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PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Waste Area Group 10, Operable Unit 10-08, Remedial Investigation/Feasibility Study Work Plan (DRAFT), DOE/ID-10902, Rev. 0, March 2002

DATE: July 19, 2002 **REVIEWER:** DOE-ID (Patty Natoni)

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
COMMENTS				
1		iii	The scope of the OU 10-08 work seems to carry overlap between that of the OU 10-04 work, as well as that of the INEEL Water Integration Project, the ER LTS initiative, and the INEEL LTS Program, particularly in regards to the development of "site-wide institutional controls." Long-term stewardship scope includes but is not limited to that identified in the CERCLA process, and other regulatory processes (RCRA closures) will identify institutional controls as well. The Draft OU 10-04 ROD describes institutional controls, 5-year reviews, etc., only in relation to WAGs 6 & 10. Some effort needs to be made to distinguish the discrete scope of work this document pertains to. The statement is also made that this draft work plan describes the modeling strategy and the proposed conceptual site model, yet neither is included in the body of the document. **Suggestion:** Clarify the distinction between the OU 10-04 & OU10-08 scope, and specify that it applies to decisions made within CERCLA & the ER WAGs. Suggest adding a description of the conceptual site-wide groundwater model, and re-wording section on conceptual site groundwater model to: "It also describes the modeling strategy and the proposed conceptual site model for WAGs 6 & 10."	Accept. We will revise the document to clarify the distinction between the OU 10-04 and 10-08 scope, add a description of the conceptual sitewide groundwater model, and reword the section on conceptual site groundwater as suggested.

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2		1-1	Paragraph 5: The sentence is confusing as to what will not be required – the risk analysis component, the feasibility study, or neither? **Suggestion:** Clarify by splitting the concepts into two sentences to communicate (1) the risk analysis and feasibility study components are standard parts of the RI/FS process, and (2) in this case, based on these assumptions, it (whatever "it" is) will not be required.	Accept: We have revised the sentence to state, "Based on the following assumptions, neither the risk analysis component, standard to the RI/FS process, nor a feasibility study (FS) for groundwater in OU 10-08 will be required:..."
3		Ch. 1	The discussion of the task to develop a comprehensive institutional control plan references the requirement to do so in the draft OU 10-04 ROD, yet neglects to explain that the development of a comprehensive IC approach is part of the scope of OU 10-04 RD/RA and will reside within the OU 10-04 O&M plan (which distinguishes the task as applying to WAGs 6 and 10). It appears that the OU 10-08 task to develop the "comprehensive" site-wide IC plan is at least partially duplicative of this commitment in OU 10-04. Additionally, it is unclear if this "comprehensive" IC approach is limited to those IC's developed under CERCLA, or if it will include relevant or similar controls established under other closure drivers (e.g., RCRA). See comment #1. **Suggestion:** Clarify which OU has the task to develop a comprehensive IC plan. Discuss whether this applies only to WAGs 6 and 10, or all WAGs, and whether it applies to non-CERCLA-driven IC's.	Comment incorporated as suggested. Note that the plan at the time this work plan was drafted was that comprehensive ICs would be completed as part of OU 10-08. Because the agreement has been reached that the IC scope will now occur in the OU 10-04, we have deleted mention (globally) of IC development being completed as part of OU 10-08.

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4	1.1.2	1-3	Paragraph 3: An explanation of the relationship of WAG 6 to WAG 10 is noticeably missing among the mention of all the other WAGs. **Suggestion:** Explain the incorporation of WAG 6 into WAG 10.	Comment incorporated as suggested. We have added text that explains how OU 6-05, the comprehensive RI/FS for WAG 6 was incorporated into the Comprehensive RI/FS for WAG 10, OU 10-04.
5	2.2.1	2-7	Paragraph 5: The first part of this paragraph refers to "Time stratigraphic rock units." Is this a technical term, or does this need clarification (e.g., would a more understandable phrase be something like "Chronologically stratified rock units…")? **Suggestion:** Confirm whether the phrase "time stratigraphic rock units" is an acceptable technical term, or whether this concept needs clarification.	Accept: The term "time stratigraphic rock unit" is a correct geologic term that describes rock units that "a stratigraphic unit based on geologic time or time of origin, having boundaries that are everywhere of the same age". This is a correct usage of the term and no correction is planned.
6	2.3.1	2-10	Paragraph 2: The discussion of the flood-control diversion dam system would be enhanced with an illustration of the location of the diversion dam and the spreading areas. **Suggestion:** Include a figure showing the diversion dam and the spreading areas.	Accept: A figure will be added that shows the approximate location of the diversion dam and the spreading areas.

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7	2.5	2-17	Paragraph 1: Is there no more recent information on the number of operating meteorological stations on or around the INEEL than that cited from 1993? And where are the offsite locations? **Suggestion:** Review source information and determine if a more current count of meteorological stations exists. Revise text accordingly, including information on the location of the offsite stations. Consider including a map of the location of all such stations.	Accept: The available data will be reviewed to determine if a later version of this information is available. If a later version is available, it will be incorporated along with either a list of location or a map of the location of the weather stations.
8	2.5	2-17	Paragraph 2: Mention of the potential atmospheric transport of contaminants provokes the question about where on the INEEL might there be surface contamination which would serve as a source of contaminants for this atmospheric dispersal mechanism. It may enhance the presentation of INEEL surface soil contamination sites and the effect of meteorology on them by including a brief discussion of where in this OU there are sites which would contribute to this transport (if not in this section than perhaps in a later section presenting the existing contamination). Such discussion may have already been addressed in the OU 10-04 RI/FS, and it may be sufficient to reference that. **Suggestion:** Consider including a discussion, or referencing an existing discussion, about the potential for atmospheric transport of contaminants from surface soil sites on the INEEL.	Comment incorporated as suggested. We have added text that mentions atmospheric dispersion from WAG 6 and 10 sites was discussed in the 10-04 RI/FS.

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9	2.7	2-17	Paragraph 1: It is understood that the appendices are useful mechanisms to provide greater detail on information that is necessarily only summarily addressed in the text. However, it does the reader little good to be automatically referred to a more detailed description of a section without providing at least some level of summary information in the body of the document, as is the case in this section. Information about the use of the land on the INEEL is fundamental to the understanding of the document, and should be included to some appropriate degree in the body of the chapter. There should also be a brief discussion of the cultural resources onsite, as there is a potential for new (soil) sites identified in the OU 10-08 work to impact them (consider the fact that installation of any new groundwater monitoring wells identified during the OU 10-08 work will require assessing the impact on potential cultural resources as well as ecological resources). **Suggestion:** Include a summary level discussion of the types or categories of land use on the INEEL (suggest extracting from the CFLUP), addressing the percentage of the site actually disturbed by DOE activities, and the use of the lands immediately surrounding the INEEL. Provide the context for why we are remediating this site and monitoring the groundwater. Include a brief discussion of the nature of cultural resources on site.	Comment incorporated as suggested. We have added summary text to flesh out section 2.7.
10	2.9.2.1	2-19	Paragraph 1: What will the INEEL WAG groundwater plumes be reviewed for? **Suggestion:** Specify the purpose of the review.	Accept: A statement that the plumes will be reviewed for location, size and constituents on concern in the plume will be reviewed. They will also be reviewed for any potential or known commingling of several plumes.

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11	2.9.2.2	2-19	Paragraph 1: This may not be an issue that can be addressed at this point, but the discussion about monitoring upgradient contamination moving on to the INEEL begs the question: are we required to take any action if any contaminants from upgradient sources come on to the INEEL in concentrations that exceed MCLs (e.g., nitrates)? **Suggestion:** Consider the issue of what necessary responses might be to the introduction of contaminants exceeding MCLs from sources upgradient from the INEEL. Consider whether this document is the place to assess and respond to that potential risk.	Accept: The purpose of sampling groundwater upgradient from the INEEL is to determine what type of potential contaminants may be moving beneath the INEEL from upgradient sites. If the groundwater sample results indicate that certain groundwater contaminants are moving onto the site from upgradient sources, the DOE should establish a background level for that constituent and not be required to clean-up below the level that is moving onsite. This issue would best be addressed after the upgradient sampling is completed any upgradient problems are determined. No change to the text is planned for the RI/FS work plan.
12	3.1.4	3-6	Paragraph 2: The phrase "no collected mercury in the TSF area has been radiologically contaminated" is unclear. Do the authors mean "no mercury collected from the TSF area has been found to be radiologically contaminated," or "no mercury collected from the TSF area has subsequently been radiologically contaminated"? **Suggestion:** Clarify this phrase.	Accept: Revise text as follows: analytical data indicates that the mercury from this location is not radiologically contaminated.
13	3.1.4	3-6	Paragraph 4: This paragraph is confusing. Do the authors mean "The CERCLA time-critical removal action performed in October 1994 succeeded in reducing the mercury concentrations at TSF-08 to levels at or below the remediation goal of 81 mg/kg. This goal reflects the risk-based soil concentration corresponding to a hazard quotient of 1, under a residential scenario. Mercury still remains at this site, but in concentrations at or below that of the remediation goal."?? **Suggestion:** Clarify paragraph	Comment incorporated as suggested. We have revised the text as suggested.

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			wording.	
14	3.2.1	3-7	Paragraph 9: What are the three phases of the OU 1-07B remedy? The discussion would benefit from a brief description of each phase, so the reader may better understand what is left to do at TAN. There should also be reference and information provided in relation to the OU 1-07B ROD Amendment. **Suggestion:** Include a brief description of the three phases, and update the information related to the OU 1-07B ROD Amendment.	Comment noted. The requested information concerning the three phases is given on pages 3-8 and 3-9. We have updated the reference and information related to the OU 1-07B ROD amendment.
15	3.2.1	3-8	Paragraph 10: Which ROD is referred to in the first sentence at the top of page 3-8? Where several remedial actions, each established within a different ROD, are discussed in the same section, care should be taken to avoid confusing the reader by specifying which documents are referred to. **Suggestion:** Specify the RODs.	Comment incorporated as suggested. We have specified the appropriate ROD.

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16	3.2.1	3-8	Paragraph 11: The sampling strategy described in this paragraph is unclear. What is the difference between "routine" and "statistical" sampling? **Suggestion:** Clarify the different sampling types discussed in the sampling strategy of the Phase C groundwater-monitoring plan.	Comment incorporated as suggested. We have added text that explains that routine sampling entails single sampling events at 40 to 45 wells over the summer and statistical sampling entails up to three sampling events at each of 20 to 25 wells over a three month period.
17	3.2.2	3-8	Paragraph 1: Did the wastewater disposal ponds at TRA contribute any contamination to the SRPA? This is implied, but not directly stated. Also, the mention of the contamination from the TRA-05 disposal well should be moved closer to the beginning of the paragraph where TRA impacts on water are discussed. **Suggestion:** Clarify the contribution of TRA water disposal mechanisms to contamination in the SRPA.	Comment incorporated as suggested. The short answer is "not definitively" to the question whether the TRA ponds contributed contamination to the SRPA. We have moved the following sentence into position as the second sentence in the paragraph. "Contamination was introduced to the SRP aquifer from the TRA-05 disposal well, but no definitive or verifiable indications have shown that the TRA perched water system has impacted the aquifer."
18	3.2.3	3-10	Paragraph 1: The description of the perched water occurrence at INTEC sounds similar to that at TRA, but as the concept of perched water is again discussed in this section on INTEC, does this new discussion mean to imply that the mechanism significantly different from the mechanism at TRA? **Suggestion:** Clarify how the formation of perched water at INTEC differs from that at TRA.	A description of perched water will be added and it will be clarified that perched water at INTEC is separate from perched water at TRA.

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19	3.2.3	3-10	Paragraph 2: What determines which option in phase 2 of the remedy would be selected? **Suggestion:** Include a brief explanation of what factors, decisions, or information will influence the selection of remedy options in phase 2 of the Group 4 remedy.	The text will be revised to indicate the factors that influence selection of remedy options in phase 2.
20	3.2.3	3-10	Paragraph 5: The statement is made that something "varies frequently," yet it is not entirely clear what is varying – the details for the Group 4 monitoring (and if so, what aspect varies – the frequency? The analytes?), the general monitoring approach? **Suggestion:** Clarify what "varies frequently" refers to.	Comment incorporated as suggested. We have revised the sentence to remove mention that the project "varies frequently" and have stated only that details for the Group 4 monitoring and sampling are outlined in the Group 4 monitoring plan (DOE-ID 2000).
21	3.2.3	3-11	Paragraph 8: Was the long-term monitoring plan for Group 5 required by some legal document, or is it related to some other action? **Suggestion:** Specify the driver for the development of the long-term monitoring plan for Group 5.	Comment incorporated as suggested. The driver is the OU 3-13 ROD, which we have now referenced in this paragraph.
22	3.2.3	3-11	Paragraph 8: Throughout this paragraph's discussion of monitoring wells and well sampling, various numbers of wells are mentioned. The discussion is confusing as to how many wells there are, who manages them, which wells are sampled for what constituents, and when the sampling will occur. The terms "biannually and "semiannually" tend to be highly confusing for most readers (twice a year or every other year?) – avoiding the use of those terms by clarifying the periodicity of the sampling may aid understanding. **Suggestion:** Clarify the number of wells, the manager of the wells, and which wells are being sampled for what contaminants. Consider replacing the term "biannually" with	Accept: The section will be rewritten for better clarity. The detail about the number of wells being sampled is not really necessary for this discussion and these details will be removed.

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			"twice a year," and "semiannually" with "every other year," for greater clarity.	
23	3.2.5	3-12	Paragraph 2: What is "GWSCREEN"? **Suggestion:** Define the acronym or explain what the term refers to.	Comment incorporated as suggested.
24	3.2.6	3-13	Paragraph 2: What is the "active portion" of the aquifer? Is there an "inactive" portion? What is the difference between them? **Suggestion:** Define or explain what is meant by the term "active portion of the aquifer."	Comment incorporated as suggested. We have added text that explains how, at depth in wells that penetrate the entire thickness of the aquifer, a clear temperature inflection point in the temperature versus depth curve marks the bottom of the aquifer's active portion, with cooler, moving water flowing over warmer, more stagnant water.
25	3.3	3-16	Within this general discussion of the risk assessment approach for this OU, it is unclear why we are using MCLs instead of the usual risk assessment approach conducted by the other WAGs. The argument is offered that the use of MCLs at the INEEL is "defensible" because the NPDWR standards apply to public water systems. Does this mean the INEEL qualifies as a "public water system"? Further support of logic behind the argument is required – why is the use of NPDWRs applicable to INEEL? This doesn't make sense, and calls our previous risk assessments into question. How do we compare the risk derived at the other WAGs with what must be dealt with in OU 10-08 if the mechanisms for identifying the risk are not the same? Do MCLGs apply to ecological risks? How are those risks addressed? **Suggestion:** Better explain the risk assessment approach for OU 10-08, and why this RI/FS is diverging from the established mechanism for assessing risk at WAGs.	This section will be revised to indicate that risk calculations will be performed and the results compared to MCLs and other risk-based concentrations as appropriate.

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26	3.4.1	3-17	Paragraph 1: Although the RAOs for protecting human health are identified, the RAOs for ecological protection are not. This is contrary to the statement in the first paragraph of this section that RAOs will be based on ARARs and results of human health and ecological risk assessment. If, as noted in comment #25, MCLs are being used to address protection of human health, what is being used to address the protection of ecological health? **Suggestion:** Include the RAOs for protection of environmental health, and explain how (or where) the ecological risk assessment will be conducted.	Ecological RAOs will be defined as suggested.
27	3.4.2	3-18	Paragraph 3: When calculating the cost information to support development and comparison of remedy alternatives, will the long-term cost of implementing the remedy (e.g., long-term institutional control, monitoring well maintenance and replacement cycles, etc.) be factored in? **Suggestion:** Discuss how the long-term (stewardship) costs will be considered in developing and comparing the remedy alternatives.	Costs for implementation of remedial alternatives are performed during preparation of the feasibility study, and include the long-term costs for monitoring and institutional controls.
28	4	4-1	Paragraph 2: The discussion about the two RI efforts (10-08 and 10-04) is confusing. In describing the DQO development, which RI is referenced as being outlined in the OU 10-04 Work Plan – that for OU 10-04 or 10-08? Which ROD is referred to as the one which will be followed by groundwater tasks – OU 10-04 or 10-08? Which long-term remedial action objectives – 10-04 or 10-08 – will be evaluated with sitewide groundwater information? **Suggestion:** Clarify the discussion of the DQO and RI development work by specifying which OU is being	Comment incorporated as suggested. We have added text explaining that the 10-08 schedule was outlined in the 10-04 Work Plan. We have revised the sentence to state, "The schedule for performing the OU 10-08 RI, as outlined in the OU 10-04 Work Plan, allows for minimal collection of new data to support the OU 10-08 RI report." Everything else in the paragraph refers to OU 10-08 scope and we have added "OU 10-08" in strategic spots in select sentences.

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			addressed.	
29	4	4-1	Paragraph 3: The paragraph states "the Track 2 guidance document" will be used to develop DQOs, but does not specify which guidance document that is. **Suggestion:** Specify (reference?) the "track 2 guidance document" that will be used.	Comment incorporated as suggested. We have specified the reference: DOE, 1994. Track 2 Sites: Guidance for Assessing Low Probability Hazard Sites at INEL, DOE/ID-10389. Idaho Field Office, Idaho Falls, ID. Revision 6, July.
30	4.1	4-1	Paragraph 1: The authors should take care when referring to "stewardship" and long-term monitoring, particularly when stating that the DQOs for the OU 10-08 groundwater cover long-term stewardship. INEEL is developing a long-term stewardship program, separate from and more encompassing than WAG 10, and it would not be appropriate to imply those DQOs apply to this program. The INEEL LTS Program will of necessity need to consider the DQOs of all WAGs. **Suggestion:** Clarify the applicability of DQOs as pertaining to WAG 10, OU 10-08.	Accept. We will revise the document to clarify that the DQOs pertain only to OU 10-08
31	4.1.1	4-2	Paragraph 3, Numbered Statements: These statements are more statements of fact than descriptions of a problem. How are these situations varying from some desired/ideal status (definition of a problem)? What is the undesirable nature of the situation? **Suggestion:** Restate the problem statements as problem statements, clarifying how the situations differ from a more desirable condition.	The problem statements will be revised as suggested.
32	4.1.2	4-4	Table 4-2: The Decision Statements don't seem to support the supposed problem statements, reflecting the need to modify the problem statements. **Suggestion:** Ensure the Decision statements clearly support the problem statements.	The decision statements will be revised as suggested.

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33	4.1.2	4-4	Table 4-2: Decision Statement #2 does not make sense. How can projected contamination levels meet MCLs now? **Suggestion:** Clarify Decision Statement #2.	Accept: This statement will be revised by replacing the phrase "comply with MCLs now" with "comply with MCLs within 100 years."
34	4.3.1	4-9	The organization of this document is confusing. It seems to be moving from a moderate level of specificity, to a more detailed level, then back up to a general level. The description of the Work Plan Activities seems like these activities should be more general than they are, but the activities/tasks described in Chapter 5 seem to duplicate them to some extent. How do all these tasks and activities relate within a hierarchy of detail? How does Chapter 4 differ from section 5.1.1? **Suggestion:** Clarify how the various work activities and tasks differ between Chapters 4 and 5. Consider re-organizing the document to present the information in a more logical hierarchy of detail, starting with the overview of the site history (Chapter 3), ranging from the overview of the RI/FS process (Chapter 5) down to the more detailed description of specific work tasks (Chapter 4).	This work plan will be revised and organized to present the information in a hierarchy of detail as suggested.
35	4.3.1	4-11	Paragraph 10: Will this "comprehensive site-wide institutional control plan" address just the CERCLA IC's or will it encompass all IC's regardless of driver (e.g., RCRA)? And how does this effort relate to what the INEEL LTS Program is doing? **Suggestion:** Clarify the scope of the "comprehensive site-wide institutional control plan." It may not be necessary to specify it in this document, but the ER and INEEL LTS programs should have a clear understanding	Agree that there should be a clear understanding of the scope of a Sitewide institutional control plan. However, per Agency request, the requirements for this site-wide institutional control plan will be removed from OU 10-08 and placed in the OU 6-05/10-04 ROD. The OU 6-05/10-04 ROD will address contamination at nine sites and requires implementation of two limited actions; site wide institutional controls at CERCLA sites only, and long-

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			of their respective scopes and their integrating relationship.	term site wide ecological monitoring. The ROD scope will be implemented through the RD/RA Work Plan and the attached ***INEEL Site Wide Operations and Maintenance (O&M) Plan*** of which both are FFA/CO Primary Documents. The O&M Plan will contain the planned approach for institutional controls at CERCLA sites across the INEEL. The discussion of the IC requirements and scope in the OU 6-05/10-04 Draft Final ROD will be written more clearly.
36	4.3.1	4-12	What do we do if monitoring results exceed MCLs? Do we have a contingency response plan? This document talks only to the need to monitor, what to monitor, and how to monitor, but does not address how to respond to monitoring results. **Suggestion:** Clarify what our responses will be to various monitoring result scenarios (e.g., if monitoring indicates decreasing contaminant levels, or increasing contaminant movement/levels).	Comment incorporated as suggested. We will revise the text to state how we will evaluate and verify the data, and how we will report the data to the agencies, who will determine the appropriate response action or remedy. One basic assumption is that the WAGs remedial efforts WAGs (which are the source of the groundwater contamination plumes) are successful. WAG 10's responsibility will be to interact with the other WAGs to monitor this success. If, after an individual WAGs groundwater monitoring is turned over to WAG 10, the groundwater is found to still be impacted above the MCLs or other risk acceptable numbers, the remediation methods selected for the WAG in their original ROD would be reinstated after notification of the problem to and with the concurrence of the agencies. If a new impact or new site is identified that becomes the responsibility of WAG 10, a decision process and evaluation of alternatives will be prepared and agreed to by the agencies.

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37	5.1.1	5-1	This entire chapter seems to be out of order, and should occur before Chapter 4, at least, as it explains what this document is. The bulletized list of elements to this document describe the information presented in other chapters (with the exception of the last bullet): Site background/setting (Ch. 2) Project description (5.1), organization (7.2) and responsibilities (7.1) Evaluation of new sites (3.1) Evaluation of selected remedies (3.2) DQO discussion (4.1) RI/FS task list (4.3.1?) Schedule for tasks (Ch. 6) and description of work (4.3.1?) Schedule of deliverables (Table 6?) Comprehensive site-wide IC approach (mentioned several times, but not actually included) **Suggestion:** Re-organize the document to present information in a hierarchy of increasing detail (see comment and suggestion #34). Either include within the document the approach to a comprehensive site-wide institutional control approach, or delete the item	This work plan will be revised and organized to present the information in a hierarchy of detail as suggested.

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ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
38	5.3.1	5-3	Should these be considered "Field Work Tasks" instead of Work Plan Tasks, as they are in the "Field Work" section? If not, how do they differ from those described in 4.3.1? **Suggestion:** Clarify the difference between these "Work Plan Tasks" and those described in Chapter 4.	Accept: The section will be renamed Field Work-Related Tasks
39	5.5.2.1	5-4	2nd and 3rd bullets: How do these two categories of action differ? They seem to be substantially overlapping. Why are we now changing terminology when referring to "past INEEL remedial action decisions that employ only institutional controls" as "limited action decisions," but now are distinguishing between "limited action" and "institutional control"? **Suggestion:** Clarify the difference between "limited action" and "institutional control" options, and specify why the distinction is being made now.	"Limited Action" will be changed to "Monitoring" and the description will be revised to focus on monitoring.
40	5.5.2.2	5-5	How are long-term stewardship implications (long-term cost, implementability over several decades, long-term management of information about the remedy, etc.) being considered in the screening of process options? **Suggestion:** Discuss how long-term stewardship implications are considered during the screening of process options.	Long-term stewardship implications are considered in the development and evaluation of alternations during development of the feasibility study rather than in screening of process options. Hence, process options will not be screened out because of long-term stewardship requirements.

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PROJECT DOCUMENT REVIEW RECORD

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DATE: July 19, 2002 **REVIEWER:** DOE-ID (Patty Natoni)

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
41	5.6.5	5-8	1st bullet: Does the concept of "community" include the "ecological community" or is it limited to the worker community? How are short-term risks/impacts to the ecosystem factored in to the evaluation of response action alternatives? **Suggestion:** Explain what is meant by "community" in the first bullet addressing short-term risks.	Community refers to workers and nearby human inhabitants.
42	6	6-1	4th bullet: Wasn't part of the scope of this RI/FS to identify new sites following completion of other WAGs? **Suggestion:** Clarify whether the identification of new sites is part of this RI/FS scope or not.	Comment incorporated as suggested. Although we have budgeted for a certain number of new sites, we have added the caveat that anything over this number could impact the schedule.

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COMMENTS				
1			In general, this aggressive work plan will require a very substantial budget increase to accommodate the required activity.	Accept: Yes, this is an aggressive work plan but a significant amount of work needs to be performed to adequately assess and enhance the overall understanding of sitewide groundwater flow, contaminants and structural elements that control that flow.
2			Due to the highly complex nature of the INEEL site, significant structural, stratigraphic, geochemical, and engineering data must be assembled and analyzed to produce a technically defensible position for whatever decisions are made for the final disposition of the land.	Accept: Yes, it is very important to adequately understand the complex interrelationship between the structural, stratigraphic and groundwater and contaminant flow information in order to be able to definitively reach defensive decisions and conclusion: about the site. The overall RI/FS design will help to answer these questions.
3			An "Integrated Data Base" that encompasses all technical and environmental data is absolutely critical to the success of the program. Currently Hanford has such a database that resides in their "Virtual Library." I suggest that Mr. Mike Thompson (DOE) at Hanford be contacted as soon as possible for suggestions on this activity. He can be reached at (509) 373-0750.	Accept: The Integrated Data base that is being developed for the sitewide groundwater monitoring is critical to the ability to compile and access the broad variety of information necessary to evaluate the sitewide impacts. The sitewide database will include groundwater sample information from INEEL, as wel as < USGS sample results. It will also include groundwater level information and groundwater monitoring well bore hole log and well completion information.

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4	General		How does the new "Vadose Zone/Water Management Integration Project" fit-in with this project. It should be apparent from the goals and objectives of the integration project that it will significantly enhance this effort!	The Vadose Zone/Water Management Integration Project has ties to OU 10-08 in at least two areas. Firs the project is actively integrating the conceptual models that are being developed by the USGS and W 10. This integration will identify areas of agreement and disagreement and propose activities that could be used to test the hypothesis included in each model. Second, the project is working with off-site agencies that monitor INEEL contamination to identify areas where off-site monitoring can be coordinated. These coordination activities may affect planned OU 10-08 monitoring scope. The OU 10-08 project team will continue to work closely with the Vadose Zone/Wate Management Integration team to identify and take advantage of other areas of overlap as the two project develop.
5	General		I am deeply concerned that we do not have the necessary wells and planned wells to execute any long term monitoring program at the site. Is there a plan to install more wells? Is there a plan for well decommissioning (abandonment)?	Accept: As part of the OU 10-08 Work Plan gaps in t data providing groundwater sampling and monitoring information will be identified and additional monitoring and sampling wells to fill these data gaps will be planned. Some of these data gaps were initiall identified during the agency DQO meetings in February 2001 and the evaluation of sitewide groundwater information with the help of the Integrated Data Base and the sitewide groundwater modeling will likely add additional locations that nee additional groundwater monitoring locations. The ne wells necessary to fill these data gaps will be

				constructed as necessary and as funding allows. Well abandonment plans are part of the sitewide well maintenance program.
6	General		In view of also reviewing the draft "Waste Area Group 7 Operable Unit 7-13/14 Comprehensive Remedial Investigation/Feasibility Study," I find that the current state-of-the-knowledge concerning the subsurface (structural and stratigraphic control) is highly lacking. It would be extremely difficult to defend any proposed technical decision for clean up at this time without significant further technical investigation. With this in mind, the anticipated RI/FS and ROD document schedule will be adversely impacted.	Accept: It is agreed that additional information on the structural and stratigraphic information is lacking not only near WAG 7 but also from much of the site. Additional structural and stratigraphic information needs to be collected using geophysical and drilling information. This structural and stratigraphic information is important to the understanding on subsurface controls of groundwater flow. Proposed subsurface features such as NW/SE trending faults zones, volcanic rift zones, buried caldera margins and volcanic vent corridors could be controlling, at least c a local scale, groundwater and contaminant flow directions. It is agreed that all of these subsurface features need to be understood to adequately prepare and defend any technically defensible groundwater ar contaminant cleanup decisions.

7	General		For technical consistency, all measurements should be metric with English equilivants in brackets (example- section 2.0 and Appendix C).	Accept: These revisions to put all measurements in metric with English equivalent in brackets will be added to the RI/FS Work Plan.
8	General		Many sections are repetitive with very similar introductions and summaries (see Geologic and Hydrology sections (Section 2 and Appendices B and C).	Accept: It is true that there is overlap between Sectior 2 and Appendices B and C. Section 2 was designed tc give a general view of the important setting of the INEEL while not making the section too long. The detailed and expanded information on the setting such as the expanded geology and hydrology sections were moved to the appendices to keep the body of the Wor Plan shorter. For expanded information on the Sectior 2 areas, the reader is directed to the appendices.
9	General		Overall structural geology implications have been generally glossed over or not mentioned at all. How does the "Circular Butte-Kettle Butte Rift Zone," Lava Ridge-Hells Half Acre Rift Zone," and "Arco Rift Zone" that penetrate the INEEL site normal to the trend of the Snake River Plain influence or not influence the Snake River Plain aquifer? How do "vent corridors" that contains volcanic dikes, necks, and fissures influence aquifer flow regimes?	Accept: Based on the available information, the contr on groundwater and contaminant flow that is influenced by these subsurface structural features is hypothetically based on limited data. There is concerr about the limited understanding of these structural elements. WAG 10 OU 10-08 plans to work closely with the Subsurface Science Initiative group to utilize subsurface investigation tools to help answer some of these questions. Some of the tools that can be used ar surface and downhole geophysical tool, bore hole to bore hole tomography, and information from core

				drilling. A statement will be added to the work plan that discusses the unknown nature of these relationships and necessary for additional information to be gathered.
10	General		Why were no examples of borehole geophysical and lithologic logs and core descriptions included in the geologic and hydrologic descriptive write-up?	Accept: Because of the extensive amount of subsurfac geophysical and lithologic logs available on a sitewid basis, the work plan sections or appendices did not seem to be the place to show this level of detail. All o this information will be available from the Integrated Groundwater Database when it is completed. This wil provide a source to evaluate and gather information from these logs that is important for subsurface considerations.
11	General		What is meant by the term "vertical profiling?" The energy industry uses this term to describe vertical geophysical sections.	Accept: vertical profiling in this instance relates to groundwater samples being collected and analyzed from specific vertical depths in new or existing bore holes to determine the depths at which groundwater contaminants may be occurring. In deeper existing open bore holes this may be done using depth-specifi low-flow sampling techniques. In newly drilled bore holes this can be done by sampling selected intervals the borehole as drilling proceeds to different depths. The use of inflatable packers often helps collect groundwater samples for specific intervals in the borehole. This second technique is planned to be used for deeper vertical profile drilling as part of WAG 10 determine if an d at what depths contaminants may be detected , especially downgradient from major

				contaminant sources.
12	1.0	1-1 and 1-2	"Objectives": There is no mention of an integrated data base effort, development of conceptual models not only for the groundwater but also for the vadose zone (the vadose zone was not included in the WAG 10-04 soils ROD), and the transiting of other WAG's into this Waste Area Group. This needs to be spelled-out clearly.	The database is described in Section 4 and does not require specific identification in this section of the document. The transitioning of other WAGs into this WAG is a misstatement. The WAGs will still remain but operational aspects of performing work in a more efficient manner will necessitate consolidation of resources to perform long term data collection, evaluation and reporting. Again the text in this sectio does not require revision.
13	2.1	2-1	Paragraphs 3, 4, & 5: Need map location for Ashton, Bliss and "central trough or Pioneer Basin" on Figure 2-1 or some other figure.	Accept: A figure showing these features will be incorporated into the work plan.
14	2.1	2-3	Paragraphs 1, & 2: Need location of Cedar Butte, Axial Volcanic Zone, Pioneer Basin and Mud Lake Basin on Figure 2-2 or referenced to some other figure.	Accept: A figure showing these features will be incorporated into the work plan.
15		2-7	Figure 2-4: Need "axial volcanic zone" indicated on map.	Accept: A figure showing these features will be incorporated into the work plan.

16		2-10	Figure 2-6: Suggest the rearrangement of the Cross Section Line to be north-south due to well CH-2-2A large distance north of other wells. That is, CH-2-2A should be followed by INEL-1, and then WO-2, and finally CH-1. Also, the cross sectional line should be labeled (A-A').	Accept: The Cross section will be modified as recommended.
17	3.2.1	3-2	Paragraph 2: Were any contaminants found in the perched aquifer? Has there been any recent testing?	Comment incorporated. The perched water was sampled in 1991 and we will include mention of the sampling event and summarize the results. The perch water has not been sampled recently and probably no longer exists since the pond is not used.
18	3.2.6	3-9	Paragraph 3: How much is very little water?	The amount of water perched at RWMC is variable a related to the seasons. However, paragraph 4 mention that normally, "there is not enough water in the perch water zones to adequately sample for contaminant concentration." Therefore, we will simply delete the sentence that mentions, "...very little water..."
19	4.1.2	4-2	Paragraph 1: A tremendous statement concerning data needs to develop a vertical contaminant distribution model. Will existing data and newly acquired data be placed in an integrated database? Recently, I was told that most of the geophysical, geological, analytical and well bore data bases resided in discrete data sets that would have to be integrated. This data along with new data will need to be integrated into a central database for long term contaminant migration analysis. A very time consuming activity.	Accept: An effort is already underway that will integrate all the groundwater analytical data for wells located on the INEEL. This database will also include the results of samples collected by the USGS, ANL-West and NRF. This database will incorporate or link to all of the geophysical, geological and well bore dat This database will also compile available well water level measurements and the groundwater purge

				parameters collected during groundwater sampling events. This entire database is designed to be very use friendly and be INEEL intranet accessible to any who need the information for their work.
20	5.3.1.1	5-6	Paragraph 1: In order to evaluate the entire thickness of the aquifer, how many "new" wells will be needed for this activity? How will USGS well data be captured?	Accept: based on the current understanding of groundwater, monitoring and subsurface conditions a needs, it anticipated that 8 to 12 deep profiling aquife wells will be needed to assess the thickness of the entire aquifer and to evaluate the depth of any potenti deeper plumes or commingled plumes. As more sitewide data is gather and evaluated, this number could change where data gaps are identified. The INEEL has been working cooperatively with the USC to have a better working relationship and exchange of information. The USGS has been cooperative in this exchange and it anticipated that this cooperation will continue. The data from newly drilled USGS wells an the results of USGS groundwater sampling has been provided by the USGS and it is entered into the sitewide database as it becomes available.
21	5.3.1.4	5-9	Paragraph 1: The total number of wells anticipated is 70-90. However, the potential well count after adding all wells up is 135. What screening criteria will be developed to address this issue?	Accept: It is still anticipated that the final number of sitewide wells that will monitored on a regular basis i between 70-90 wells. The exact location of all of thes wells has not yet been finalized Therefore, until this li

				is finalized as part of the RI/FS process, all possible wells currently known were identified in the work pla The final number and locations of the sitewide groundwater monitoring wells will be established during the RI/FS using the criteria of identified data gaps, possible subsurface structural influences, existir well location or if a new well is needed, can an existir well adequately provide accurate sample, what the details of the well construction are, and if the existing well needs modification to meet the sitewide monitoring needs, can the well be successfully modified.
22		5-42	Figure 5-10: New aquifer data suggest a possible northwest-southeast flow direction in the aquifer. There appears to be a potential gap in the monitoring well array that will not catch contaminants migrating in a northwest direction.	Accept: There are several places on the INEEL that recent data indicate a potential northwest/southeast groundwater flow direction, at least on a local scale. However, the vie3w is that the groundwater in these areas is towards the southeast rather than the northwe Data gaps such these will be identified during the RI/FS and additional groundwater monitoring wells planned if it appears that that existing wells do not adequately monitor this flow direction.

23	6	6-1	Third bullet: The Draft RI/FS Report is scheduled for January 2004. However Figures 6-1 and Table 6-1 indicate December 2, 2002. Which is right?	Accept. The figure and table will be changed and consistent. The January 2004 date is correct.
24	6	6-1	Third bullet: The Draft ROD Report is scheduled for January 2004. However Figures 6-1 and Table 6-1 indicate September 30, 2003. Which is right?	Accept. The figure and table will be changed and consistent. The correct date is October 2004.
25	Appendix A (removed)		Table A-1.1. DQO Key Decision-Makers, page A-2: Why was Jeff Snook/Mark Shaw and not Glen Nelson (WAG-10 manager) put here? Was Jeff Perry (Manager for the Vadose Zone/Water Management Integration Project) invited to this meeting? Why was headquarters not advised of this meeting? Were all discussion items (pages A1-11 to A1-13) addressed sufficiently (follow-up)? How have the "Action Items" on page A1-14 been addressed?	Jeff Snook was the DOE-ID representative assigned t WAG 10 at the time of the DQO. Glenn Nelson did not have any responsibility for WAG 10 at the time o the DQO. The Water Integration Project did not exist at the time of the DQO. It would be DOE's responsibility to invi others to attend.

26	Appendix A (removed)		Questions (Tables A3-1, through A3-11): Significant construction problems are associated with many wells that will preclude them from the well network. Was the life-cycle cost estimate included in the overall cost to WAG -10 to retrofit these wells (the cost will be in the millions)? Has the cost of well abandonment's been include in the WAG-10 life-cycle costs? All wells have carbon steel casings. How will monitoring for metal contamination (such as beryllium, cadmium, zinc, etc.) be conducted? How will contaminant migration be detected in the vadose zone if all wells are cased? Are there any wells completely through the aquifer with potential zonal isolation capability? Without this we have no clue as to how and through what zones the contaminants migrate!	The Life Cycle estimate includes costs for replacing current wells as wells failed due to construction and o location to effectively monitor groundwater on a sitewide basis. The life cycle estimate includes cost for decommissioning wells to eliminate potential pathwa to the aquifer as wells are no longer needed for monitoring purposes. Many wells are open and not cased in the aquifer whi others have carbon casing.. The SAP addresses how monitoring is to be performed. Vadose zone migration was not considered part of the scope for OU 10-08 . There essentially no holes through the aquifer with th potential for isolating zones. However, the use of low flow sampling does allow for obtaining samples from discrete zones in open holes within the aquifer. Accept: Well Construction Issue: It is acknowledged and discussed during the DQO meetings that some of the wells, especially the open completion wells, prese potential problems for the collection of accurate groundwater samples. It was agreed by the agencies that the cost to retrofit all of these wells would be prohibitive. Therefore, it was agreed to use the existin wells as they are. WAG 10 would try to use low-flow

				groundwater purging and sampling techniques to collect more representative samples from specific dep intervals from these wells. In additional, all newly constructed wells for sitewide groundwater monitorin would be constructed as RCRA-compliant wells
27	Appendix A (removed)	A5-2 through A5-6	Site-wide "Plume Map Overlays" is inadequate. There needs to be a better way to represent these plumes rather than just a blob on a site map.	George The maps were used to show the extent of contaminants exceeding MCLs with respect to the sit . There was no value in preparing figures of a differe scale based on the DQO meeting with the agencies. Besides, the DQO was removed from the document.
28	Appendix A (old Appendix B)		Why was this section put here and not incorporated into Section 2. "Site Background and Physical Setting?" The flow of the discussion would be enhanced if it were included in section 2.2.	Accept. The appendices will be placed up into the body of the document to enhance the flow of those sections and the document.
29	Appendix A (old Appendix B) A-2	A-5	Last paragraph, last sentence: "The northeast-elongated subsiding SRP basin extends from Twin Falls area on the southwest to the Yellowstone Plateau on the northeast, a distance of about 200 miles (Figure A-4)." The figure A-4 is improperly referenced; perhaps another figure could be provided.	Accept: The reference to Figure A-4 for this statemen is incorrect. The correct reference should indicate Figure A-2. This will be corrected in the text.

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30	Appendix A (old Appendix B) A-3		Paragraphs 1 and 2: In this general discussion, there are comments concerning structural implications for the INEEL site ("…. associated with zones of tensional fracturing,", "…. which collectively define northwest trending volcanic rift zones (see Figure A-5). How do these and other structural features influence ground water movement under the INEEL site?	Some of these features trend northwest/southeast, which is perpendicular to the inferred regional groundwater flow direction. We believe that some of the geological structures influence the local and even sub-regional flow directions and some of these featur are being considered in continuing development of th WAG 10 model.
31	Appendix A (old Appendix B) A-6	A-11	Mid paragraph: "During glacial/fluvial…" Not glacial/pluvial.	Comment incorporated as suggested.
32	Appendix A (old Appendix B) A-8	A-14	Last paragraph, last sentence: Figure A-2 does not contain the reference information in the sentence (northwest-trending volcanic rift zones – Great Rift or Arco volcanic rift zones).	Accept: The section should refer to Figure A-5 rather than A-2. This will be corrected.2
33	Appendix A (old Appendix B) A-9		Figure B-10: Questions: Geologic Key: Patterns for Eolian and Lacustrine Deposits are the same. Geologic Key: Are cross sectional lines A, B, C, and D found within the text. Not all pattern shapes on the "Generalized Geologic Map of the INEEL Area" are identified. Normal fault symbols are not found on the "Generalized Geologic Map of the INEEL Area"	Accept: Patterns: The patterns for Eolian and Lacustrine will b corrected. Cross Section Lines: the cross section lines are notes the bottom of the first paragraph of Section A10. Pattern Shapes: Missing patterns/shapes will be adde to the map Fault symbols: Missing symbols will be added to the map.

34	Appendix B (old Appendix C)		Why was this section put here and not incorporated into Section 2. "Site Background and Physical Setting?" The flow of the discussion would be enhanced if it were included in section 2.2.	Accept. The appendices will be placed up into the body of the document to enhance the flow of those sections and the document.
35	Appendix B (old Appendix C) B-1	B-5	Paragraph 2: Figure B -1 does not represent the information found in the first sentence of this paragraph. That is ...a north-east trending structural basin about 200 miles long and 50 to 70 miles wide..."	Accept: A figure that more accurately reflects the text discussion will replace the current figure.
36	Appendix B (old Appendix C)	B-1	Figure B -2: Comments/Questions: Many well locations without numbers. An overall map with all 1,300+ wells needs to be included with this document. No north arrow. Where is Figure 3 for the "call out" area in the south central part of the map? Where are Tables 1 and 2 that are reference in the figure caption? Map is generally of very poor quality.	Accept: A better figure to illustrate the discussion in the text will replace the current figure.
37	Appendix B (old Appendix C) B-1	B-5	Paragraphs 2, 3, and 4: Why do the paragraphs start with quotes?	Accept: The section is quoted from the USGS report indicated in paragraph 1. The paragraphs should also end in quotes. Paragraphs 2, 3, 4and 5 are all taken from this USGS report.
38	Appendix B (old Appendix C) B-1	B-5	Paragraphs 2, 3, and 4: Why do the paragraphs start with quotes?	Accept: Refer to the response for Comment #37

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39	Appendix B (old Appendix C) B-1	B-5	Paragraph 1: The first paragraph has quotes around it. What is the reference?	Accept: Refer to the response for Comment #37
40	Appendix B (old Appendix C) B-1.1.1	B-10	Paragraph 1: Where is Well Number 78 located on Figure B-2 or any other reference map?	Accept: A better figure to illustrate the discussion in the text will replace the current figure.
41	Appendix B (old Appendix C) B-1.1.2	B-11	Paragraph 1: Where is Well Number 51 located on Figure B-2 or any other reference map?	Accept: A better figure to illustrate the discussion in the text will replace the current figure.
42	Appendix B (old Appendix C) B-1.1.2	B-12	Paragraph 1: Data from the tracer testing indicates that water within the perched aquifer is moving at an extremely rapid rate (approximately 48 feet/day horizontally and 2.5 feet vertically). Where is the water migrating?	Accept: This water will generally migrate along the indicated perched zones until a vertical fracture is encountered that carries the water to a deeper level in the basalt as indicated in Section B3.3 in Appendix B
43	Appendix B (old Appendix C) B-1.1.3	B-12	Paragraph 2: There is inconsistency in the document as to the width of the SRP aquifer. For example, page 2-1 says 50-70 miles; page B-5 says 60-100 km, and page B-12 says 30-60 miles. What is right? The document needs to have one set of consistent figures throughout.	Accept: The correct amount should be the range of 50 to 70 miles. The text will be corrected to all say it the same way.
44	Appendix B (old Appendix C) B-1.1.3	B-12	Paragraph 2: The acronym SRPA is not spelled out in the text and is not listed in the "Acronyms" list.	Agree: This will be corrected

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45	Appendix B (old Appendix C) B-1.1.3	B-12	Paragraph 3: The sentence should read, "The basalt is composed of a low..."	Accept: This will be corrected
46	Appendix B (old Appendix C) B-1.1.3	B-14	Figure B-4: Need north arrow and indication of contour intervals for "Water-table" and "Regional ground-water flowlines."	Accept: The recommended changes will be made.
47	Appendix B (old Appendix C) B-1.1.3	B -16	Figure B -6: Need north arrow, indicate variable contour intervals, and increase overall quality of the map.	Accept: Corrections and revisions will be made as suggested.
48	Appendix B (old Appendix C) B -2	B -19	Figure B -7: Very poor quality figure. Need north arrow, legend for pattern/color differentiation, and miles on scale.	Accept: An improved figure will be added.
49	Appendix B (old Appendix C) B -2	B -20	Figure B -8: The data presented in this Figure does not represent any Sr isotope ratio data. Also see page B -18; last paragraph on page, incorrect reference to these ratios.	Accepted. We have deleted the incorrect figure reference. However, because Figure B-8 shows the uranium isotope ratio contours, which are very simila to the strontium isotope ratio contour figure as mentioned in the Appendix B text, we have not included an additional figure showing the strontium isotope ratio contours.
50	Appendix B (old Appendix C)		A "Geohydrologic conceptual model of the vadose zone at the INEEL" was presented in Figure B -9. Where is the conceptual model for the aquifer?	Accept: The conceptual model is being developed by WAG 10 in the groundwater modeling effort.

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51	Appendix B (old Appendix C) B -3.6	B -28	Paragraph 1: What is meant in the second sentence of the first paragraph of this section by "Though the aquifer is not technically part of the vadose zone and, therefore, not in the scope of this document." How can this be?	Accept: What the author was referring to here was tha the document was only discussing the water movemer in the vadose zone and not the aquifer. The statement will be withdrawn from the document.

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ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
COMMENTS				
1	Abstract	iii	In paragraph #2, the following strikes me as an incredibly poorly constructed sentence: "This OU 10-08 RI/FS Work Plan, along with information from previous groundwater investigations conducted at the Idaho National Engineering and Environmental Laboratory, will be used to guide the evaluation of INEEL site-wide groundwater concerns, the assessment of surface sites that are passed to WAG 10 by other WAGs, and the means to evaluate and address new sites that are discovered during development of the OU 10-08 Record of Decision (ROD) and after the ROD has been finalized." Please consider a rewrite such as: "This OU 10-08 RI/FS Work Plan, together with information from previous groundwater investigations conducted at the Idaho National Engineering and Environmental Laboratory, will be used to: (1) Guide the evaluation of INEEL site-wide groundwater concerns, (2) Guide the assessment of surface sites that are passed to WAG 10 by other WAGs, and (3) Establish the means to evaluate and address new sites that are discovered: (A) During development of the OU 10-08 Record of Decision (ROD), and (B) After the ROD has been finalized."	Comment incorporated as suggested.
2	Acronyms	xii	I think that "Hydro Logic" should be "Hydrologic."	Comment incorporated as suggested.
3	Acronyms	xiii	Comment Withdrawn	Comment noted.

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ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
4	Acronyms	xiii	Depending upon the context of usage (e.g., in Track 1 and 2 Decision Document Packages) I think that "RPM" can also mean "Responsible Program Manager."	Comment incorporated. We have listed both "Remedial Project Manager or Responsible Program Manager" for "RPM."
5	1.	1-1	In paragraph #2 I do not understand sentence #2 ("Less than one year from the approval of the work plan is available to complete the fieldwork to support the RI/FS.") I thought that the schedule for initiating fieldwork was tied to the date that the ROD was signed, whereas the subject sentence appears to tie completing fieldwork to the approval of the RI/FS Work Plan. Please straighten me out.	The discussion referenced is about the time constraints to perform investigation field work to gather the information needed to write the RI/FS. This schedule is laid out in the Action plan of the FFA/CO and is very rigid. The RI/FS needs field characterization data to run a risk assessment, which in turn identifies sites or groundwater with unacceptable risk requiring remedial action. That information is put into the Proposed Plan and then the ROD. Then comes the remedial action fieldwork that will take place after the ROD.
6	1.	1-1	In paragraph #2 I suggest changing "The tasks outlined in this work plan are limited . . . to "The scopes of tasks outlined in this work are limited . . ."	Comment incorporated as suggested.
7	1.	1-1	In paragraph #2 I suggest changing "Less than one year from the approval of the work plan is available . . ." to "After the date of approval of this work plan, less than one year is available . . ."	Comment incorporated as suggested.
8	1.	1-1	In paragraph #4 I suggest inserting a comma after "OU 10-08" in the phrase ". . ., the risk analysis component, standard to the RI/FS process or a feasibility study (FS) for groundwater in OU 10-08 will . . ."	We have already revised this phrase in response to a different comment. Here is how it reads now, "Based on the following assumptions, neither the risk analysis component, standard to the RI/FS process, nor a feasibility study (FS) for groundwater in OU 10-08 will be required:"

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9	1.	1-2	In second bullet please change "and the collection" to "and collect."	Comment incorporated as suggested.
10	1.	1-2	In 4th bullet please change "record od Decision" to "Record of Decision."	Comment incorporated as suggested.
11	1.1.1	1-3	In "During World War II, the U.S. Navy and Army used a large portion of the area that is now the INEEL as a gunnery and bombing ranges." change "as a gunnery" to "as gunnery."	Comment incorporated as suggested.
12	1.1.1	1-3	In ".Since 1957, approximately 699 km^2 (270 mi^2) of the INEEL, excluded from public access, has been relatively undisturbed.", change "has" to "have" so that the verb tense agrees with the following sentence.	Comment incorporated as suggested.
13	2.9.2.1	2-19	In "Additional work with each WAG model will be necessary as the plumes generated from each WAGs modeling effort were set into a different SRP aquifer model domain with sometimes not so subtle differences in flow characteristics.," I believe that "not so subtle" should be hyphenated.	Comment incorporated as suggested.
14	3.1.3	3-2 to 3-5	Column entitled "Status of Decision Document" needs to be updated since some of the Track 1s have been signed.	Comment incorporated as suggested.
15	3.1.4	3-6	In "The goal of reducing mercury concentrations at TSF-08 to below 81 mg/kg, which is the risk-based soil concentration corresponding to a hazard quotient of 1 under a residential scenario at the site was met;" please insert a comma after "site."	Comment incorporated as suggested.
16	3.2.1	3-7	In "... sampling at TAN was preformed by the USGS in 1987 and 1988" please change "preformed" to "Performed."	Comment incorporated as suggested.

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17	3.2.1	3-7	In "OU 1-07B consists of the groundwater in the immediate vicinity of TAN, which has TCE concentrations greater than the MCL of 5 µg/l." change "µg/l" to "µg/L."	Comment incorporated as suggested.
18	3.2.1	3-7	In "The remedy selected in the 1995 ROD as amended in 1996 involved remediation of contaminated groundwater with TCE concentrations greater than 25 µg/L containment of hot spots and/or removal with above ground treatment." I think that commas should be inserted after "25 µg/L" and, perhaps, after "hot spots."	Comment incorporated as suggested.
19	3.2.1	3-7	In the last paragraph which starts "The Groundwater Treatment Facility (GWTF) will treat . . ." **AND** in the three following paragraphs, verb tenses associated with GWTF need to be changed. Mark Shaw has advised me that GWTF will never operate again.	Comment incorporated as suggested.
20	3.2.2	3-8	Delete the comma after "that" in "The OU 2-12 ROD determined that, no remedial action was necessary . . ."	Comment incorporated as suggested.
21	3.2.2	3-8	In "The 1992 ROD also stipulated that groundwater monitoring be conducted to verify the results of this modeling and a review of the monitoring system be conducted after 3-years.", please delete the hypen in "3-years." [NOTE: This problem (i.e., with "2-years") also occurs on page 3-12 in two places."]	Comment incorporated as suggested.
22	3.2.2	3-9	In ". Once every 5-years, groundwater samples for all . . ." please delete the hyphen in "5-years."	Comment incorporated as suggested.
23	3.2.3	3-10	Remove hyphen in ". . ., i.e., if the recession of the perched water zone does not occur as predicted by the RI/FS vadose zone model within 5-years of removing removing the percolation ponds then . . ."	Comment incorporated as suggested.

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24	3.2.3	3-10	Insert comma after "then" in "in ". . ., i.e., if the recession of the perched water zone does not occur as predicted by the RI/FS vadose zone model within 5-years of removing the percolation ponds then . . ."	Comment incorporated as suggested. However, we have place the comma before "then."
25	3.2.3	3-10	Change "is" to "are" in "The specific details for the Group 4 monitoring and sampling is . . ."	Comment incorporated as suggested.
26	3.2.3	3-10	Some words, perhaps verbs, are missing from the phrase "The Agencies have also requested that 1,1,1-trichloroethane, carbon tetrachloride, trichloroethylene, tetrachloroethylene, benzene, toluene, carbon disulfide, and pyridine."	Comment incorporated as suggested. The sentence now reads, "The Agencies have also requested that Group 4 analyze water samples for 1,1,1-trichloroethane, carbon tetrachloride, trichloroethylene, tetrachloroethylene, benzene, toluene, carbon disulfide, and pyridine."
27	3.2.3	3-11	I think that "contaminate" should be changed to "contaminant" in "Implement a pump and treatment remedial action at any well where the contaminate concentrations exceed action levels at a sustained pumping rate."	Comment incorporated as suggested.
28	3.2.3	3-11	In the last paragraph of this section I think that the hyphens should be deleted in three occurrences from "36-aquifer" and "20-aquifer."	Comment incorporated as suggested.
29	3.2.3	3-11	I suspect that the word "biannually" should be changed to "biennially" in the sentence ". The following 8 – 16 years (2008 – 2016 calendar years), sampling in the 20-aquifer wells will be conducted biannually."	Comment incorporated as suggested.

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30	3.2.4	3-11	The sentence "WAG 4 comprises of the Central Facilities Area (CFA), located in the south-central portion of the INEEL and used since 1949 to house many of the support services for all of the operations at the INEEL including laboratories, security, fire protection, medical, communication systems, warehouses, cafeteria, vehicle and equipment pools, bus system and laundry facilities." is poorly structured. I suggest restructuring it to read "WAG 4 comprises the Central Facilities Area (CFA) that is located in the south-central portion of the INEEL. CFA has been used since 1949 to house many of the support services for all of the operations at the INEEL. The support services include laboratories, security, fire protection, medical, communication systems, warehouses, cafeteria, vehicle and equipment pools, bus system and laundry facilities."	Comment incorporated as suggested.
31	3.2.4	3-12	I am confused by the following sentence: " As part of the first 2-years of monitoring outlined in the Work Plan (Neher 1997), groundwater elevation data is to be collected from the 24 wells surrounding the CFA Landfills monthly for the first year and quarterly for the second year." It indicates that the Work Plan was written in 1997 but the phrase "is to be collected" suggests that this plan has not yet been implemented. Is that a correct conclusion?	Accept: This section will be changed to indicate that this activity has been completed (past tense).

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32	3.2.4	3-12	Construction of the following sentence is poor: "The lead concentrations in CFA-MON-A-003 were below the quality standard of 15 ug/L (IDAPA 16.01.11) in 1996 but increased to a peak concentration of 44.8 ug/L in 1997 but have been decreasing since that time." I suggest restructuring to read as "The lead concentrations in CFA-MON-A-003 were below the quality standard of 15 ug/L (IDAPA 16.01.11) in 1996. In 1997 a peak concentration of 44.8 ug/L was measured and measured concentrations have been decreasing since 1997."	Comment incorporated as suggested.
33	3.2.4	3-12	Change "were" to "was" in "The elevated nitrate concentration in CFA-MON-A-002 were initially measured . . ."	Comment incorporated as suggested.
34	3.2.4	3-12	In the sentence "The elevated nitrate concentration in CFA-MON-A-002 were initially measured at 21 mg/L in 1995 and has remained relatively stable having declined to 19.8 mg/L in the most recent sampling (October 17, 2002)." I believe that the referenced date probably should be "October 17, 2001."	Comment incorporated as suggested.
35	3.2.5	3-12	Spell out numbers less than 10 (throughout the document), but here in the sentence "Only 2 of the 4 production wells are active and the remaining 2 are at facilities that have been decommissioned and dismantled."	Comment incorporated as suggested.
36	3.2.6	3-14	Commas are missing in the sentence "However, the contaminants often detected in the deep-perched water zone include antimony arsenic beryllium, chromium, lead and nickel, carbon tetrachloride, chloroform, TCE, and PCE."	Comment incorporated as suggested.

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37	3.2.7	3-14	Regarding "Results obtained from analyses of samples collected from the USGS wells are primarily used for screening purposes, and verify that the new monitoring wells are sufficiently spaced so as to detect contaminating from past or current activities at NRF.", please: (1) Change "and verify" to "and for verifying" (2) Change "detect contaminating" to "detect contamination"	Comment incorporated as suggested.
38	3.2.7	3-14	In "Fate and transport modeling was performed during the RI/BRA (DOE-PB 199?) using GWSCREEN." Please: (1) Complete the date reference (2) Change "was" to "were"	Comment incorporated as suggested.
39	3.3	3-16	Suggest changing "The application of risk assessment in the characterization and remediation of the sitewide groundwater will not follow a typical CERCLA baseline risk assessment (BRA) approach." To read "For reasons explained below, the application of risk assessment in the characterization and remediation of the sitewide groundwater will not follow a typical CERCLA baseline risk assessment (BRA) approach."	Comment incorporated as suggested.
40	3.3	3-16	Suggest changing "The assessment will use historical data as well from representative wells" to read "The assessment will use historical data as well as data from representative wells."	Comment incorporated as suggested.

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41	3.4	3-17	In "The RAOs and remedial action alternatives are not fully developed until the OU 10-08 RI/FS is complete.".does the word "complete" mean drafted, approved by all Agencies, or perhaps something else? Clarification in the text would be helpful.	Accept: Not complete until the RI/FS is completed and the final RAOs and remedial action alternatives have been accepted by the agencies.
42	3.4.1	3-17	Suggest changing "prevent" to "preventing" in "The OU 10-08 RAOs will focus on achieving specific contaminant concentrations and/or eliminating contaminant migration pathways in soil and prevent contaminant ingestion from groundwater."	Comment incorporated as suggested.
43	3.4.1	3-17	The first three bullets use the terms "excess cancer risk" and "total excess cancer risk." Please correct if the terms used should be identical.	Accept: The term "total" will be deleted from the statement in the second bullet.
44	3.4.2	3-18	Please change "General response actions for groundwater are anticipated to be no action, or limited action such institutional controls, and monitoring." To read "General response actions for groundwater are anticipated to be no action or limited action, such as institutional controls and monitoring."	Comment incorporated as suggested.
45	4.	4-1	Please change "In accordance with the *Federal Facility Agreement and Consent Order*, the WAG 10, OU 10-08 project at the Idaho National Engineering and Environmental Laboratory will assess site-wide integrated groundwater concerns for contaminant flux through the site (with emphasis on the downgradient boundary) and investigate newly identified sites that will not be assigned to other WAGs and evaluate the potential for application of phytoremediation to the TSF-08 location at WAG 1 (Test Area North –TAN)." to read "In accordance with the *Federal Facility Agreement and*	Comment incorporated as suggested.

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			Consent Order, the WAG 10, OU 10-08 project at the Idaho National Engineering and Environmental Laboratory will assess site-wide integrated groundwater concerns for contaminant flux through the site (with emphasis on the downgradient boundary), investigate newly identified sites that will not be assigned to other WAGs, and evaluate the potential for application of phytoremediation to the TSF-08 location at WAG 1 (Test Area North –TAN).	
46	4.	4-1	Suggest changing "The established Track 2 process, includes the development of DQOs, will be applied to newly identified surface sites. The current new sites in the Track 2 process will use the Track 2 guidance document to develop site-specific DQOs as necessary.", to read "The established Track 2 process, includes the development of DQOs, and will be applied to newly identified surface sites. The current new sites in the Track 2 process will use the Track 2 guidance document to develop site-specific DQOs as necessary.",	Comment incorporated as suggested.
47	4.1	4-1	The sentence "During the DQO process, the original directions and decisions identified for OU 10-08 in the OU 10-04 work plan were still considered valid and that the assumptions that: Historical groundwater data would be consolidated and reviewed to eliminate the need for collecting new data to the extent practicable, and that the groundwater data previously obtained for other site activities are of sufficient quality to help support the OU 10-08 RI/FS decision process.", is poorly constructed. If the meaning has been preserved, the following reconstruction might suffice: "During the DQO process the original directions and decisions identified for OU 10-08 in the OU 10-04 work plan were	Comment incorporated as suggested.

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			still considered valid. In addition the following assumptions were made during the DQO process: (1) Historical groundwater data would be consolidated and reviewed to eliminate the need for collecting new data to the extent practicable, and (2) The groundwater data previously obtained for other site activities are of sufficient quality to help support the OU 10-08 RI/FS decision process."	
48	4.1	4-1	Delete comma from "During the DQO process, it was agreed that no new DQOs would be . . ." to read "During the DQO process it was agreed that no new DQOs would be . . ."	Comment incorporated as suggested.
49	4.1.1	4-2	Change ". . . future100 . . ."to ". . . future 100 . . ."	Comment incorporated as suggested.
50	4.1.3	4-4	Regarding "However, the schedule for submitting the RI/FS report does not allow for anything more than limited collections of data from boundary and perimeter wells in order to be able to incorporate and utilize the data for the RI/FS report.", I think that it would be very helpful (at least to me) to present the schedule in this document and to explain briefly the magnitude of the schedule constraint problem.	Accept. The normal RI/FS schedule laid out in the FFA/CO Action Plan have a very structured schedule. The text will be added explaining the schedule constraints and the data gathering limitations.
51	4.1.3	4-4	In the sentence "To ensure methods meet the required detection limits, the laboratory will be required to meet a practical quantitation limit of 50% or less of the MCL.", the word "quantitation" is used an adjective. However, my dictionary indicates that it is a noun. Please reconstruct this sentence.	Comment noted. We have used the industry standard acronym "PQL" later in the document. According to the EPA, the Practical Quantitation Limit (PQL) is the lowest level at which a substance can be routinely quantified and reported by a laboratory. We have placed "PQL" in parenthesis after the phrase and have added it to the acronym list.

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52	4.1.4	4-7	Change "defines" to "define" in the sentence "The boundaries presented in Table 4-4 defines the scope and applicability of the decisions made for this project."	Comment incorporated as suggested.
53	4.1.4	4-7	(A) In Table 4-4 please change "The decision statement time frame is initially 2 years (FY-02 and 03) with anticipated continuation as a post ROD activity for the 100 years." to read The decision statement time frame is initially 2 years (FY-02 and 03) with anticipated continuation as a post-ROD activity for the 100 years." (B) Please do a global replacement to change all occurrences of "post ROD" and "Post ROD" to "post-ROD and "Post-ROD," respectively.."	A. Space already there in my document. B. Comment incorporated as suggested.
54	4.1.5	4-8	Please delete comma from "...**THEN** revisions to groundwater monitoring, may be made based on the regulatory agencies evaluation of the data."	Comment incorporated as suggested.
55	4.2	4-9	Change "is" to "are" in "Limited new data from groundwater sampling from downgradient and perimeter wells is obtainable during FY-02 and 03."	Comment incorporated as suggested.
56	4.2	4-9	I have two questions concerning the passage "For new sites, evaluated before completion of the RI/FS report, the requirements set forth in the Track 1 and Track 2 guidance documents would be followed. If decisions could not be made on Track 1 sites then the sites would be included in the RI/FS to ensure the ROD would cover these sites." (A) Should the three occurrences of "would" be changed to "will?" (B) Should the one occurrence of "could" be changed to "can?"	Comment incorporated as suggested. We have revised the passage as follows, "For new sites evaluated before completion of the RI/FS report, the requirements set forth in the Track 1 and Track 2 guidance documents will be followed. If decisions cannot be made on Track 1 sites then the sites will be included in the RI/FS to ensure they are covered in the ROD."

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57	4.3.1	4-9	Change "Task #3" to "TASK #3."	Comment incorporated as suggested.
58	4.3.1	4-10	(A) Change "and or" to "and/or" in the sentence "This task will evaluate alternative groundwater well sampling and purging methodology to reduce the volume of purge water and or provide more discrete data from specific zones within the aquifer. (B) Please make this change globally.	Comment incorporated as suggested.
59	4.3.1	4-10	Suggest changing "**TASK #7 – Evaluation of Phytoremediation TSF-08 Mercury in Soil**" to "**TASK #7 – Evaluation of Phytoremediation of Mercury in Soil at Site TSF-08.**"	Comment incorporated as suggested.
60	4.3.1	4-10	.Delete comma from "Institutional controls specific for OU 10-08 sites, will be developed within …"	Comment incorporated as suggested.
61	4.3.1	4-10	Change "Within these plans many site specific institutional controls are common to many of the WAGs; commonalities include …" to "Within these plans many site specific institutional controls are common to many of the WAGs. Commonalities include …"	Comment incorporated as suggested.
62	4.4	4-11	Change "ordinance" to "ordnance" in the sentence "New ordinance sites will be considered as part of the OU 10-04 ROD."	Comment incorporated as suggested.
63	5.1.1	5-1	Change "WAGs" to"WAG's" in "An evaluation of selected remedies from other WAGs RODs to focus the OU 10-08 FS"	Comment incorporated as suggested.

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64	5.2	5-3	Suggest rephrasing "A "kick-off" fact sheet that introduces the scope of the OU 10-08 RI/FS will be distributed." To read "A "kick-off" fact sheet will be distributed that introduces the scope of the OU 10-08 RI/FS."	Comment incorporated as suggested.

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COMMENTS				
1	4.2	4-3	1st sent. There is no predicate in this sentence.	Comment noted. The version of the work plan that you reviewed has been revised and the sentence with a missing predicate no longer exists in the document.
2	5.3.1.1	5-4	Data gaps identified .. #2. Determine what the requirements are and enforce the requirements. "Should be required" allows other programs to not fulfill the requirements.	Comment noted. This section has been significantly revised and rewritten.
3	5.3.1.1	5-4	Data gaps identified.. #3. The INEEL Water Board is the appropriate mechanism for the integration of groundwater activities.	Comment noted. This section has been significantly revised and rewritten. The INEEL Water Board is an integral part of the integration of groundwater activities and they will be involved in the integration process.
4	5.3.1.1	5-5	#4. These data gaps should be based on the Uncertainties Prioritization exercise conducted by the Water Integration Project.	Comment noted. This section has been significantly revised, rewritten and shortened.
5	5.3.1.1	5-5	#5 – 2nd sent. – Include the criteria or source for the criteria that will be used to determine the constituents included in this monitoring and sampling activity.	Comment noted. This section has been significantly revised, rewritten and shortened.
6	5.3.1.1	5-5	#5 – sent 8 – Why would these contaminants be monitored everywhere on the INEEL? The SAP should specify where and when based on monitoring results and expected flow paths.	Comment noted. Further elaboration on the rationale for the sampling has been added to the FSP and the work plan.

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7	5.3.1.1	5-6	6.c - Since the vertical stratigraphy of the aquifer is important, why limit this to 6 wells? The analysis of what is needed should be refined and be the basis for the number and location for the wells.	Comment noted. This section has been significantly revised and rewritten. The current thought is that 8 to 12 deep vertical aquifer profile and stratigraphic well will be drilled and sampled. The exact number will be determined during evaluation of the data gaps in sitewide monitoring.
8	5.3.1.3	5-7	This task looks like the same task as the INEEL Groundwater Monitoring Plan. If it is, then that should be specified.	Comment noted. The Groundwater Monitoring Plan has been withdrawn for revisions and this section in the work plan has been removed.
9	5.3.1.3	5-7	2nd para., last sent. – Should be changed to read "…contaminants of concern based on public perception of risk that will be analyzed…"	Comment noted. This sentence no longer exists in the current revision.
10	5.3.1.4	5-10	#1 – Why USGS-008?	Comment noted. This section no longer exists in the current revision of the work plan. However, this well was selected since it was the only groundwater monitoring wells that is close to the southwestern INEEL boundary and within the Big Lost River area. Sampling of this well would monitor potential contaminants that might be entering the INEEL as underflow along the Big Lost River drainage.
11	5.3.1.4	5-10	#2 – It appears that to ensure boundary conditions from the RWMC, that a well should be added between USGS-086 and USGS-009.	Comment noted. This section no longer exists in the current revision of the work plan. This potential data gap was identified in preliminary review and can be added during the RI/FS process if the data gap needs to be filled.

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12	5.3.1.4	5-11	The numbering system for numbers 5 – 13 should be changed to reflect a subordinant position to item #4. For example, #5 would become #4.1.	Comment noted. This section no longer exists in the current revision of the work plan.
13	5.3.1.4	5-11	#5 – The title mentions 5 wells, the text refers to a total of 7 wells.	Comment noted. This section no longer exists in the current revision of the work plan.
14	5.3.1.4	5-11	#7 – What about ICDF monitoring wells? These should be included.	Comment noted. This section no longer exists in the current revision of the work plan. These wells will be evaluated for possible inclusion into the WAG 10 sitewide monitoring during the RI/FS process of monitoring well selection. At the time of the writing of the original work plan, the locations and types of wells planned for the ICDF had not yet been identified.
15	5.3.1.4	5-12	#11 – It appears that the identified wells may be too close to RWMC to see aquifer effects considering lateral transport in the vadose zone. Need to add more downgradient wells to ensure that lateral transport effects do not overrun the monitoring system.	Comment noted. This section no longer exists in the current revision of the work plan. The details of the selected wells have been removed. The selection process for sitewide groundwater monitoring wells will be completed as part of the RI/FS process as data gaps and needs are identified. Your comment will be taken into account in the process.
16	5.3.1.4	5-8	Need to include a provision for the addition of facility monitoring wells considering future D&D actions. If major facilities leave significant contamination in the ground as a result of D&D activities, then the current monitoring system will be inadequate.	Comment noted. This section no longer exists in the current revision of the work plan. However, as sites are turned over to WAG 10, and after D7D actions, additional wells will be added as necessary to adequately monitor these areas and their impacts.

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Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Waste Area Group 10, Operable Unit 10-08, Remedial Investigation/Feasibility Study Work Plan (DRAFT), DOE/ID-10902, Rev. 0, March 2002

DATE: July 19, 2002 **REVIEWER:** DOE-ID (J. Perry)

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
17	5.3.1.6	5-14	1st sent. – Should be changed to read," Because the immunoassay ...."	Comment noted. This section no longer exists in the current revision of the work plan.
18	5.3.1.6	5-14	1st sent. – "quantitation" is not a word.	Comment noted. This section no longer exists in the current revision of the work plan; however, "quantitation" is listed in the American Heritage College Dictionary.
19	5.3.1.6	5-14	2nd sent. – Should be changed to read, "...and for the presence or absence..."	Comment noted. This section no longer exists in the current revision of the work plan.
20	5.3.1.13.1	5-22	#2 – Need to add a task. Resolve discrepancies between WAG level and subregional flow models. Ensure boundary conditions between the two are consistent.	Comment noted. This section no longer exists in the current revision of the work plan. The WAG 10 sitewide groundwater model program will be working with the other WAGs and their models to resolve discrepancies.
21	Figure 5-3	5-35	Show all of the 8 proposed guard wells.	Comment noted. This section no longer exists in the current revision of the work plan. However, the guard wells are now shown in the current revision of the field sampling plan as Figure A-3. Additional wells may be added as part of the data gap analysis and gap filling during the RI/FS process.