Sampling and Analysis Plan, Section HA.4
Each month, the laboratory will provide the SMR a list of samples that must be disposed of in the following month. These samples are more than 90 days post-data delivery. The laboratory will also provide monthly a list of samples disposed in the preceding month that includes disposal date and method or other relevant information. Signed chain-of-custody forms indicating sample disposal will be retained in laboratory case files pending return of case files to the contractor.

Response: The Permittees requested this language be deleted from the original submittal. It was inadvertently added to the permit and is not a RCRA requirement. It is contractual language between the company and the lab and does not belong in a Sampling and Analysis Plan.

Recommendation: Delete language, as previously requested by the Permittees.

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78. Addendum HA.a, Visual Sample Plan, MARSSIM Sign Test figures HA.a-2 and HA.a-4.

Response: The Permittees submitted the Visual Sample Plan information, which included MARSSIM Sign Test figures. The version out for public comment does not include the figures.

Recommendation: Ensure figures of MARSSIM Sign Test are included in final permit.

79. Addendum I, Inspection Plan, Section I.4.
Examples of problems that warrant immediate action include spills, as a result of the transfer of leachate to tanker trailers…

Response: Ecology added the following language, which was not requested by the Permittees: "…as a result of the transfer of leachate to tanker trailers..." This permit modification does not include the leachate collection tanks as permitted units, thus transfer of leachate to tanker trailers would not be a permitted action. Ecology did not provide justification in the fact sheet for added language.

Recommendation: Delete language "as a result of the transfer of leachate to tanker trailers."

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80. Addendum I, Inspection Plan, Section I.4.
For problems identified during Hanford Fire Department inspection, the Job Control System (JCS) is used.

Response: The Permittees requested this language be deleted. As there are no sprinkler systems in the disposal cells or on the pads, there are no inspections in Addendum I completed by the Hanford Fire Department. It is incorrect and confusing to leave this sentence in the document.

The process used for documenting inspections was provided to Ecology during the comment resolution process, and is described in Section I.4: "Inspections are completed either by using inspection logs or through a job control database. Problems identified using an inspection log are noted on the inspection log and either corrected during the time of the inspection or tracked on each subsequent inspection log until corrected. Problems identified using the job control database are noted on the inspection form and either corrected during the time of the inspection or the problem is added to the job control database to be addressed according to a remedy schedule."

Recommendation: Delete added sentence: "For problems identified during Hanford Fire Department inspection, the Job Control System (JCS) is used."

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81. Addendum I, Inspection Plan, Section I.4.
Information from the inspection problem resolution process, including the log sheet and action tracking list will be maintained in the Hanford Facility Operating Record (IDF portion)…

Response: Ecology added the following language, which was not requested by the Permittees: "…problem resolution process, including the…" The problem resolution process is a vague term and does not provide clear compliance direction.

The Permittees provided a clear description of the inspection problem resolution process, which Ecology has subsequently deleted from Section I.4: "Inspections are completed either by using inspection logs or through a job control database. Problems identified using an inspection log are noted on the inspection log and either corrected during the time of the

inspection or tracked on each subsequent inspection log until corrected. Problems identified using the job control database are noted on the inspection form and either corrected during the time of the inspection or the problem is added to the job control database to be addressed according to a remedy schedule."

Recommendation: Reinstate deleted language which describes the process: "Inspections are completed either by using inspection logs or through a job control database. Problems identified using an inspection log are noted on the inspection log and either corrected during the time of the inspection or tracked on each subsequent inspection log until corrected. Problems identified using the job control database are noted on the inspection form and either corrected during the time of the inspection or the problem is added to the job control database to be addressed according to a remedy schedule."

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82. Addendum I, Inspection Plan, Section I.5.3.3.
During the active life, the LCRS and LDS are inspected weekly during normal work operations to support determining the action leakage rate, as defined in WAC 173-303-665(8), and described in Addendum C, is not exceeded and the systems are inspected per Table I-2. In addition, flow meter readings are observed to verify proper function of the leachate sump pumps.

Response: Ecology added the following language, which was not requested by the Permittees: "In addition, flow meter readings are observed to verify proper function of the leachate sump pumps." This is incorrect. As described in Table I-2, the flow meter readings are taken to "monitor and record the totalizer readings from flow meters." Proper function of the sump pumps is verified in accordance with Addendum C, "Process Information," Section C.4.5.2, which states "All pumps and motors will be started or bumped monthly or at intervals suggested by the manufacturer, first, to demonstrate that the pumps and motors are functional and second, to move the bearing(s) so that the bearing surfaces do not seize or become distorted."

Recommendation: Delete added language: "In addition, flow meter readings are observed to verify proper function of the leachate sump pumps."

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83. Addendum I, Inspection Plan, Table I-1
Ecology revised the active life inspection frequency of fencing from annual to weekly.

Response: The Permittees requested change of a weekly inspection to an annual inspection during the comment resolution process. The change was based on the rate of possible deterioration of the fencing in accordance with WAC 173-303-320(2)(c). The Permittees indicated the gradual degradation and low rate of failure of fencing would warrant an annual inspection. Ecology provided no indication of disagreement and no refuting justification for more frequent inspections.

Recommendation: Change active life inspection frequency to annual.

Comments for IDF Class 3 Active Life Permit Modification

1. Response to Comments, Attachment 2.
   Ecology accepted comments from May 1, 2012, to Oct 22, 2012, on the Hanford Facility Dangerous Waste Permit, Rev. 9. This section provides a summary of comments that we received during the public comment period and our responses, as required by RCW 34.05.325(6)(a)(iii).

   Response: Consistent with Washington State Department of Ecology's official position, comments provided for the 2012 Rev. 9 Hanford Facility Dangerous Waste Permit Renewal will not be included in this permit modification request. The Permittees and the Washington State Department of Ecology have a separate forum to address Rev. 9 comments, thus the Permittees will address Ecology's responses outside of this public comment period. Further, Ecology's official position is that Ecology will reopen the comment period to address the Rev. 9 public comments. Comments are not being made on Ecology's responses to Rev. 9 comments; this is not an indication of agreement.

---

2. Fact Sheet, Section 2.0, Integrated Disposal Facility Dangerous Waste Management Unit Description.
   Ecology has defined the "pre-active life" period as the time between the end of construction and 180 days before the receipt of waste.

   Response: In Section 2.0 of the fact sheet, Ecology states the "WAC 173-303-040 defines the "active life" of a facility as "the period from the initial receipt of dangerous waste at the facility until the department receives certification of final closure." However, Ecology also defines the "pre-active life" period as the time between the end of construction and 180 days before the receipt of waste. These two timelines do not align with one another. Permittees recommend revising the "pre-active life" definition to align with the "active life" definition in WAC 173-303-040.
   "Ecology has defined the "pre-active life" period as the time between the end of construction and the initial receipt of waste."

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3. Fact Sheet, Section 2.0, Basis for Permit Conditions.
   Ecology worked with the Permittees to develop permit conditions that apply to the operation and maintenance of the DWMUs and associated ancillary equipment. As a result, Ecology has written conditions that require compliance with the regulations in WAC 173-303.

   Response: Meetings were initiated between Ecology and the Permittees to negotiate Ecology-drafted permit conditions. However, resolution was not attained on all permit conditions. The Permittees apprised Ecology of the Permittees' intent to comment on unresolved permit conditions during the public comment period.

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4. Fact Sheet, Section 2.0, Basis for Permit Conditions.
   The intent of this draft permit and associated permit conditions is to protect human health and the environment while ensuring proper disposal of low-level radioactive waste and mixed waste at the IDF.

Response: This permit does not regulate low-level radioactive waste. This is promulgated in the unit description to the permit conditions that states, "Additionally, the landfill cells may be used for disposal of nondangerous radioactive low-level waste [LLW], which is outside of the scope of this permit."

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5. Fact Sheet, Section 4.0, Draft Permit Conditions
Permit conditions were added to address the SSW. These SSW proposed permit conditions address issues like: addition of a Solid Waste Technical Requirements Document, inclusion of Secondary Waste in the Risk Budget Tool, waste performance modeling, waste form performance criteria, and protection of groundwater. Proposed permit conditions also address a certification from USDOE that the SSW is not High Level Waste. These permit conditions reflect Ecology's expectation that the SSW stream, to be disposed at the IDF, will be evaluated using the similar requirements that are used for the evaluation of the ILAW glass.

Response: There is no justification for the added permit condition for secondary solid waste. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

In addition, Ecology failed to provide any justification in accordance with WAC 173-303-840(2)(f)(iii)(C) and (D), which states that the fact sheet will include "a brief summary of the basis for the draft permit conditions including supporting references" and "reasons why any requested variances or alternatives to required standards do or do not appear justified."

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6. Permit Conditions Addenda
Appendix C6 Construction Specifications, RPP-18489, Rev. 1

Response: Appendix C6 is listed in the control log table, but the appendix was not included in the documents out for public review. The Permittees submitted formatting changes to this document in the 2019 submittal (20-AMRP-0007).

Recommendation: If no additional changes were made, the Permittees recommend that Appendix C6 be added to the IDF permit.

---

7. Permit Condition III.11.A Acronyms.
The following acronyms are specific to the IDF unit:

Response: Acronyms listed in the acronym list do not reflect acronyms within the permit conditions. For example, HELP and MEMO are in the acronym list, but not within the permit conditions. Alternately, acronyms within the permit conditions, such as IQRPE and LS are not listed within the acronym list.

Recommendation: Ensure acronyms in list reflect acronyms within the permit conditions.

8. Permit Condition III.11.A Definitions.
Critical System: A list identifying the critical systems for the IDF is included in Permit Condition III.11.C.1.a.

Response: This does not provide a definition of the critical system term. As "critical systems" are not defined in WAC 173-303, the definition Ecology included in Part I Standard and Part II General Facility Conditions should be incorporated.

Recommendation: Include the definition from the Part I Standard and Part II General Facility Conditions. "Critical Systems: Specific portions of a TSD unit's structure, or equipment, whose failure could lead to the release of dangerous waste into the environment, and/or systems which include processes which treat, transfer, store, or dispose of regulated wastes. A list identifying the critical systems for the IDF is included in Permit Condition III.11.C.1.a."

9. Permit Condition III.11.A Definitions
Leachate collection and removal system: Leachate is liquid generated from rainfall and the natural decomposition of waste that is filtered through the landfill to a leachate collection system. The leachate collection system's job is to direct the leachate to collection sumps so it can be properly removed from the landfill.

Response: The Permit does not address the "natural decomposition of waste." This permit condition should not introduce new concepts. In addition, leachate originates from precipitation and the application of nonhazardous liquids for dust suppression.

Recommendation: Revise permit condition to remove "natural decomposition," add language about liquids for dust suppression, and revise anthropomorphic reference to the leachate collection system: "Leachate collection and removal system (LCRS): Leachate is liquid generated from precipitation and the application of nonhazardous liquids for dust suppression (as applicable), that is filtered through the landfill to a leachate collection system. The leachate collection system directs the leachate to collection sumps where it can be properly removed from the landfill."

10. Permit Condition III.11.A Definitions
Leak detection system: A method in which the existence of a leak within a system is determined. The techniques are utilized across a wide range of systems where a container must seal in some material. The variety of detection methods can be classified as internal or external, depending on where the LDS is located.

Response: The leak detection system (LDS) for each disposal cell is located below the LCRS. The LDS provides a method for detecting and capturing leachate from the LCRS into the LDS sump, as described in Addendum C.

Recommendation: Revise definition to reflect Addendum C description: "Leak detection system (LDS): The LDS provides a method for detecting and capturing leachate from the LCRS into the LDS sump, and serves as a secondary LCRS for each IDF disposal cell. Leachate collected in the LDS sump will be measured to determine any leakage through the primary liner."

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11. Permit Condition III.11.A Definitions.
Microencapsulation: The process of enclosing chemical substances in microcapsules. Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the hazardous contaminants is reduced: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time and/or compressive strength, or to reduce the leachability of the hazardous constituents.

Response: The first sentence, "The process of enclosing chemical substances in microcapsules" is not consistent with the land disposal requirements definition.

Recommendation: Delete the first sentence: "The process of enclosing chemical substances in microcapsules."

---

12. Permit Condition III.11.A Definitions.
Response action plan (RAP): A detailed report that includes the steps to remediate waste materials, soil, surface water, ground water. The RAP includes the intended level of cleanup to support closure.

Response: The response action plan does not support closure. It is a site-specific plan that establishes actions to be taken if leakage through the upper (primary) lining system of a landfill exceeds a certain rate.

Recommendation: Revise the definition to "Response action plan (RAP): A site-specific plan that establishes actions to be taken if leakage through the upper (primary) lining system of a landfill exceeds a certain rate."

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13. Permit Condition III.11.D.2.a.
Prior to the start of the Active Life of the IDF, the Permittees will manage the discharge of such water in accordance with the pollution prevention and best management practices required by State Waste Discharge Permit Number ST-4511.

Response: This disposal cell condition would not apply to the storage and treatment pads. The addition of the storage and treatment pad DWMUs make it necessary to differentiate the conditions that would apply only to the disposal cells.

Recommendation: Revise this section title to specify the disposal cells.
"III.11.D.2 Rainwater Management for the Disposal Cells"

14. Permit Condition III.11.D.2.b.
The Permittees will inspect for liquids after significant rainfall events.

Response: This disposal cell condition would not apply to the storage and treatment pads. The addition of the storage and treatment pad DWMUs make it necessary to differentiate the conditions that would apply only to the disposal cells.

Recommendation: Revise this section title to specify the disposal cells.
"III.11.D.2 Rainwater Management for the Disposal Cells"

---

15. Permit Condition III.11.D.5.b.
The Permittees will implement the Appendix C4, "Construction Quality Assurance Plans" during construction of the IDF.

Response: The construction quality assurance plans are not required for the storage or treatment pads.

Recommendation: Revise condition to specify the disposal cells: "The Permittees will implement the Appendix C4, 'Construction Quality Assurance Plans' during construction of the IDF disposal cells."

---

16. Permit Condition III.11.E.3.
The only ILAW form acceptable for disposal at IDF is approved glass canisters that are produced in accordance with the terms, conditions, and requirements of the WTP portion of the Permit, as well as melters, glass shards, and other ILAW forms that are acceptable.

Response: The revision to this permit condition implies there is only one ILAW form acceptable due to "form" being singular. However, the permit condition continues to list the approved glass canisters, "as well as, melters, glass shards, and other ILAW forms" as acceptable waste forms.

Recommendation: Revise to ensure continuity of plural form: "ILAW wastes that can be disposed of at IDF are approved glass canisters that are produced in accordance with the terms, conditions, and requirements of the WTP portion of the Permit, as well as melters, glass shards, and other ILAW forms that are acceptable."

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17. Permit Condition III.11.E.4.c.
The PA required by Permit Condition III.11.E.4.b was submitted on May 26, 2020; expectations for future PA revisions are ongoing.

Response: This is a narrative statement and not a condition. This statement is seeking to regulate a radioactive waste management document and is therefore outside the authority of the Washington Administrative Code (WAC) and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1. The objective

of DOE O 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of human health and the environment. A PA is the computer modeling analysis that simulates the impacts from radiological constituents and determines whether the waste will meet the radiological performance objective established in DOE O 435.1. There are no similar processes used under WAC 173-303 to operate a landfill pursuant to WAC 173-303-665. As the IDF PA (RPP-RPT-59958) was developed to assess the radiological constituents to be disposed of in IDF, this document is not subject to WAC 173-303. Hazardous constituents that were addressed in the PA were included for informational purposes. Permit conditions specific to hazardous constituents are addressed in draft Permit Conditions III.11.E.8.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

This permit modification does not request changes to the Immobilized Low-Activity Waste Technical Requirements Document (IWTRD). In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding additional requirements for the IWTRD is outside the scope of this permit modification.

Recommendation: Delete the language concerning "expectations for future PA revisions are ongoing" from this permit condition.

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18. Permit Condition III.11.E.4.c.
The QA/QC requirements process required by Permit Condition III.11.E.4.c which was to be submitted for Ecology review as soon as possible after issuance of the Final Tank Closure and Waste Management Environmental Impact Statement (EIS) and receipt of underlying codes and data packages, and at least one hundred and eighty (180) days prior to the date the Permittees expect to receive waste at the IDF.

Response: The language revision made to this portion of the permit condition causes this sentence to be incomplete. Language is undecipherable and does not provide distinct direction for the Permittees to comply.

Recommendation: Delete incomplete sentence from permit condition.

19. Permit Condition III.11.E.4.c.
At a minimum, the Permittees will submit updates to the IWTRD to Ecology every five (5) years or more frequently, if any of the following conditions exist:
    - *The Permittees submit a permit modification request allowing additional waste forms to be disposed of at IDF. New waste forms could include ILAW glass not previously described, additional SSW, supplemental ILAW treatment, and other waste from the Hanford Site.*

Response: This permit condition is under the heading of "Immobilized Low-Activity Waste Form Technical Requirements Document." Per Permit Condition III.11.E.4, "For any ILAW glass form(s) that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, an ILAW Waste Form Technical Requirements Document." "Additional SSW" and "other waste from the Hanford Site" are not considered an ILAW form, thus are not applicable for the IWTRD.

Supplemental ILAW treatment is not discussed in the Permitting addenda, nor is it defined in the permit conditions. Permit Condition III.11.E.3, states that the "LDR standard for ILAW disposed to IDF is HLVIT." Changes to the treatment method would require a future permit modification. As supplemental ILAW treatment is not discussed in permitting documents and the permit condition states that ILAW will be treated to HLVIT, supplemental ILAW treatment should not be included.

This permit modification does not request changes to the IWTRD. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding additional requirements for the IWTRD are outside the scope of this permit modification.

Recommendation: Revise bullet to remove reference to additional SSW, supplemental ILAW treatment, and other waste from the Hanford Site. "At a minimum, the Permittees will submit updates to the IWTRD to Ecology every five (5) years or more frequently, if any of the following conditions exist:
- The Permittees submit a permit modification request allowing additional waste forms to be disposed of at IDF."

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20. Permit Condition III.11.E.4.c.
Ecology comments will be dispositioned through the Review Comment Record (RCR) process and will be reflected in further modeling to modify the IDF ILAW waste acceptance requirements as appropriate.

Response: The current permit condition states that "Ecology comments… will be reflected in further modeling to modify the IDF ILAW Chapter 3.0, "Waste Analysis Plan" as appropriate. For this updated condition, the Waste Analysis Plan was replaced with "waste

acceptance requirements." The term "waste acceptance requirements" is vague and does not provide clear direction for Permittee action.

Recommendation: Revise permit condition language to reference the Waste Analysis Plan: "…and will be reflected in further modeling to modify Addendum B, 'Waste Analysis Plan,' as appropriate."

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21. Permit Condition III.11.E.4.d
The Permittees will not dispose of any WTP ILAW or other waste streams not described and evaluated in the IWTRD.

Response: The phase "or other waste streams" was added to the permit condition. This permit condition is under the heading of "Immobilized Low-Activity Waste Form Technical Requirements Document." Per Permit Condition III.11.E.4, "For any ILAW glass form(s) that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, an ILAW Waste Form Technical Requirements Document." Reference to other waste streams is not appropriate in the IWTRD section.

Recommendation: Delete "or other waste streams."

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22. Permit Condition III.11.E.5.
Secondary Waste Form Technical Requirements Document

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State

Hazardous Waste Act.

Recommendation: Delete all Secondary Waste Form Technical Requirements Document permit conditions.

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23. Permit Condition III.11.E.5.a.
Secondary Waste (SW) includes, but is not limited to, 1) WTP waste – equipment, carbon beds, high-efficiency particulate air filters, encapsulate other debris, silver mordenite media, melters; and 2) Effluent Management Facility (EMF) - grouted ETF brines from WTP EMF overheads. For any SW forms produced in conjunction with producing ILAW glass, that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, a Secondary Waste Form Technical Requirements Document (SWTRD). The SWTRD will contain:

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

In addition, this condition is not clear as to whether there is one SWTRD for all secondary waste or one SWTRD for each secondary waste form.

Recommendation: Delete permit condition.

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24. Permit Condition III.11.E.5.a.i.
A description of each SW form and the mechanisms of immobilization that the Permittees

intend to use on these forms. In addition, this description will include SW waste form formulations for each waste form and the characteristics of key parameters (such as coefficient of diffusion) necessary to establish satisfactory performance after disposal that will protect human health and the environment. The description must include information which will demonstrate the cumulative impact from the disposed waste forms will not exceed 75% of state and federal performance standards for drinking water.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR)."* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable land disposal restriction treatment standard. Permittees ensure that all waste meets LDR requirements as described in Addendum B, Waste Analysis Plan.

Further, Permit Condition III.11.E.10.a already provides direction on meeting drinking water

standards: *"The groundwater impact will be modeled in a concentration basis and should be compared against various performance standards including but not limited to drinking water standards (40 CFR 141 and 40 CFR 143)."* As drinking water standards are legally enforceable standards that protect public health by limiting the level of contaminants, additional restrictions (i.e., 75%) are an arbitrary exercise of power.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Recommendation: Delete permit condition.

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25. Permit Condition III.11.E.5.a.ii.
A PA that provides a reasonable basis for assurance that each SW formulation will, once disposed in the IDF in combination with the other waste volumes and waste forms planned for disposal at the entire IDF, be adequately protective of human health and the environment; and will not violate or be projected to violate, any or all applicable state and federal laws, regulations, and environmental standards. Cumulative impact will not exceed 75% of the performance standard.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-

815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

This condition is seeking to regulate a radioactive waste management document and is therefore outside the authority of the WAC and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1, and is not subject to WAC 173-303.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Further, EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR)."* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable land disposal restriction treatment standard. Permittees ensure that all waste meets LDR requirements as described in Addendum B, Waste Analysis Plan.

Recommendation: Delete permit condition.

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26. Permit Condition III.11.E.5.a.iii.
A description of production processes including management controls and QA/QC requirements which demonstrate that SW produced for each formulation will perform in a reasonably similar manner to the SW formulation assumed in the PA.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for

imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Per draft Permit Condition III.11.E.5.a, this Secondary Waste Technical Requirements Document applies to secondary waste from ILAW production at WTP. Information on production processes is located in the WTP portion of the RCRA Permit. QA/QC controls for another facility's production processes are not applicable to the disposal facility.

Recommendation: Delete permit condition.

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27. Permit Condition III.11.E.5.b.
For SW forms which demonstrate acceptable performance in the PA and in the modeling-risk budget tool, the waste must be treated and confirmed to be treated to meet a range of 10^{-9} cm^2/sec-$10^{-13} cm^2/sec$ diffusion coefficient (EPA1315). The Permittees will provide to Ecology a report every five years to demonstrate confirmation.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this

condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

EPA Method 1315 states: "*The method [1315] is not required by federal regulations to determine whether waste passes or fails the toxicity characteristic as defined at 40 CFR 261.24*." It also states, "*The information contained in this method is provided by the Environmental Protection Agency (EPA or the Agency) as guidance to be used by the analyst and the regulated community in making judgments necessary to generate results that meet the data quality objectives for the intended application."* This method is not intended to demonstrate compliance for RCRA disposal requirements.

EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable land disposal restriction treatment standard.

Recommendation: Delete permit condition.

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28. Permit Condition III.11.E.5.c.
For SW forms which demonstrate unacceptable performance in the PA and in the modeling-risk budget tool, the Permittees must meet with Ecology to discuss a path forward on these waste streams to be protective of the groundwater beneath the IDF prior to the disposal of the questionable waste form. If needed, the waste forms final treatment may need to be modified or an alternative disposal pathway may be identified.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources

such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

In addition, EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR).* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable Land Disposal Restriction treatment standard. Wastes that do not meet the LDR treatment standard will not be accepted for disposal.

In addition, this condition is void because the State has included requirements in the condition that are ambiguous. "Unacceptable performance" in relation to a performance assessment is not defined in the Hazardous Waste Management Act. A "Questionable Waste Form" is not defined in the Hazardous Waste Management Act. This condition does not provide the Permittees with sufficient information to ensure future compliance with the condition. Accordingly, this condition violates DOE's right to due process under the Washington and United States constitutions and should be stricken from the Permit.

Recommendation: Delete permit condition.

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29. Permit Condition III.11.E.5.d.
The uncertainty analysis must be included in all future performance assessments and modeling, and will contain the effects of variability in the grout mix formulation and the uncertainty in the paste and mortar formulations. Measurement error, variability from sample to sample for a given mix, and variability across different mixes will be included. American Society for Testing and Materials Coefficient of Diffusion methodology and U.S. Environmental Protection Agency (EPA) Leaching Procedures uncertainty in the diffusion coefficients will also be included.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

EPA has created the RCRA regulations in 40 CFR and Ecology has promulgated regulations for their authorized program in WAC 173-303, based on the state's Hazardous Waste Management Act (RCW 70.105). These rules and regulations are based on a premise that dangerous waste (which includes mixed waste) disposal activities are protective of human health and the environment by complying with the land disposal restriction program in WAC 173-303-140 which incorporates by reference 40 CFR 268. Immobilization technologies are defined in 40 CFR 268.42, "Treatment Standards Expressed as Specified Technologies" and 40 CFR 268.45, "Alternative Treatment Standards for Hazardous Debris." Per draft Permit Condition III.11.E.1, *"The Permittees will not dispose of any waste that does not comply with all appropriate and applicable treatment standards, including all applicable Land Disposal Restrictions (LDR).* Prior to accepting waste for disposal at IDF, the waste must be certified to meet the applicable Land Disposal Restriction treatment standard. Wastes that do not meet the LDR treatment standard will not be accepted for disposal.

In addition, this condition is void because the State has included requirements in the condition that are ambiguous. An "uncertainty analysis" in relation to a performance assessment is not defined in the Hazardous Waste Management Act. This condition does not provide the Permittees with sufficient information to ensure future compliance with the condition. Accordingly, this condition violates DOE's right to due process under the Washington and United States constitutions and should be stricken from the Permit.

Recommendation: Delete permit condition.

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30. Permit Condition III.11.E.5.e.
At a minimum, the Permittees will submit updates to the SWTRD to Ecology every five (5) years or more frequently if any of the following conditions exist:
· The Permittees submits a permit modification request allowing additional SW forms to be disposed of at IDF. New waste forms could include additional secondary solid waste and other waste from the Hanford Site.
· An unanticipated event or condition occurs that Ecology determines would warrant an update to the SWTRD.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Permit Condition III.11.E.5.a states that "*SW includes, but is not limited to, 1) WTP waste - equipment, carbon beds, HEPA filters, encapsulate other debris, silver mordenite media, melters; and 2) EMF - grouted ETF brines from WTP EMF overheads. For any Secondary Waste (SW) forms produced in conjunction with producing ILAW glass that the Permittees intend to dispose in the IDF, the Permittees will provide to Ecology for review, a Secondary Waste Form Technical Requirements Document (SWTRD)*." Per Permit Condition III.11.E.5.a, only waste forms produced in conjunction with producing ILAW glass would be included in the SWTRD. However, this permit condition states that other waste from the Hanford Site would apply. These permit conditions are contradictory.

In addition, this condition is void because the State has included a requirement in the condition that is ambiguous. “An unanticipated event or condition” in relation to a SWTRD is not defined in the Hazardous Waste Management Act. This condition does not provide the Permittees with sufficient information to ensure future compliance with the condition. Accordingly, this condition violates DOE's right to due process under the Washington and United States constitutions and should be stricken from the Permit.

Recommendation: Delete permit condition.

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31. Permit Condition III.11.E.5.f.
The Permittees will not dispose of any SW or other waste streams not described and evaluated in the SWTRD.

Response: Permit conditions under the heading of *Secondary Waste Form Technical Requirements Document* do not address requirements found in applicable Dangerous Waste regulations. These conditions would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online (RO) Number 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Recommendation: Delete permit condition.

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32. Permit Condition III.11.E.8.
No WTP SSW may be disposed in the IDF until certification, as described in Permit Condition III.11.E.7, is provided by the Permittees via letter. Once certification is received by Ecology, disposal of the WTP SSW can become authorized via a Final Permit modification decision. Requests for Permit modifications must be accompanied by an analysis adequate for Ecology to comply with SEPA, as well as by a risk assessment and groundwater modeling to

show the environmental impact. Permit Condition III.11.E.10 outlines the process by which waste sources in the IDF are modeled in an ongoing risk budget and a groundwater impact analysis.

Response: Per draft Permit Condition III.11.E, IDF can accept SSW from WTP, and this permit modification would authorize disposal, as specified in the fact sheet ("Upon approval and issuance of this permit modification, the IDF will be authorized to begin treatment, storage, and disposal of dangerous and mixed waste."). The statement in this permit condition that "…disposal of the WTP SSW can become authorized via a Final Permit modification decision" does not align with Permit Condition III.11.E or the fact sheet. As certification requirements for SSW is described in Permit Condition III.11.E.7, it is unclear if Ecology is requiring an additional permit modification for current acceptance of WTP SSW or what parts of the permit would require a change.

NEPA/SEPA considerations are addressed in the *Final Tank Closure and Waste Management Environmental Impact States for the Hanford Site, Richland, Washington* (DOE/EIS-0391). The Hanford Facility Dangerous Waste Permit should not contain permit conditions to meet other requirements under the State Environmental Policy Act (SEPA). EPA Memorandum 9524.1983(01) addresses "Recurring Issues in Preparing RCRA Permits." Under section "Other Federal Authorities," the EPA states the following: "Therefore, as a general matter, permit writers should not include the RCRA permits conditions based on other Federal authorities merely for repetition or emphasis. Such conditions should only be used if the permit writer decides they are needed to meet RCRA regulatory requirements." In addition, this permit condition conflicts with Section 6.0 of the fact sheet that states, "Ecology made a State Environmental Policy Act (SEPA) determination # 202004362 for the IDF on August 24, 2020. Additional SEPA review is not required for the current permit modification to support the operations of the IDF.*"*

There are also no requirements under WAC 173-303 to perform risk assessments for land disposal activities or groundwater modeling.

Recommendation: Delete permit condition.

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33. Permit Condition III.11.E.10.a.
The Permittees will maintain a modeling-risk budget tool (RBT) (RPP-CALC-61194)…

Response: RPP-CALC-61194 is not the correct RBT reference. RPP-CALC-63176 is the correct citation.

Recommendation: Update language to refer to RPP-CALC-63176. "The Permittees will maintain a modeling-risk budget tool (RBT) (RPP-CALC-63176)…"

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34. Permit Condition III.11.E.10.a.
Whenever the model is updated with additional information, the Permittees will perform an updated modeling run and submit the information to ECY.

Response: This addition to Permit Condition III.11.E.10.a would require administrative development under Omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

This permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

Recommendation: Delete the language that has been added to Permit Condition III.11.E.10.a.

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35. Permit Condition III.11.E.10.a.
Ecology will review PA modeling assumptions, input parameters, and results and will provide comments to the Permittees. Ecology comments will be dispositioned through the RCR process and comments will be reflected in further modeling to modify the IDF ILAW waste acceptance requirements as appropriate. The Permittees will provide responses to Ecology on comments and inform Ecology how the comments will be reflected in further modeling within one hundred and twenty (120) days of receipt of comments.

Response: Ecology added the PA review and following language, which were not requested by the Permittees: "The Permittees will provide responses to Ecology on comments and inform Ecology how the comments will be reflected in further modeling within one hundred and twenty (120) days of receipt of comments." This permit modification does not request changes to the risk budget tool. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding additional requirements for the risk budget tools are outside the scope of this permit modification.

These additions to this permit condition seek to regulate a radioactive waste management document and is therefore outside the authority of the WAC and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1. The objective of DOE O 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of human health and the environment. A PA is the computer modeling analysis that simulates the impacts from radiological constituents and determines whether the waste will meet the radiological performance objective established in DOE O 435.1. There are no similar processes used under WAC 173-303 to properly operate a landfill pursuant to WAC 173-303-665. As the IDF PA (RPP-RPT-59958) was developed to assess the radiological constituents to be disposed of in IDF, this document is not subject to WAC 173-303. Hazardous constituents that were addressed in the PA were included for informational purposes. Permit conditions specific to hazardous constituents are addressed in draft Permit Condition III.11.E.8.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Recommendation: Delete language that has been added to existing permit condition.

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36. Permit Condition III.11.E.10.a.i.
The RBT will include a sensitivity analysis reflecting parameters, their uncertainties, and changes to parameters as requested by Ecology.

Response: The language "…their uncertainties…" was added to the current permit condition language. There are no requirements under WAC 173-303 to perform an uncertainty analysis.

Requiring an uncertainty analysis would require administrative development under omnibus provisions of 40 CFR 270.32 and WAC 173-303-815(2). Exercise of omnibus authority is not discretionary, but must be exercised when the permitting authority has a basis to determine that some aspect of treatment, storage or disposal at a facility requires regulatory control to be protective. Use of omnibus authority requires a clear and understandable justification for imposing permit conditions where existing regulatory requirements require supplementation to ensure that human health and the environment are adequately protected. Per RCRA Online Number (RO) 12553, additional standards can be justified by basing the standards on sources such as documented studies, expert opinions, and published articles.

Requiring an uncertainty analysis in this permit condition is an inappropriate use of the omnibus provision of the regulations. This condition is void since no basis has been articulated in the Permit, Fact Sheet, or supporting documents that supports the use of omnibus permitting authority to impose this condition. The State has failed to articulate

specific facts supporting the contention that this condition is necessary to achieve compliance with the Hazardous Waste Management Act (HWMA), nor is there any specific provision in WAC 173-303 that necessitates the additional requirement. Compliance with the HWMA is fully addressed in the permitting requirements of WAC 173-303-810. This condition has no reasonable basis in fact or law, and no reasonable relation to the "omnibus authority" in WAC 173-303-800(8) and WAC 173-303-815(2)(b)(ii). A regulatory basis for this permit condition is absent from the Washington State Hazardous Waste Act.

In addition, this permit modification does not request changes to the risk budget tool. In accordance with WAC 173-303-840(10)(c), “In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit.” Per WAC 173-303-830(3), “When a permit is modified, only the conditions subject to modification are reopened.” Adding additional requirements for the Risk Budget Tool are outside the scope of this permit modification.

Recommendation: Delete “their uncertainties” from permit condition.

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37. Permit Condition III.11.E.10.a.iv.
The Permittees will provide access to PA modeling for the RBT reports to Ecology with the input provided by Ecology.

Response: This condition is seeking to regulate a radioactive waste management document, and is therefore outside the authority of the WAC and preempted by the Atomic Energy Act (AEA). A Performance Assessment (PA) is a DOE required site-specific radiological assessment for low-level waste disposal facilities, as directed by DOE O 435.1. The objective of DOE O 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of human health and the environment. A PA is the computer modeling analysis that simulates the impacts from radiological constituents and determines whether the waste will meet the radiological performance objective established in DOE O 435.1. There are no similar processes used under WAC 173-303 to properly operate a landfill pursuant to WAC 173-303-665. As the IDF PA (RPP-RPT-59958) was developed to assess the radiological constituents to be disposed of in IDF, this document is not subject to WAC 173-303. Hazardous constituents that were addressed in the PA were included for informational purposes. Permit conditions specific to hazardous constituents are addressed in draft Permit Condition III.11.E.10.

Washington law prohibits the arbitrary exercise of power by a state agency. State ex rel. Pub. Util. Dist. No. 1 of Okanogan County v. Dep't of Pub. Serv., 21 Wn.2d 201, 208-09 (1944). Imposing requirements that exceed an agency's statutory or regulatory authority constitutes arbitrary action. To the extent that the Department of Ecology has imposed conditions under the Permit that exceed the Department's authority, it has acted in an arbitrary manner. Accordingly, those conditions which have been arbitrarily imposed under the Permit should be stricken as the product of impermissible and arbitrary agency action.

Recommendation: Delete permit condition.

38. Permit Condition III.11.F.4.
The Permittees will operate the IDF in accordance with all specifications contained in Appendix C6.

Response: The Permittees cannot operate to Appendix C6 based on the process outlined by the permit conditions. The construction specifications of Appendix C6 are the original plans for construction activities for the IDF landfill cells and leachate tanks. In accordance with Permit Conditions II.L.2, II.R, and III.11.D.7, changes to the facility that deviate from the specifications of Appendix C6 are documented through the ECN or NCR process, and incorporated into the as-builts, as required. As design changes may not result in a permit modification, Appendix C6 will not include the most recent design changes. Appendix C3 would contain the latest design specification drawings.

Recommendation: Change permit condition to refer to Appendix C3: "The Permittees will operate the IDF in accordance with all specifications contained in Appendix C3."

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39. Permit Condition III.11.F.5.c.
Waste packages will be placed in the landfill in a manner that limits interactions between waste packages to ensure reduction of chemical deterioration of waste packages and waste inside containers.

Response: This condition is not clear to the Permittees. The language "…limits interactions between waste packages…" implies the concern is between two containers. The language "…to ensure reduction of chemical deterioration of waste packages and waste inside containers" implies the concern is within a single container. The permit condition does not provide direction for actions required to "ensure reduction of chemical deterioration."

As described in Addendum B, "Waste Analysis Plan," incompatible waste is prohibited for acceptance at IDF, and all waste must be treated to LDR standards. Draft Permit Condition III.11.G.1 requires the Permittees to comply with the waste analysis plan requirements specific to Addendum B.

Recommendation: Delete permit condition.

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40. Permit Condition III.11.F.5.d.
Grouted waste forms should not be disposed above vitrified waste forms.

Response: Request flexibility to allow grouted waste to be disposed above vitrified based on a demonstration of safe disposal.

Recommendation: Recommend revising permit condition to state: *"Grouted waste forms should not be disposed above vitrified waste unless the Permittees can demonstrate in the Risk Budget Tool (Permit Condition III.11.E.10) that commingling of waste types will not impact underlying vadose or groundwater."*

41. Permit Condition III.11.F.9.a.iv and v.
III.11.F.9.a.iv Primary Liner Integrity: The Permittees will ensure that procedures for waste placement in the IDF, and the selection and operation of any equipment used within the lined portion of the IDF does not pose a risk of puncture or other damage to the primary liner, or damage berms. Only equipment that can be adequately supported by the operations layer, considering the geotechnical properties of the operating layer soils and the design and configuration of such equipment, will be used within the lined portion of the IDF.

III.11.F.9.a.v The Permittees will conduct waste management operations according to procedures for waste placement in the IDF and the selection and operation of any equipment used within the lined portion of the IDF to ensure such activities do not pose a risk of puncture or other damage to the primary liner or damage berms. These procedures will ensure that only equipment that can be adequately supported by the operations layer will be used. The Permittees will maintain a current copy of these procedures in the Hanford Facility Operating Record, IDF portion, and submit permit modifications for Addendum C appendices as necessary.

Response: Permit Conditions III.11.F.9.a.vi and III.11.F.9.a.v provide similar direction.

Recommendation: Recommend deletion of Permit Condition III.11.F.9.iv.

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42. Permit Condition III.11.F.9.a.vi.
The Permittees will construct berms and ditches to prevent run-on and runoff in accordance with the requirements of Addendum C. Before the first placement of waste in the IDF, the Permittees will submit to Ecology a final grading and topographical map on a scale sufficient to identify berms and ditches used to control run-on and runoff. Upon approval, Ecology will incorporate these maps into the permit as a permit modification.

Response: Current Permit Condition III.11.H.2 states that: "Upon approval, Ecology will incorporate these maps into the permit as a Class [1]1 modification." For this modification, Ecology deleted reference to a "Class [1]1." This permit modification does not request changes associated with this permit condition. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit."

Recommendation: Reinstate permit condition as currently written: "Upon approval, Ecology will incorporate these maps into the permit as a Class [1]1 modification."

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43. Permit Condition III.11.F.9.c.
Prior to the first placement of waste in the IDF, the Permittee will apply soil stabilization materials as needed to prevent soil erosion in and around the landfill.

Response: As described in the Fact Sheet, the Permittees include both the U.S. Department of Energy and the Central Plateau Cleanup Company.

Recommendation: Pluralize Permittee: "…the Permittees will apply soil stabilization…"

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44. Permit Condition III.11.F.9.d.
The Permittees will inspect the various liquid collection sumps for liquids after significant rainfall events.

Response: The terms "various liquid collection sumps" and "significant rainfall events" are vague, and do not provide clear compliance direction. Addendum I, Inspection Plan, outlines the sumps that will be inspected, and defines a "significant rainfall event." Draft Permit Conditions III.11.M.1 through 4 direct the Permittees to comply with Addendum I and conduct inspections according to Tables I-1 and I-2.

Recommendation: Delete permit condition or revise to state: "The Permittees will inspect the collection sumps for liquids after significant rainfall events, as defined in Addendum I, 'Inspection Plan.'"

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45. Permit Condition III.11.F.9.e.ii.
At least one hundred and twenty (120) days prior to initial waste placement in the IDF, the Permittees will submit a leachate monitoring plan to Ecology for review, approval, and incorporation into the permit. Upon approval by Ecology, this plan will be incorporated into the Permit as a Class [1]1 modification. The Permittees will not accept waste into the IDF until the requirements of the leachate monitoring plan have been incorporated into this Permit.

Response: The leachate monitoring plan was submitted to Ecology through a Class 3 permit modification request (21-ECD-001573).

Recommendation: Revise language to allow incorporation of the leachate monitoring plan through an alternate permit modification class: "Upon approval by Ecology, this plan will be incorporated into the Permit through a permit modification."

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46. Permit Condition III.11.F.9.e.iii.
At least one hundred and twenty (120) days prior to initial waste placement in the IDF, the Permittees will submit to Ecology for review, approval, and incorporation into the permit information on the Leachate Collection System, including adding the systems DWMUs as Miscellaneous Units. Upon approval by Ecology, this information will be incorporated into the Permit as a Class 3 modification. The Permittees will not accept waste into the IDF until the leachate collection system DWMUs have been incorporated into this Permit.

Response: A Class 3 permit modification request was submitted to Ecology on May 20, 2021 to include the Leachate Collection System (21-ECD-001573) as a miscellaneous DWMU, in accordance with Ecology letter 20-NWP-157. Please note that the Leachate Collection System consists of two units that have been managed as central accumulation area tanks since construction in 2006.

The permit condition states, "The Permittees will not accept waste into the IDF until the leachate collection system DWMUs have been incorporated into this Permit." The leachate

tanks are already incorporated into the permit as critical systems. As critical systems, Ecology required inclusion of all information (e.g., design drawings, construction specifications) necessary to demonstrate safe operation of the tanks; therefore, ensuring protection to human health and the environment. Adding a permit condition requiring the leachate collection systems as DWMUs before acceptance of waste is not required to demonstrate safe operation, and could have the potential of delaying start-up of direct feed low activity waste (DFLAW).

Further, this permit modification request does not include modifications to the Leachate Collection System. In accordance with WAC 173-303-840(10)(c), "In a permit modification under this subsection, only those conditions to be modified will be reopened when a new draft permit is prepared. All other aspects of the existing permit will remain in effect for the duration of the unmodified permit." Per WAC 173-303-830(3), "When a permit is modified, only the conditions subject to modification are reopened." Adding a condition concerning the leachate collection system is outside the scope of this permit modification.

Recommendation: Delete permit condition.

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47. Permit Condition III.11.G.2.
The Permittees are authorized to accept dangerous/MW that satisfies the waste acceptance requirements listed in Addendum B.

Response: As described in Addendum B, Section B.1.1, "IDF provides treatment, storage, and disposal of Hanford Site mixed waste, as defined by WAC 173-303-040, Definitions, and Hanford Site low-level waste (LLW)." IDF will not treat, store, or dispose of dangerous-only waste.

Recommendation: Remove reference to dangerous waste: "The Permittees are authorized to accept MW that satisfies the waste acceptance requirements listed in Addendum B."

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48. Permit Condition III.11.H.6
For wells subject to this Permit, the Permittees will comply with WAC 173-160 and Chapter 18.104 RCW by replacing non-compliant wells subject to the permit with new wells under the schedule in Hanford Federal Facility Agreement and Consent Order (HFFACO) Milestone M-24, as amended, incorporated by reference into this Permit.

Response: The Permittees agree to comply with WAC 173-160 and Chapter 18.104 RCW, and agree to use the TPA milestone M-024 process to maintain a schedule of well installation as needed.

However, the Permittees disagree with incorporating M-024 by reference. By incorporation of the M-024 milestone, this condition seems to also allow for creation of an alternative schedule through the permit modification process. The language should not infer an expectation that the permit modification process could be used as a separate, redundant process. The schedule for well decommissioning is determined through the M-024 milestone.

Recommendation: Remove Milestone M-024 language, and revise permit condition to the following: "For wells subject to this Permit, the Permittees will comply with WAC 173-160 and Chapter 18.104 RCW by replacing non-compliant wells subject to the permit with new wells."

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49. Permit Condition III.11.H.6.a.
The Permittees will submit a permit modification request to Ecology to decommission wells as necessary to ensure compliance with WAC 173-303-645. This permit modification request will include a schedule of compliance, which may incorporate by reference applicable schedule(s) in HFFACO Milestone M-24. For wells to be decommissioned, this permit modification must also include a request for installation of replacement wells, if necessary, to ensure compliance with WAC 173-303-645 requirements.

Response: The WAC 173-160 regulations already regulate and provide the needed requirements for when a well needs to be decommissioned, the notice provided to the State, and the submittals after decommissioning of the well. Ecology agreed to delete the permit condition during discussions between the Permittees and Ecology on proposed permit conditions. The Permittees received communication from Ecology on 06/17/2021 stating this condition would be deleted.

In addition, the Permittees disagree with incorporating M-024 by reference. By incorporation of the M-024 milestone, this condition seems to also allow for creation of an alternative schedule through the permit modification process. The language should not infer an expectation that the permit modification process could be used as a separate, redundant process. The schedule for well decommissioning is determined through the M-024 milestone.

Recommendation: Delete permit condition.

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50. Permit Condition III.11.L.5.
Proposed closure performance standards are presented in Addendum H. No later than six (6) months prior to acceptance of the last shipment of waste at the IDF, the Permittees will update the IDF "Closure Plan," Permit Addendum H, with the Closure Performance Standards identified in Ecology Letter 20-NWP-132 (or updated version of Closure Performance Standards) and submit to Ecology for review, approval, and incorporation into the Permit.

Response: The closure performance standards identified in Letter 20-NWP-132 were calculated for the WRPS tank systems and used Cleanup Levels and Risk Calculation (CLARC) values that are already outdated. The values in the letter do not include all waste codes listed in the IDF Part A, and do not use the most current CLARC table values. In addition, including a letter in a permit condition fails to comply with the rulemaking requirements of the Washington Administrative Procedures Act, as letters have not been vetted through the rule making process.

Recommendation: Revise permit condition to state: "*Proposed closure performance standards are presented in Addendum H. No later than six (6) months prior to acceptance of*

the last shipment of waste at the IDF, the Permittees shall update the IDF Closure Plan, Permit Addendum H, with the most current Closure Performance Standards agreed to by DOE and Ecology, and submit to Ecology for review, approval, and incorporation into the Permit."

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51. Permit Condition III.11.M.1.
The Permittees will comply with the inspection requirements specific to Addendum I, "Inspection Plan," and Permit Condition II.O, in accordance with WAC 173-303-320, -395, -630, -640, -665, and -680, incorporated by reference.

Response: This permit modification does not include the leachate collection tanks; thus, inspections in accordance with WAC 173-303-640 and 680 should not be included.

Recommendation: Delete reference to WAC 173-303-640 and -680.

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52. Permit Condition III.11.O.2.
The Permittees will maintain institutional controls during post-closure to prevent damage from intrusion and ensure the cover functions as designed and approved. These controls may include, but are not limited to active maintenance and repair of vegetative cover to ensure evapotranspiration.

Response: This permit condition includes the term "may include, but are not limited to." This is vague and does not provide clear compliance direction. The post-closure plan addresses applicable requirements, and Permit Condition III.11.O.1 requires the Permittees to comply with the post-closure requirements specific to Addendum K.

Recommendation: Delete permit condition.

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53. Permit Condition III.11.P.2.a.
A description of and quantity of each dangerous/MW accepted for disposal by the IDF, and documentation of its disposal. [WAC 173-303-380(1)(a)].

Response: As described in Addendum B, Section B.1.1, "IDF provides treatment, storage, and disposal of Hanford Site mixed waste, as defined by WAC 173-303-040, Definitions, and Hanford Site low-level waste (LLW)." IDF will not treat, store, or dispose of dangerous-only waste.

Recommendation: Remove reference to dangerous waste: "A description of and quantity of each MW accepted for disposal by the IDF, and documentation of its disposal. [WAC 173-303-380(1)(a)]"

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54. Appendix C1.Phase I Critical Systems Design Report.

Response: The submitted appendix was based on the native 2019 permit file. Since receipt of the native file, PCN-IDF-2020-04 was submitted to Ecology and incorporated into the Permit.

Language changes in PCN-IDF-2020-04 revised Appendix C1 to reflect the construction plan to remove the floating covers from the leachate collection tanks and install domes. In this version of Appendix C1 out for public comment, Ecology has used the current permit file, deleted references to the dome and associated piping, and added back in the floating cover language. The Permittees did not request these changes.

Recommendation: Ensure language changes made in PCN-IDF-2020-04 are included in the issued IDF permit.

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55. Appendix C1.Phase I Critical Systems Design Report – Appendices.
Note: Copies of each of the appendices listed below are located in the Integrated Disposal Facility (IDF) Administrative Record and can be viewed in the Ecology library.

Response: The Critical Design Report appendices were submitted to Ecology as Official Use Only, thus are withheld from public inspection and copying, which was stated in the 2004 IDF permit application submittal letter (04-TPD-021).

Recommendation: Delete added language "Note: Copies of each of the appendices listed below are located in the Integrated Disposal Facility (IDF) Administrative Record and can be viewed in the Ecology library."

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56. Appendix C3. Design Drawings.

Response: The submitted appendix was based on the native 2019 permit file. Since receipt of the native file, PCN-IDF-2020-04 and PCN-IDF-2021-01 were submitted to Ecology and incorporated into the Permit. Drawing changes in PCN-IDF-2020-04 and PCN-IDF-2021-01 revised Appendix C3 to reflect the construction plan to install domes on the leachate collection tanks and build a pipeline between the tanks. In this version of Appendix C3 out for public comment, Ecology has used the current permit file, but deleted the drawings previously added. The Permittees did not request the deletion of these drawings.

Recommendation: Ensure the following drawings from PCN-IDF-2020-04 and PCN-IDF-2021-01 are included in the issued IDF permit. Include the following drawings:

- H-2-830829 sh2
- H-2-830846 sh 1
- H-2-830846 sh 2
- H-2-830850 sh 2
- H-2-830851 sh 1
- H-2-830852 sh 1
- H-2-830854 sh 4
- H-2-830858 sh 1
- H-2-830869
- H-2-830872 sh 1
- 602899-10-00

57. Addendum D, Section D.2.5, Sample Schedule Impacts, p. D.56, lines 29-30.
DOE will provide informal notification to Ecology if sampling of the network is expected to be delayed 4 weeks.

Response: The notification information requires modification.

Recommendation: Revise the instruction for the notification: "DOE will provide informal notification[1] to Ecology if sampling of the network is expected to be delayed past the end of the sampling period (e.g., quarterly, semiannual). Notification will be made within 4 weeks of the end of the sampling period."

Add the following associated footnote: "Informal notification may be an email, or a telephone call that is later documented via email."

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58. Addendum D, Section D.2.5, Sample Schedule Impacts, p. D.56, lines 35-36.
Missed or cancelled sampling events are documented in the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66, Hanford Site Groundwater Monitoring Report for 2017).

Addendum D, Section D.2.6, Annual Determination of Groundwater Flow Rate and Direction, p. D.57, lines 13-14.
The annual determination of groundwater flow rate and direction is documented in the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66).

Addendum D, Section D.2.9, Data Submittals to Ecology, p. D.58, lines 23-24.
Sample data will be summarized in the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66).

Addendum D, Section D.2.11, Reporting, p. D.65, lines 37-39.
Formal reporting will be made within the annual Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66). This report will be placed in the Hanford facility operating record. DOE will include the following in the report:

Addendum D, Section D.2.11, Reporting, p. D.66, lines 10-11.
A copy of the annual Hanford Site groundwater monitoring report will be placed into the Hanford facility operating record.

Addendum D, Section DA.2.5, Documents and Records p. Appendix DA.11, lines 26-27.
Groundwater monitoring results are reported in the Hanford Site groundwater monitoring report (e.g., DOE/RL-2017-66, Hanford Site Groundwater Monitoring Report for 2017.

Response: Change instruction to remove reference to the annual Hanford Site groundwater monitoring report.

Recommendation: Revise the sentences above to the applicable sentences:
Addendum D, Section D.2.5, Sample Schedule Impacts, p. D.56, lines 35-36.

"Sample data will be reported annually."

Addendum D, Section D.2.6, Annual Determination of Groundwater Flow Rate and Direction, p. D.57, lines 13-14.
"The annual determination of groundwater flow rate and direction will be reported annually."

Addendum D, Section D.2.9, Data Submittals to Ecology, p. D.58, lines 23-24.
"Sample data will be summarized and reported annually."

Addendum D, Section D.2.11, Reporting, p. D.65, lines 37-39.
"Formal reporting will be performed annually and will be placed in the Hanford facility operating record)."

Addendum D, Section D.2.11, Reporting, p. D.66, lines 10-11.
"A copy of the annual groundwater monitoring report will be placed into the Hanford facility operating record."

Addendum D, Section DA.2.5, Documents and Records p. Appendix DA.11, lines 26-27.
"Groundwater monitoring results are reported annually."

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59. Addendum D, Section D.2.10.1, Statistical Methods, p. D.61, line 19 - 28.
Prior to calculating a prediction interval, the baseline/background dataset will be evaluated for outliers, statistical (sample) distribution, temporal trends, and spatial variance. Outliers will be determined through a combination of statistical tests (e.g., Grubbs, Dixon, or Rosner tests) together with visual inspection of the data using, for example, time-series plots, probability plots, and boxplots. As part of this evaluation, any data determined to be the result of well corrosion will be considered an outlier. Identified outliers will be removed from the baseline/background dataset prior to calculating prediction intervals.

Initially, UPLs will be calculated for each constituent at each well (as appropriate), based on the baseline/background dataset. UPLs may be updated after it has been determined that the data are representative of the baseline/background condition; however, UPLs are not updated at each sampling event....

Response: Additional statistical information should be added.

Recommendation: Revise lines to include underlined text shown below:
"Prior to calculating a prediction interval, the baseline/background dataset will be evaluated for outliers, statistical (sample) distribution, temporal trends, and spatial variance. Outliers will be determined through a combination of statistical tests (e.g., Grubbs, Dixon, or Rosner tests) together with visual inspection of the data using, for example, time-series plots, probability plots, and boxplots. As part of this evaluation, any data determined to be the result of well corrosion will be considered an outlier. Identified outliers will be removed from the baseline/background dataset prior to calculating prediction intervals and the outliers and methods used to identify outliers will be reported with the results. The site-wide false positive rate will be minimized by balancing the number of individual tests, the individual test false

positive rate and the size of the background dataset. Effective power curves will be compared to EPA reference power curves to determine the appropriate parameters needed to obtain acceptable to good statistical power.

Initially, UPLs will be calculated for each constituent at each well (as appropriate), based on the baseline/background dataset. Statistical distribution testing, such as the Shapiro-Wilk test, will be used to determine if a parametric or nonparametric method is appropriate for calculating UPLs for a specific well-analyte pair, consistent with Chapters 18 and 19 of EPA 530/R-09-007. A 1-of-2 retesting strategy will be used for detection monitoring. The 1-of-2 retesting strategy requires a resample be collected if the regularly scheduled sample exceeds the UPL. If both the regularly scheduled sample and its' resample exceed the UPL, then there is statistically significant evidence of a release from the facility. If the resample does not exceed the UPL, then there is no statistically significant evidence of a release and the site will remain in detection monitoring. UPLs may be updated after it has been determined that the data are representative of the baseline/background condition; however, UPLs are not updated at each sampling event…"

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60. Addendum D, Section D.2.10.1, Statistical Methods, p. D.62, line 24 – 29.
For monitoring constituents that are not detected in the baseline/background dataset, the Double Quantification rule from EPA 530/R-09-007 will be applied. The Double Quantification rule states that "[a] confirmed exceedance is registered if any well-constituent pair in the '100% non-detect' group exhibits quantified measurements […] in two consecutive sample and resample events" (pp. 6-11 in EPA 530/R-09-007). A sample result will be identified as detected if the concentration is above the practical quantitation limit.

Response: Add instruction for this evaluation.

Recommendation: After lines 24-29, add the following paragraph and bullets:
"If a constituent, which was not previously detected in groundwater, is determined to be present in groundwater through detection in each of the four sample and resample events, the well is considered to have failed the Double Quantification test for that constituent. If the constituent is not detected in the sample or resample, the test is complete and no resample or other action is needed. The sampling sequence is as follows:

- Sample 1 – if constituent is detected; collect Resample 1. If constituent is not detected, the test is complete and end sampling (no further action).
- Resample 1 – if constituent is detected, collect Sample 2. If constituent is not detected, the test is complete and end sampling (no further action).
- Sample 2 – if constituent is detected, collect Resample 2. If constituent is not detected, the test is complete and end sampling (no further action).
- Resample 2 – end of sampling. If detected, the constituent has failed the Double Quantification test for that well. If constituent is not detected, the test is complete (no further action)."

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61. Addendum D, Section D.2.10.4, Evaluation of Routine Monitoring Sample Data.

b. For constituents where a UPL could not be determined during the baseline/background phase because the constituent was not detected in more than 50% of the samples.
c. Sample data collected during routine monitoring will be evaluated using the Double Quantification rule (EPA 530/R-09-007). If two consecutive sample and resample events (four data points) show detection of a constituent (above a practical quantitation limit), that constituent will be considered to be present in groundwater.

Response: Items b. and c. should not be separate.

Recommendation: Revise text to make items b and c into a single instruction: "For constituents where a UPL could not be determined during the baseline/background phase because the constituent was not detected in more than 50% of the samples, sample data collected during routine monitoring will be evaluated using the Double Quantification rule (EPA 530/R-09-007). If two consecutive sample and resample events (four data points) show detection of a constituent (above a practical quantitation limit), that constituent will be considered present in groundwater."

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62. Addendum D, Section D.3.
The monitoring well network consists of two background (upgradient) wells (299-E24-24) and five point of compliance (downgradient) wells (existing wells 299-E17-22, 299-E24-18, and 299 E24-21, and new wells 299-E17-56 and 299-E24-164).

Response: Sentence states there are two upgradient wells but only one well is identified.

Recommendation: Add 299-E17-57 as the second upgradient well: "The monitoring well network consists of two background (upgradient) wells (299-E17-57 and 299-E24-24) and five point of compliance (downgradient) wells (existing wells 299-E17-22, 299-E24-18, and 299 E24-21, and new wells 299-E17-56 and 299-E24-164)."

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63. Addendum D, Table D-4, Attributes for Wells in the Integrated Disposal Facility Groundwater Monitoring Network.

Response: Table D-4 should be updated to include current information and format. In addition, "Depth of Water in Screen" entries are incorrect due to the update to the 2020 water level information for existing wells and are no longer included in groundwater monitoring plans.

Adding updated information for 299-E17-56 will also preclude the need for the footnote regarding proposed well coordinates.

Recommendation: Replace table content in entirety with content from table below, ensuring to remove the column for "Depth of Water in Screen."

Table. Attributes for Wells in the IDF Groundwater Monitoring Network

Well Name	Completion Date	Easting[a] (m)	Northing[a] (m)	Top of Casing Elevation (m [ft]) (NAVD88)	Water Table Elevation (m [ft]) (NAVD88)	~~Depth of Water in Screen (m [ft])~~	~~Water Level Date~~
299-E17-22	4/16/2002	574841.09	135195.54	221.45 (726.55)	121.53 (398.71)	~~9.1 (31.7)~~	~~9/28/2020~~
299-E17-56 [b]	9/12/2019	574649.83	135370.57	220.75 (724.26)	121.54 (398.74)	~~5.5 (18.2)~~	~~8/14/2020~~
299-E17-57 [b]	7/26/2019	574169.76	135314.80	221.55 (726.88)	121.89 (396.63)	~~5.9 (19.4)~~	~~8/14/2020~~
299-E24-18	9/19/1988	574647.09	135469.76	220.35 (722.93)	121.52 (398.68)	~~1.9 (6.2)~~	~~9/28/2020~~
299-E24-21	3/28/2001	574635.76	135698.20	218.65 (717.34)	121.53 (398.72)	~~4.9 (16.2)~~	~~9/28/2020~~
299-E24-24	5/26/2005	574179.85	135459.79	221.22 (725.79)	121.53 (398.71)	~~9.7 (31.7)~~	~~9/28/2020~~
299-E24-164 [b]	9/24/2019	574637.27	135534.90	219.83 (721.23)	121.43 (398.40)	~~7.3 (24.0)~~	~~8/14/2020~~

Reference: NAVD88, *North American Vertical Datum of 1988.*

a. Coordinates are in Washington State Plane (south zone), NAD83, *North American Datum of 1983*; 1991 adjustment.

b. Water-table elevation in this well has not been corrected for deviation of boreholes from vertical, which may cause the reported head to be less than the actual head.

64. Addendum D, Table D-5, Monitoring Wells and Sample Schedule for Integrated Disposal Facility.

Response: Footnote f is presented in the table notes but there is no footnote f in the table.

Recommendation: Remove footnote f from the table.

65. Appendix DA, Table DA-2, Analytical Methods for Integrated Disposal Facility Constituents, p. Appendix D.A.16:

Response: The entry for cyanide should be changed to have separate entries for cyanide (total) and cyanide (free).

Recommendation: Revise the existing row for "Cyanide" to "Cyanide (free)" as shown below. Add a new row for Cyanide (total) as shown below. Changes are underlined.

CAS Number	Waste Constituent (Alternate Name)	Analytical Method	Practical Quantitation Limit (µg/L)
57-12-5	Cyanide (total)	335.4, 9012, 9014, Standard Method 4500	15.75
57-12-5	Cyanide (free)	9014	4

66. Appendix DA, Table DA-2, Analytical Methods for Integrated Disposal Facility Constituents, p. Appendix D.A.16 - Appendix D.A.23:

Response: Several identified Practical Quantitation Limits are not the most current.

Recommendation: Revise Practical Quantitation Limits:
- Copper: change from 12.6 µg/L to 10 µg/L
- Manganese: change from 5.25 µg/L to 10.5 µg/L
- Selenium: change from 10.5 µg/L to 9.5 µg/L
- Carbon disulfide: change from 10.5 µg/L to 5 µg/L
- Vinyl chloride: change from 2.1 µg/L to 10 µg/L
- 2-Acetylaminofluorene: change from 100 µg/L to 105 µg/L
- 2,4-Dinitrophenol: change from 50 µg/L to 52.5 µg/L
- 3,3′-Dichlorobenzidine: change from 52.5 µg/L to 105 µg/L
- Bis(2-ethylhexyl) phthalate: change from 10.5 µg/L to 15.7 µg/L

67. Appendix DA, Table DA-2, Analytical Methods for Integrated Disposal Facility Constituents, p. Appendix D.A.18:

Response: There is no entry for n-butyl alcohol (1-butanol) in Table DA-2.

Recommendation: Add a new entry in "Volatile Organic Compounds" category for n-butyl alcohol (1-butanol):

CAS Number	Waste Constituent (Alternate Name)	Analytical Method	Practical Quantitation Limit (µg/L)
71-36-3	n-Butyl alcohol (1-Butanol)	8260	262.5

68. Appendix DA, Table DA-3, QC Samples, p. D.A.24, footnote a.:
For portable pumps, equipment blanks are collected (1 for every 10 well trips).

Response: The information in this footnote needs correction.

Recommendation: Revise footnote: "For portable pumps, equipment blanks are collected (1 for every 20 well trips)."

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69. Appendix DB, Section DB.2 Sampling Methods, p. Appendix DB.7, line 19 to Appendix DB.8, line 33:

Response: The information in this section is not the most current.

Recommendation: Revise the text on the subject lines with that provided below:
"Groundwater samples will be collected according to the current and applicable field practices. Groundwater samples are collected after field measurements of purged groundwater have stabilized as follows:

- pH – two consecutive measurements agree within 0.2 pH units
- Temperature – two consecutive measurements agree within 0.2°C (0.4°F)
- Conductivity – two consecutive measurements agree within 10% of each other
- Turbidity – less than 5 nephelometric turbidity units prior to sampling (or the recommendation by staff assigned by the Prime Contractor Project Manager at the time of collection)

Dissolved oxygen will also be measured in the field. Dissolved oxygen is not required to be stable prior to sample collection.

Environmental-grade electric submersible pumps will typically be used for well purging and sample collection in existing wells with a flow rate not exceeding 7.6 L/min (2 gal/min). In the event a well exhibits insufficient productivity to support purging and sampling using the environmental-grade electric submersible pumps, adjustable-rate bladder pumps with typical flow rates of 0.1 to 0.5 L/min (0.026 to 0.13 gal/min) may be employed. As environmental-grade electric submersible pumps are replaced when they reach the end of their service lives due to age, normal wear, or failure, they will be replaced with adjustable-rate bladder pumps. The same purge protocol described for environmental-grade electric submersible pumps will be used for the adjustable-rate bladder pumps.

Dedicated pumps (i.e., submersible pumps placed semi-permanently in monitoring wells) may be used for well purging and sampling. In all wells using dedicated pumps, the depth to the water table will be determined at each well, and the placement of the pump intake will be in the upper portion of the unconfined aquifer (e.g., within 3.1 m [10 ft] of the measured water table depth). Pump depths will be confirmed before purging and sample collection. Dedicated pumps will be reset as needed to maintain the pump intake depth within the upper portion of the unconfined aquifer. Groundwater monitoring wells will be purged and sampled

using purge and sample techniques and selected pump placement that are representative of groundwater conditions near the observed water table at the time of sampling.

The use of purge and sample techniques with a flow rate not exceeding 7.6 L/min (2 gal/min) allows collection of representative samples of groundwater near the water table in wells that have been constructed using longer screens (e.g., up to 9.1 m [30 ft]) than typically used for water table monitoring. The use of longer screens for RCRA groundwater monitoring wells contributes to a longer service life for wells in areas where declining water table elevations have historically rendered wells unusable after relatively short periods of time.
Unless special directions are provided by the staff assigned by the Prime Contractor Project Manager at the time of sample collection, wells are typically purged at a flow rate not to exceed 7.6 L/min (2 gal/min). Purging will continue until stable readings of selected field water quality parameters are achieved (as described above).

Field measurements (except for turbidity) are typically obtained using an instrumented flow-through cell located at the wellhead. Groundwater is pumped directly from the well to the flow-through cell. At the beginning of the sample event, field crews attach a clean stainless steel sampling manifold to the riser discharge. The manifold has two valves and two ports: one port is used only for purgewater, and the other port is used to supply water to the flow-through cell. Probes are inserted into the flow-through cell to measure pH, temperature, specific conductance, and dissolved oxygen, if required by the main text. Turbidity is measured by collecting an aliquot of water from the purgewater valve and inserting the sample vial into a turbidimeter. Purgewater, including the water passing through the flow-through cell, is then discharged to a tank on a purgewater truck.

Collection of the field measurement data will commence when a volume of water equal to the volume of the pump riser pipe has been extracted and discharged to a purgewater truck, field measurements have stabilized, the hose supplying water to the flow-through cell is disconnected, and a clean stainless steel drop leg is attached for sampling collection. The flow rate does not exceed 7.6 L/min (2 gal/min) during sampling to minimize the loss of volatiles (if any) and prevent overfilling the bottles. Sample bottles are filled in a sequence designed to minimize loss of volatiles (if any). If both filtered and unfiltered samples are required (see Table 4-1), filtered samples are collected after collection of the unfiltered samples.

Samples may be filtered in the field, using a 0.45 µm filter, as noted on the chain-of-custody form. Unfiltered samples are collected in conjunction with filtered samples to determine if metal constituents being monitored (excluding hexavalent chromium, if one of the monitored constituents) occur as both suspended and dissolved phases, or in only one state. The evaluation of suspended and dissolved metals provides 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."

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70. Appendix DB, Section DB.5.3 Sample Custody, p. Appendix DB.12, lines 4 - 5
The field sampling team will make a copy of the signed record before sample shipment and transmit the copy to the Sample Management and Reporting group.

Response: The information in this sentence is not the most current.

Recommendation: Remove the entire sentence from Section DB.5.3.

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71. Appendix DB, Section DB.5.3 Sample Custody, p. Appendix DB.12, end of Section D5.3

Response: The information in this section is not the most current.

Recommendation: Add the sentence below at the end of Section D5.3:
"Sample custody will be maintained within subcontract laboratories in accordance with documented protocols."

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72. Appendix DB, Section DB.6 Management of Waste, p. Appendix DB.12, lines 30 – 33
Waste materials generated during sample activities, including purgewater and decontamination fluids, will be collected and managed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as authorized under Ecology et al., 1989, Hanford Federal Facility Agreement and Consent Order Action Plan Milestone M-024.

Response: The information in this section is not the most current.

Recommendation: Revise the sentence as follows: "Waste materials generated during sample activities, including purgewater and decontamination fluids, will be collected and managed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as authorized under Ecology et al., 1989, Hanford Federal Facility Agreement and Consent Order Action Plan, Milestone M-024, and the waste control plan or waste management plan associated with the applicable groundwater operable unit."

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73. Appendix DC, Section DC.1 Introduction, p. DC.3, lines 13 – 17, Table DC-2, Sampling Interval Information for Wells Within the IDF Network, and Table DC-3, Planned Locations, Surface Elevations, and Estimated Water Elevations and Depths for Proposed Wells Within the Integrated Disposal Facility Network, pp. Appendix DC.5 - Appendix DC.7.
For proposed wells, the following information is provided in Table C-3:
    - *Well location*
    - *Surface elevation*
    - *Estimated water elevation*
    - *Estimated water depth*

Response: The proposed wells have been drilled.

Recommendation: Remove lines 13-17. Remove Table DC-3. Replace Table DC-2 with the table below that includes the 3 new wells (299-E17-56, 299-E17-57, and 299-E24-164).

Table DC-2. Sampling Interval Information for Wells Within the Integrated Disposal Facility Network

Well Name	Hydrogeologic Unit Monitored	Elevation Top of Open Interval (m [ft] NAVD88)	Elevation Bottom of Open Interval (m [ft] NAVD88)	Open Interval Length (m [ft])	Drilling Method
299-E17-22	TU	122.6 (402.1)	111.9 (367.0)	10.7 (35.1)	Becker hammer
299-E17-56	TU	97.9 (321.2)	104.0 (341.2)	6.1 (20.0)	Dual rotary
299-E17-57	TU	99.7 (327.1)	105.8 (347.2)	6.1 (20.0)	Becker hammer
299-E24-18	TU	126.0 (413.4)	119.0 (390.4)	7.0 (23.0)	Cable tool
299-E24-21	TU	122.7 (402.5)	116.6 (382.5)	6.1 (20.0)	Becker hammer
299-E24-24	TU	122.5 (402.0)	111.9 (367.0)	10.6 (35.0)	Becker hammer
299-E24-164	TU	97.3 (319.2)	105.0 (344.3)	7.7 (25.1)	Cable tool

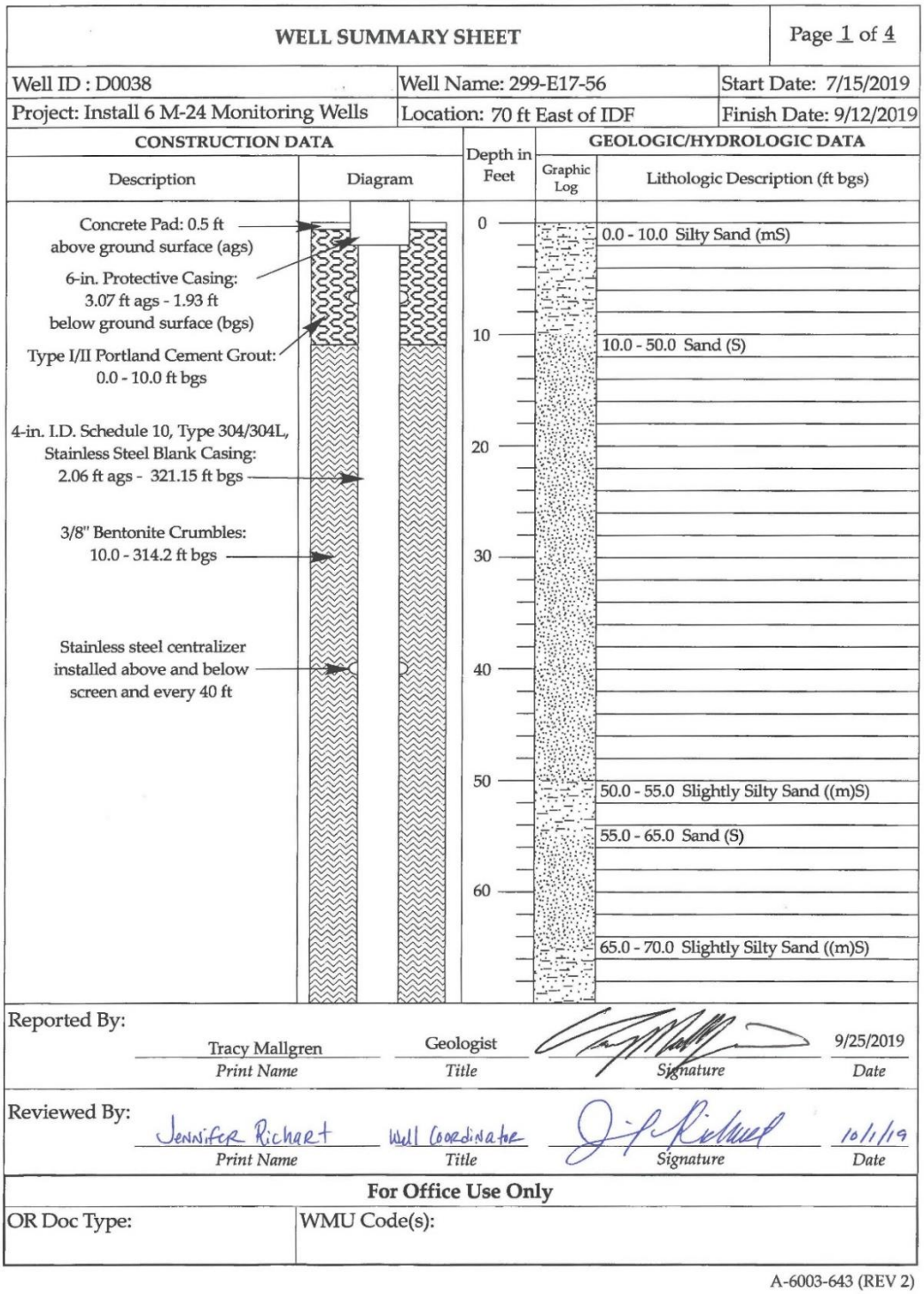
Reference: NAVD88, *North American Vertical Datum of 1988*.

TU = Top of Unconfined, as described in Table C-1

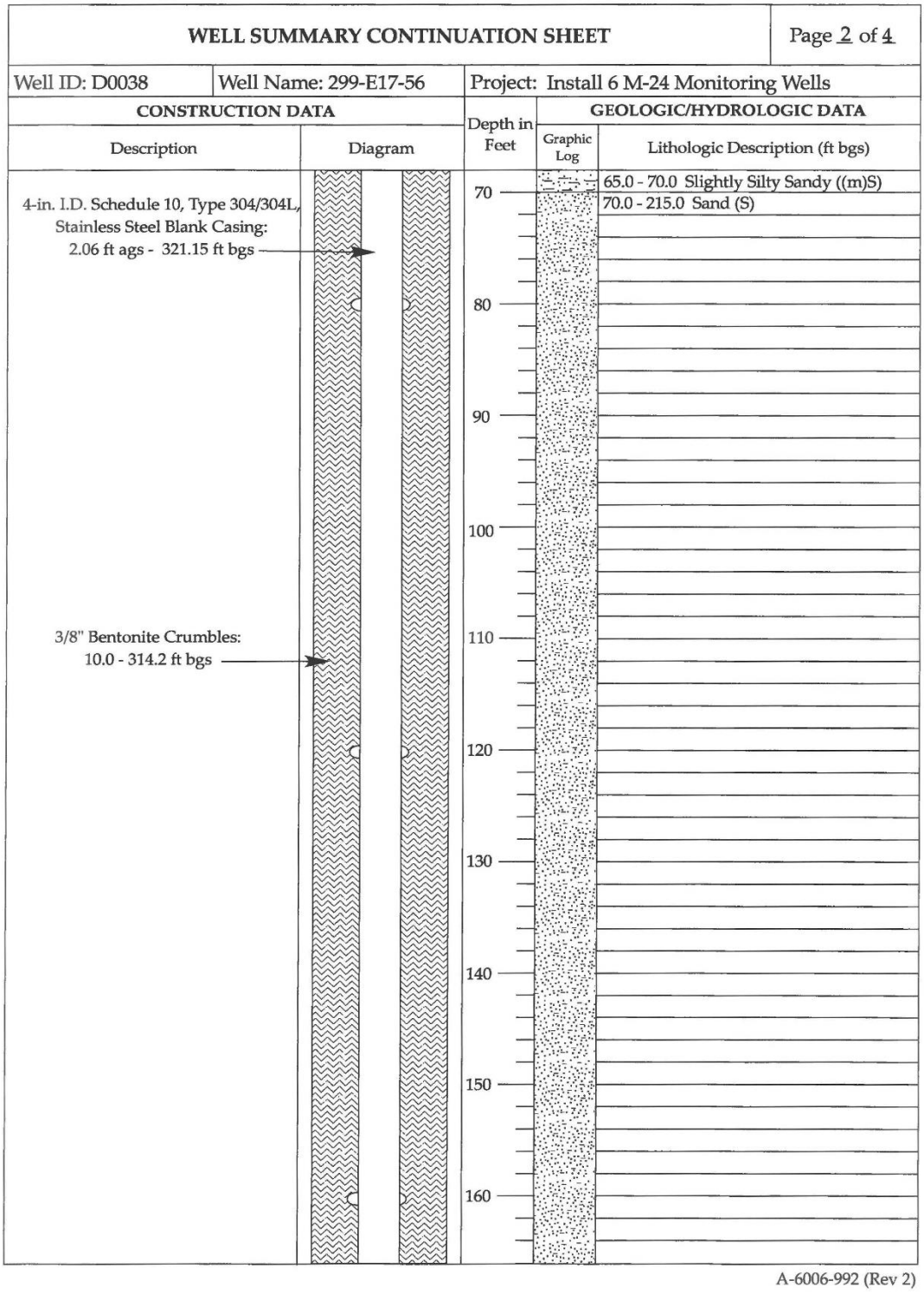
74. Appendix DC, Section DC.1, Introduction, p. DC.3, lines 18-19, and Figures, pp. Appendix DC.9 - Appendix DC.15.
Figures DC-1, DC-3, and DC-4 provide construction and completion summaries for the existing network wells

Response: The proposed wells have been drilled.

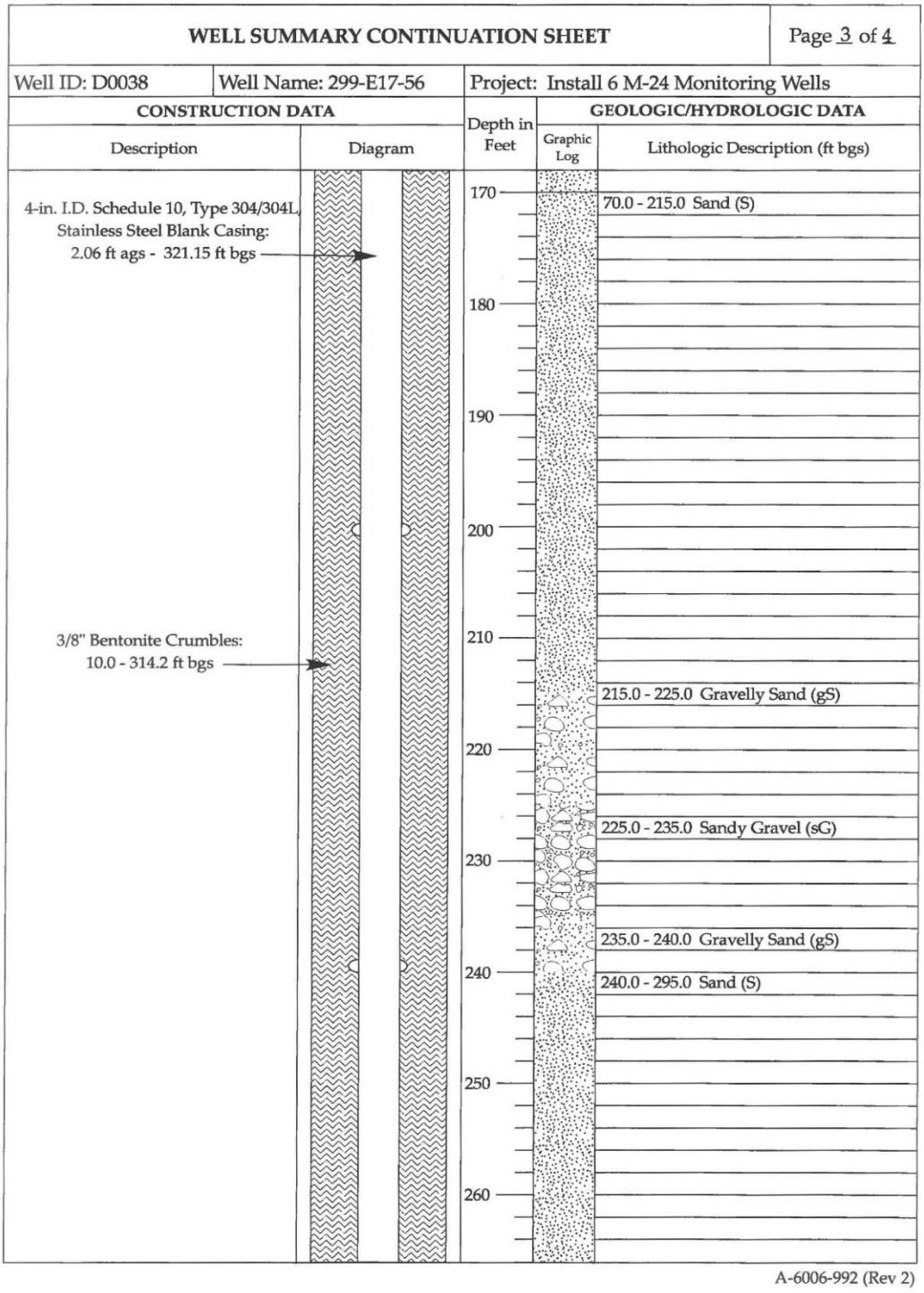
Recommendation: Add construction figures for the 3 new wells (299-E17-56, 299-E17-57, and 299-E24-164). Change lines 18 -19 to appropriately reference the additional construction figures for the 3 new wells. Update table of contents for the construction figures. Construction figures for these 3 wells are provided below.



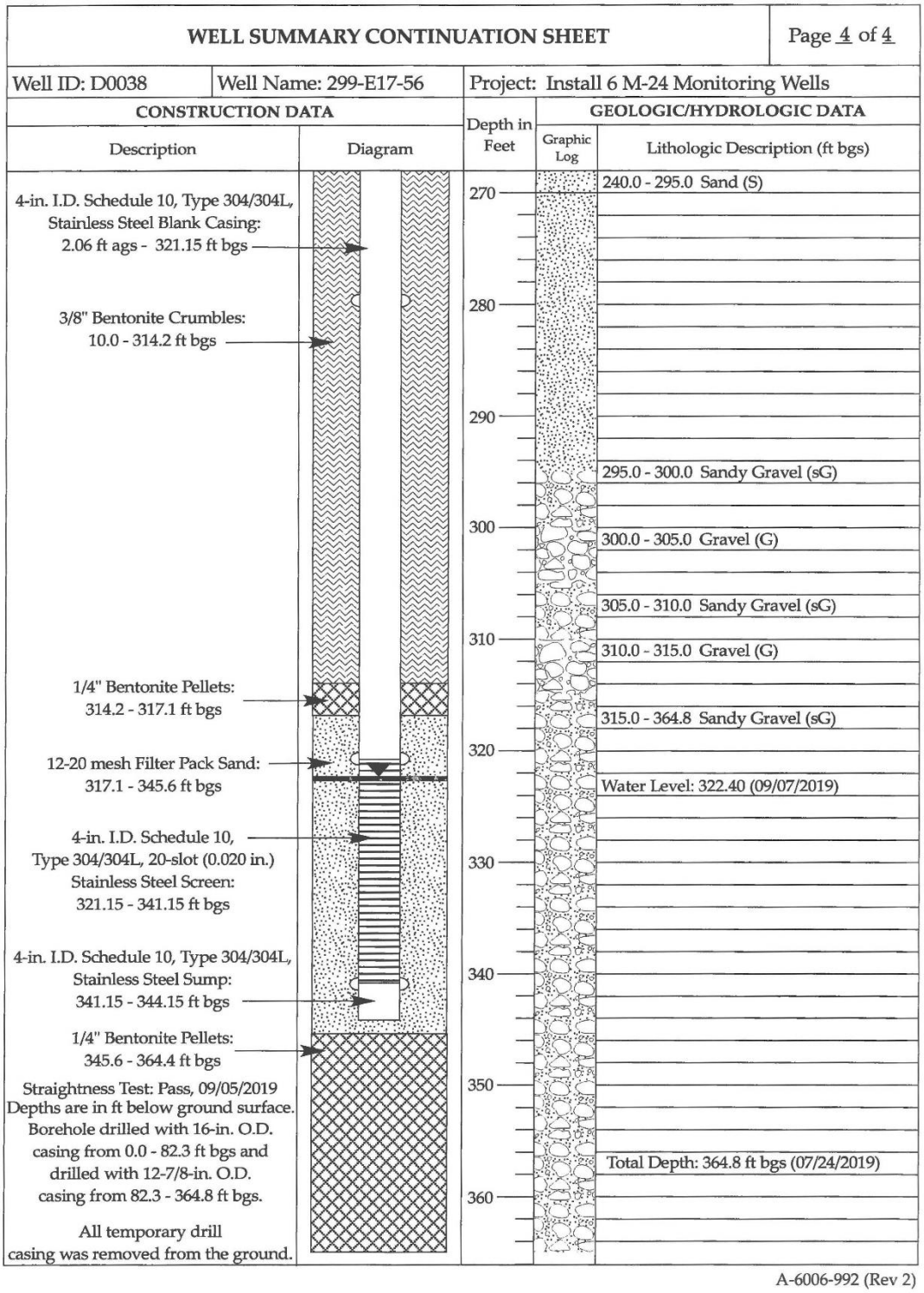
Well 299-E17-56 Construction and Completion Summary (1 of 4)



Well 299-E17-56 Construction and Completion Summary (2 of 4)



Well 299-E17-56 Construction and Completion Summary (3 of 4)

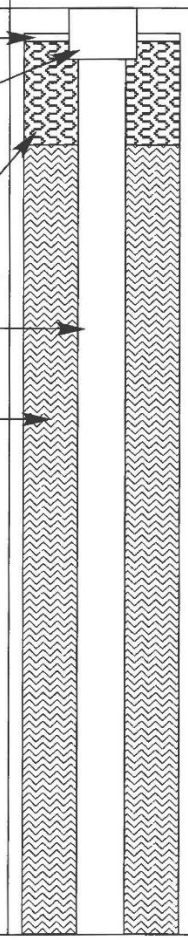


Well 299-E17-56 Construction and Completion Summary (4 of 4)

WELL SUMMARY SHEET | Page 1 of 4

Well ID : D0041	Well Name: 299-E17-57	Start Date: 5/20/2019
Project: Install 6 M-24 Monitoring Wells	Location: 85ft West of IDF	Finish Date: 7/26/2019

CONSTRUCTION DATA

Description	Diagram
Concrete pad: 0.5 ft above ground surface (ags) 6-in. Protective Casing: 3.02 ft ags - 1.98 ft below ground surface (bgs) Type I/II Portland Cement Grout: 0.0 - 8.6 ft bgs 4-in. I.D. Schedule 10, Type 304/304L, Stainless Steel Blank Casing: 1.99 ft ags - 327.13 ft bgs Bentonite Crumbles: 8.6 - 322.7 ft bgs	

GEOLOGIC/HYDROLOGIC DATA

Depth in Feet	Graphic Log	Lithologic Description (ft bgs)
0		0.0 - 10.0 Sand (S)
10		10.0 - 25.0 Gravelly Sand (gS)
20		
		25.0 - 46.0 Sand (S)
30		
40		
		46.0 - 50.0 Sandy Gravel (sG)
50		50.0 - 60.0 Sand (S)
60		60.0 - 85.0 Slightly Silty Sand ((m)S)

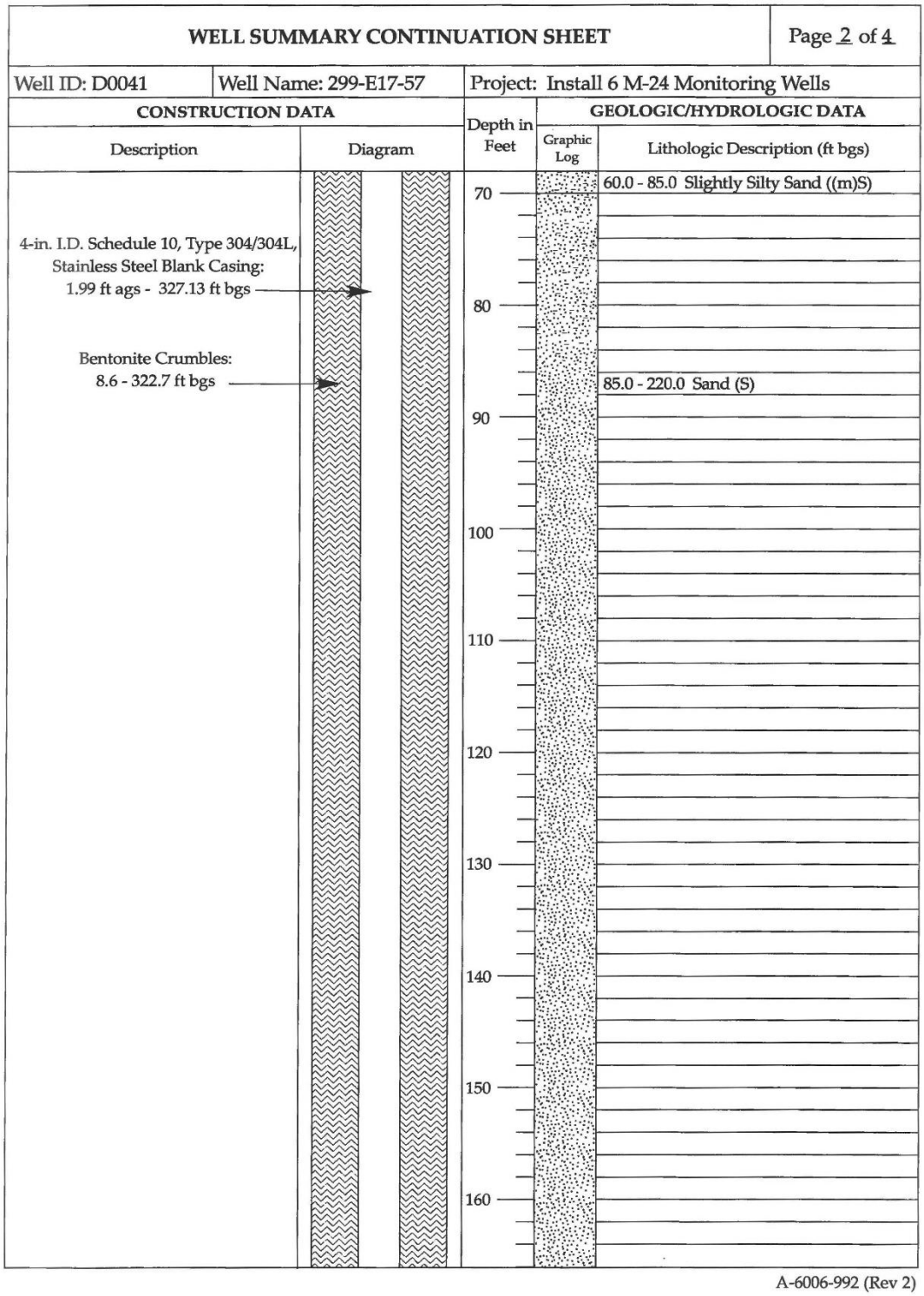
Reported By:	Print Name	Title	Signature	Date
	Tracy Mallgren	Geologist		7/29/2019
Reviewed By:	Jennifer Richart	Well Coordinator	J. Richart	8/7/19

For Office Use Only

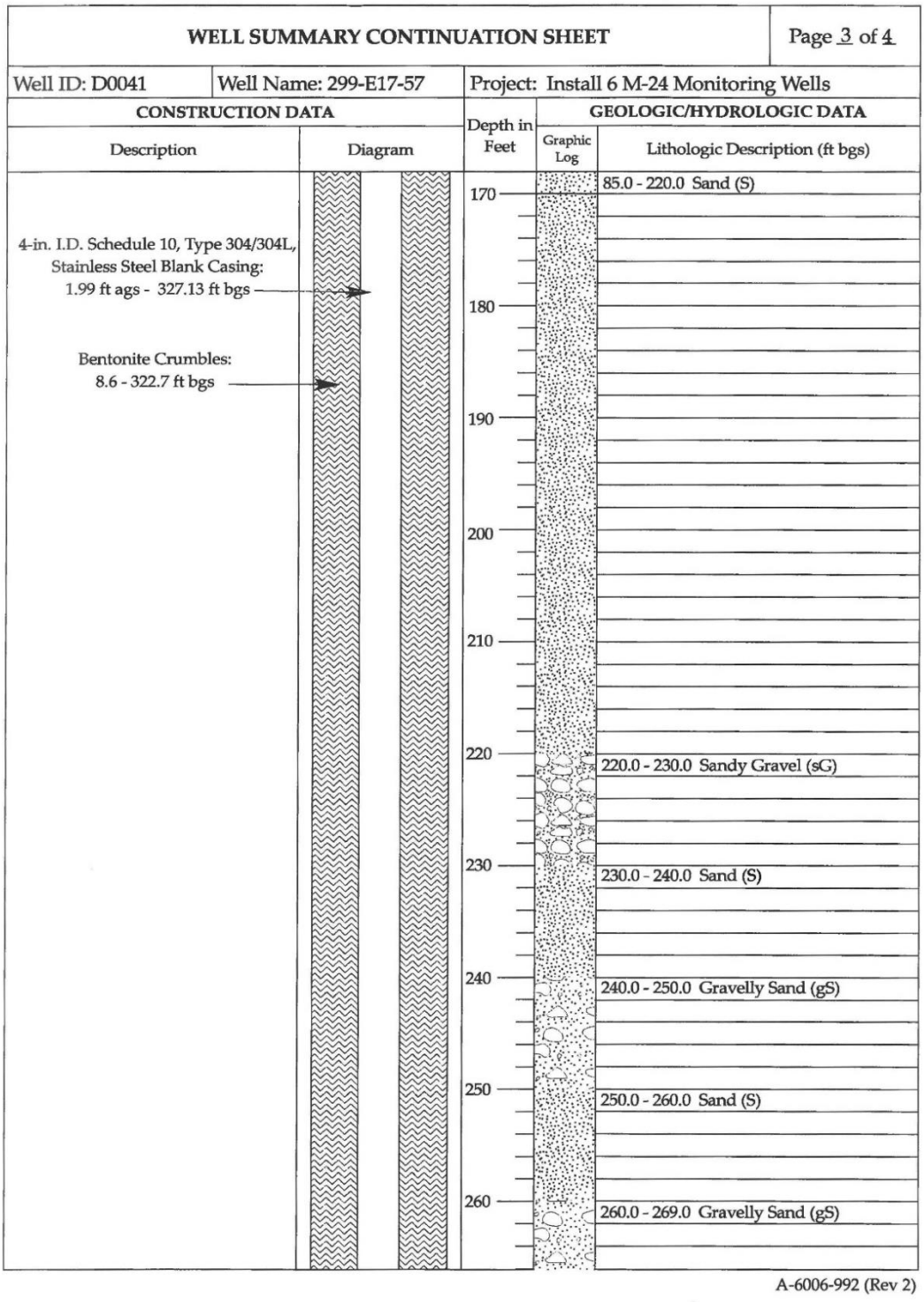
OR Doc Type:	WMU Code(s):

A-6003-643 (REV 2)

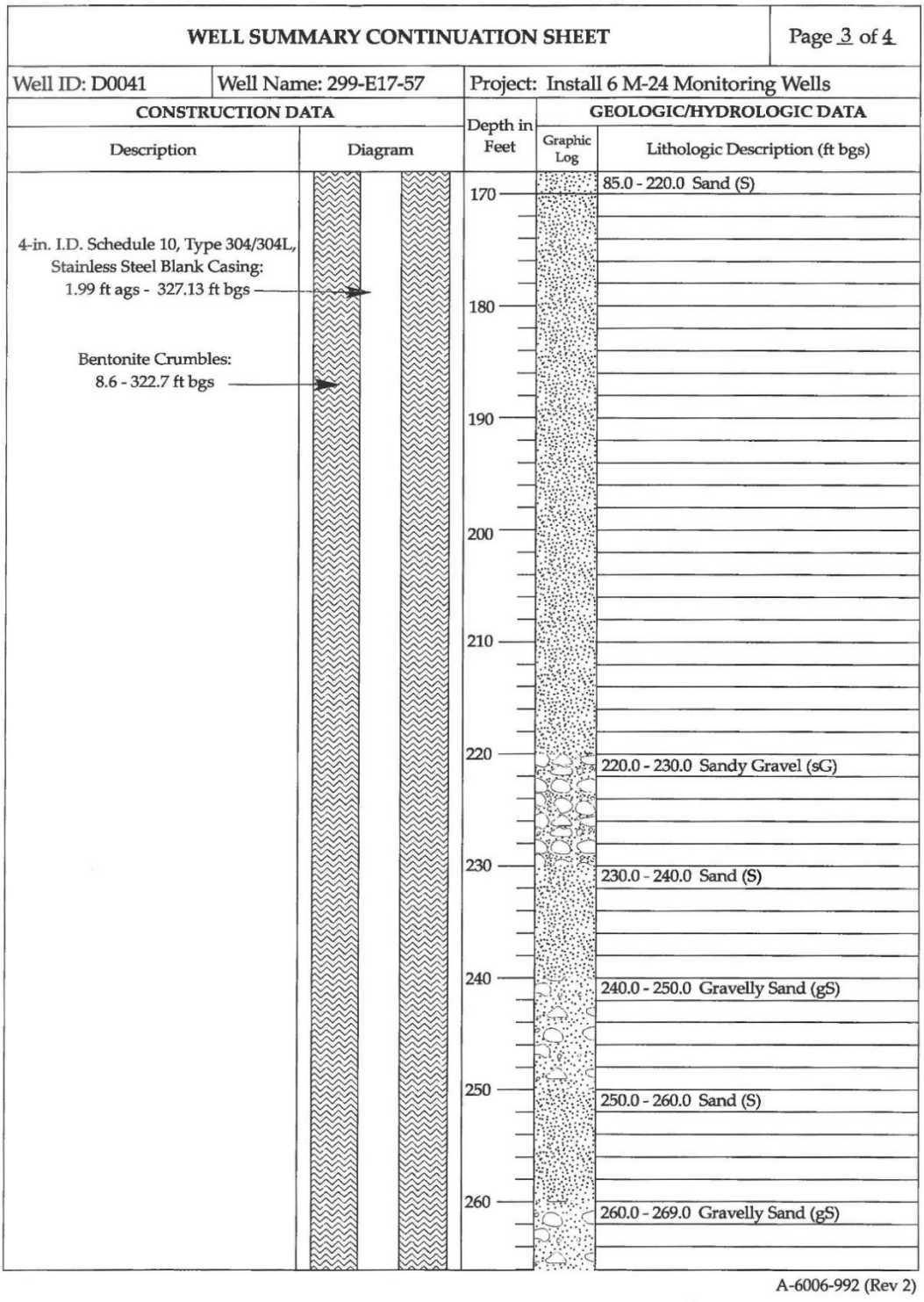
Well 299-E17-57 Construction and Completion Summary (1 of 4)



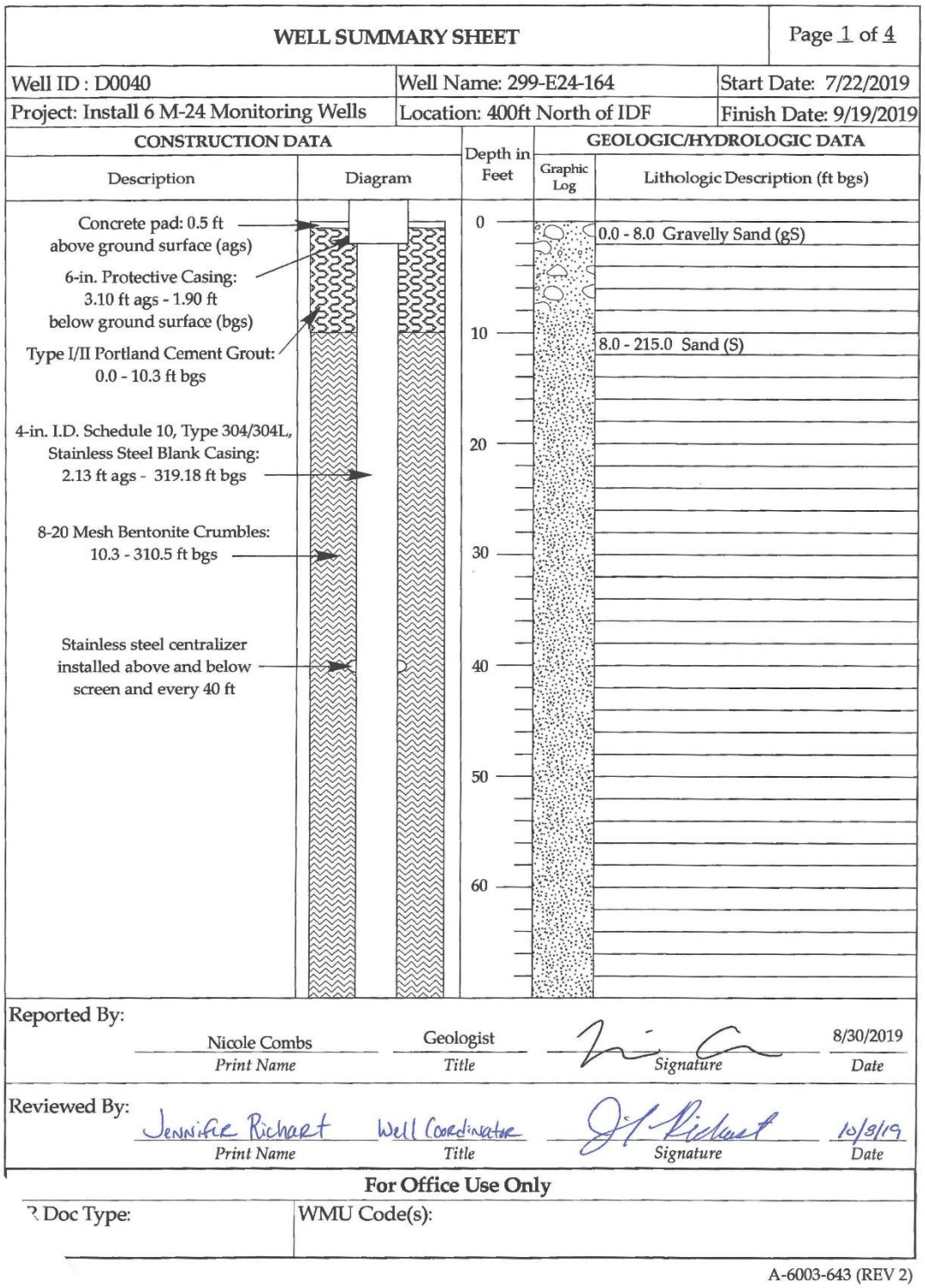
Well 299-E17-57 Construction and Completion Summary (2 of 4)



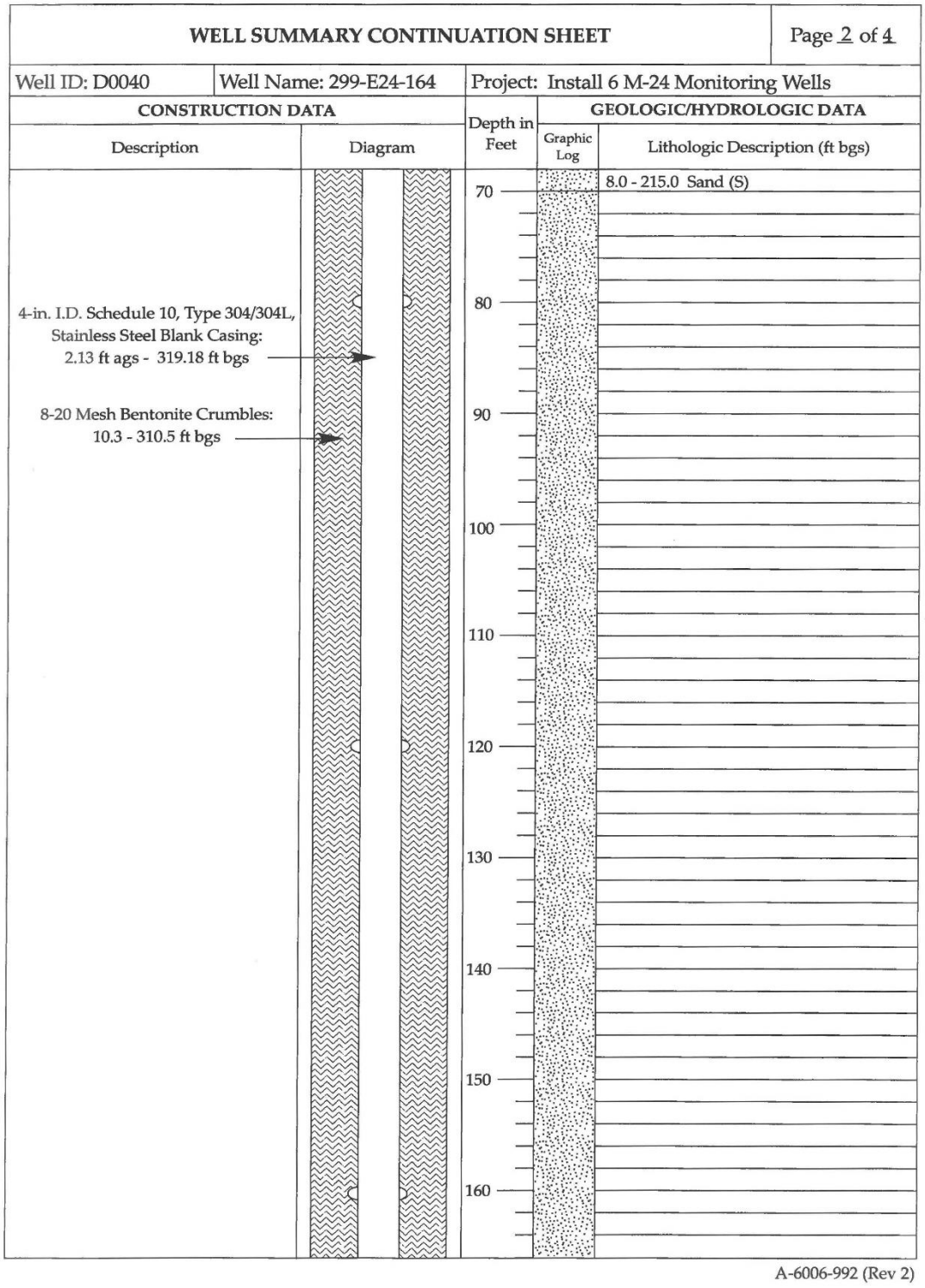
Well 299-E17-57 Construction and Completion Summary (3 of 4)



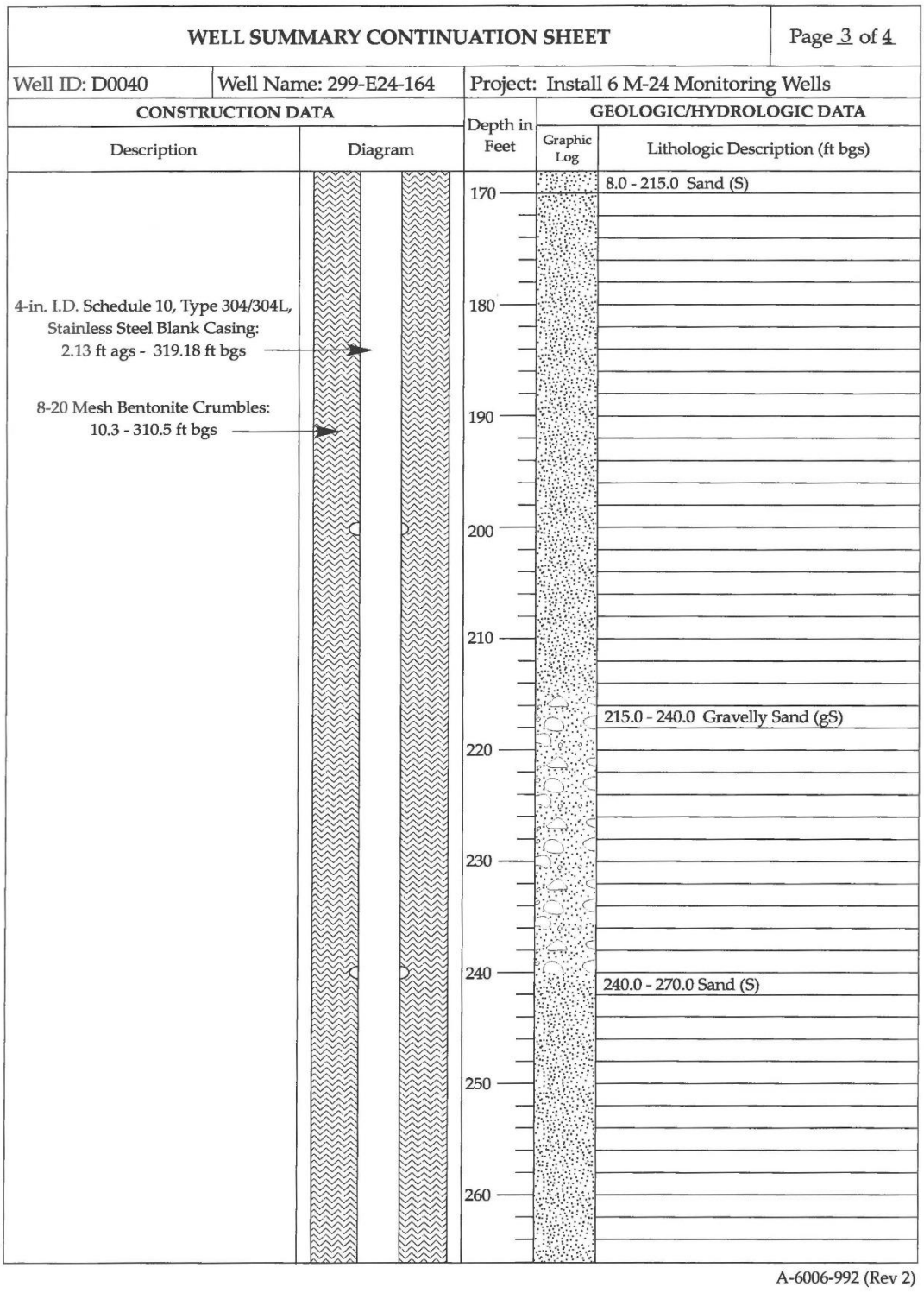
Well 299-E17-57 Construction and Completion Summary (4 of 4)



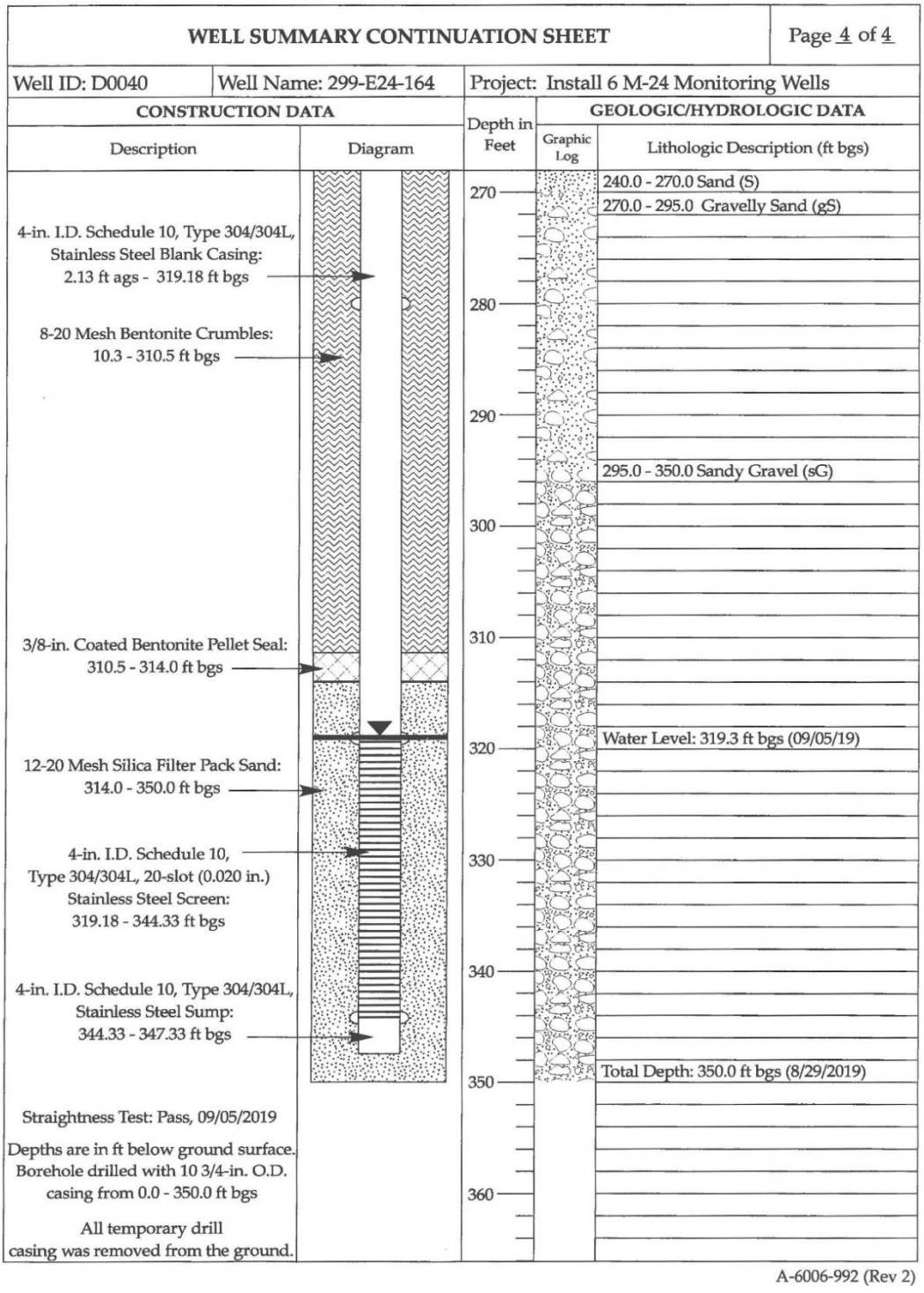
Well 299-E24-164 Construction and Completion Summary (1 of 4)



Well 299-E24-164 Construction and Completion Summary (2 of 4)



Well 299-E24-164 Construction and Completion Summary (3 of 4)



Well 299-E24-164 Construction and Completion Summary (4 of 4)

75. Addendum HA, Sampling and Analysis Plan: Table HA-1 Data Quality Indicators.
Table HA-3 (should be Table HA-4) Field and Laboratory Quality Control Requirements.
Section 2.2.3.2. Laboratory Quality Control Samples.
Carrier: A known quantity of nonradioactive isotope that is expected to behave similarly and is added to an aliquot of sample. Sample results are generally corrected based on carrier recovery.

Response: The Permittees requested the carrier sample type be deleted from this document. This sample type is for collection of radioactive samples and there are no radioactive constituents listed in the document. It is incorrect and may cause confusion to leave this sample type in the document.

Recommendation: Delete all references to the "carrier" sample type.

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76. Addendum HA, Sampling and Analysis Plan, Table HA-5 (should be Table HA-6)
Sample Preservation and Holding Time Requirements EPA Method 9056 Anions

Response: The Permittees removed EPA Method 9056 from the table since it is no longer used for any of the analytes listed in the document. It is incorrect and may cause confusion to leave this method in the table.

Recommendation: Delete EPA Method 9056.

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77. Addendum HA, Sampling and Analysis Plan, Section HA.4
Each month, the laboratory will provide the SMR a list of samples that must be disposed of in the following month. These samples are more than 90 days post-data delivery. The laboratory will also provide monthly a list of samples disposed in the preceding month that includes disposal date and method or other relevant information. Signed chain-of-custody forms indicating sample disposal will be retained in laboratory case files pending return of case files to the contractor.

Response: The Permittees requested this language be deleted from the original submittal. It was inadvertently added to the permit and is not a RCRA requirement. It is contractual language between the company and the lab and does not belong in a Sampling and Analysis Plan.

Recommendation: Delete language, as previously requested by the Permittees.

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78. Addendum HA.a, Visual Sample Plan, MARSSIM Sign Test figures HA.a-2 and HA.a-4.

Response: The Permittees submitted the Visual Sample Plan information, which included MARSSIM Sign Test figures. The version out for public comment does not include the figures.

Recommendation: Ensure figures of MARSSIM Sign Test are included in final permit.

79. Addendum I, Inspection Plan, Section I.4.
Examples of problems that warrant immediate action include spills, as a result of the transfer of leachate to tanker trailers…

Response: Ecology added the following language, which was not requested by the Permittees: "…as a result of the transfer of leachate to tanker trailers..." This permit modification does not include the leachate collection tanks as permitted units, thus transfer of leachate to tanker trailers would not be a permitted action. Ecology did not provide justification in the fact sheet for added language.

Recommendation: Delete language "as a result of the transfer of leachate to tanker trailers."

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80. Addendum I, Inspection Plan, Section I.4.
For problems identified during Hanford Fire Department inspection, the Job Control System (JCS) is used.

Response: The Permittees requested this language be deleted. As there are no sprinkler systems in the disposal cells or on the pads, there are no inspections in Addendum I completed by the Hanford Fire Department. It is incorrect and confusing to leave this sentence in the document.

The process used for documenting inspections was provided to Ecology during the comment resolution process, and is described in Section I.4: "Inspections are completed either by using inspection logs or through a job control database. Problems identified using an inspection log are noted on the inspection log and either corrected during the time of the inspection or tracked on each subsequent inspection log until corrected. Problems identified using the job control database are noted on the inspection form and either corrected during the time of the inspection or the problem is added to the job control database to be addressed according to a remedy schedule."

Recommendation: Delete added sentence: "For problems identified during Hanford Fire Department inspection, the Job Control System (JCS) is used."

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81. Addendum I, Inspection Plan, Section I.4.
Information from the inspection problem resolution process, including the log sheet and action tracking list will be maintained in the Hanford Facility Operating Record (IDF portion)…

Response: Ecology added the following language, which was not requested by the Permittees: "…problem resolution process, including the…" The problem resolution process is a vague term and does not provide clear compliance direction.

The Permittees provided a clear description of the inspection problem resolution process, which Ecology has subsequently deleted from Section I.4: "Inspections are completed either by using inspection logs or through a job control database. Problems identified using an inspection log are noted on the inspection log and either corrected during the time of the

inspection or tracked on each subsequent inspection log until corrected. Problems identified using the job control database are noted on the inspection form and either corrected during the time of the inspection or the problem is added to the job control database to be addressed according to a remedy schedule."

Recommendation: Reinstate deleted language which describes the process: "Inspections are completed either by using inspection logs or through a job control database. Problems identified using an inspection log are noted on the inspection log and either corrected during the time of the inspection or tracked on each subsequent inspection log until corrected. Problems identified using the job control database are noted on the inspection form and either corrected during the time of the inspection or the problem is added to the job control database to be addressed according to a remedy schedule."

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82. Addendum I, Inspection Plan, Section I.5.3.3.
During the active life, the LCRS and LDS are inspected weekly during normal work operations to support determining the action leakage rate, as defined in WAC 173-303-665(8), and described in Addendum C, is not exceeded and the systems are inspected per Table I-2. In addition, flow meter readings are observed to verify proper function of the leachate sump pumps.

Response: Ecology added the following language, which was not requested by the Permittees: "In addition, flow meter readings are observed to verify proper function of the leachate sump pumps." This is incorrect. As described in Table I-2, the flow meter readings are taken to "monitor and record the totalizer readings from flow meters." Proper function of the sump pumps is verified in accordance with Addendum C, "Process Information," Section C.4.5.2, which states "All pumps and motors will be started or bumped monthly or at intervals suggested by the manufacturer, first, to demonstrate that the pumps and motors are functional and second, to move the bearing(s) so that the bearing surfaces do not seize or become distorted."

Recommendation: Delete added language: "In addition, flow meter readings are observed to verify proper function of the leachate sump pumps."

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83. Addendum I, Inspection Plan, Table I-1
Ecology revised the active life inspection frequency of fencing from annual to weekly.

Response: The Permittees requested change of a weekly inspection to an annual inspection during the comment resolution process. The change was based on the rate of possible deterioration of the fencing in accordance with WAC 173-303-320(2)(c). The Permittees indicated the gradual degradation and low rate of failure of fencing would warrant an annual inspection. Ecology provided no indication of disagreement and no refuting justification for more frequent inspections.

Recommendation: Change active life inspection frequency to annual.