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MEETING NOTES

Data Quality Objectives for the Waste Management Area A-AX

MEETING NUMBER: WMA-A-AX-DQO-2017-3

MEETING DATE: March 30, 2017

LOCATION: 3110 Port of Benton Boulevard, Richland, WA

ATTENDEES:

- | | | |
|--------------------------------|-----------------------------|---------------------------|
| Jim Alzheimer (Ecology) | Paul Gassman (WRPS) | Kristin Singleton (WRPS) |
| Mike Barnes (Ecology) | Scott Luke (WRPS) | Marysia Skorska (Ecology) |
| Joe Caggiano (Ecology) | Jeff Lyon (Ecology) | Harold Sydnor (WRPS) |
| Ryan Childress (TerraGraphics) | Alan Olander (WRPS) | Cindy Tabor (WRPS) |
| Kathi Dunbar (WRPS) | Julie Robertson (Freestone) | Robin Varljen (WRPS) |
| Jim Field (WRPS) | Beth Rochette (Ecology) | |

BACKGROUND INFORMATION: These meetings are to promote discussions among Washington State Department of Ecology (Ecology), the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy Office of River Protection (DOE-ORP), and Washington River Protection Solutions (WRPS) to develop data quality objectives (DQO) for Waste Management Area (WMA) A-AX vadose zone soil. Representatives from the DOE Richland Operations Office (DOE-RL) and the Central Plateau contractor (CH2MHILL Plateau Remediation Contractor [CHPRC]), were invited to participate to promote integration. A DQO process for the same purpose was started in 2011 but was suspended prior to completion in May 2011. Agreements and progress made as part of the 2011 effort will be leveraged in support of the current DQO process.

Lists of agreements and actions (including the status of any actions) are documented in the meeting notes.

PURPOSE OF MEETING: This meeting was called to continue the WMA A-AX vadose zone characterization DQO process initiated in January 2017.

STATUS OF PRIOR MEETING NOTES: Ms. Tabor stated that meeting notes for the January 26, 2017 meeting were in the administrative record and that the meeting notes for the March 1, 2017 meeting were in development.

DISCUSSION: Ms. Tabor provided a summary of the results of discussions to date regarding DQO Step 1 and Step 2 (Attachments 1 and 2).

Discussion of the information provided in Attachment 1 ensued. The meeting attendees agreed to reframe the DQO activities to focus on the area near Tanks 241-A-104/105, the leaks from which may be action drivers at the 241-A Tank Farm. Fast-tracking characterization work at this location will provide important geologic, hydrologic, and contaminant information in a time frame that will support data needs to refine the model being developed for the 241-A/AX Tank Farm Performance Assessment. The results of this 241-A-104/105 focus area characterization work and model results will be used to evaluate whether additional characterization work will be required at the 241-A/AX Tank Farm in the future.

On Attachment 1, Step 1 was modified to add "with respect to focus area Tanks A-104/A-105." Under Step 2, Objectives of the DQO, Bullet 2 was modified to state, "Optimize a data collection program to support the Phase 2 RFI/CMS characterization of WMA A/AX and to support risk-informed retrieval efforts." Additionally, under Step 2, Objectives of the DQO, Bullet 3 was modified to state, "Support refining the preliminary conceptual site model (CSM)."

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The proposed principal study questions and decision statements were updated as shown in Attachment 2. The meeting attendees agreed to keep these existing principal study questions that were developed for the entirety of the 241-A/AX Tank Farm but modify them as necessary for individual focus areas.

AGREEMENTS AND ACTIONS: Ms. Tabor provided Attachment 3. A summary of agreements and actions are provided in the tables below. A new agreement and several actions were recorded at this meeting.

NEXT MEETING: Ms. Tabor proposed holding the next meeting on April 13, 2017, 10:00 am to 12:00 pm.

<u>Jan B Bouvier</u> DOE Project Manager (print)	<u>Jan B Bouvier</u> DOE Project Manager (signature)	<u>5/8/17</u> Date
<u>Michael W Barnes</u> Ecology Project Manager (print)	<u>Michael W Barnes</u> Ecology Project Manager (signature)	<u>5/8/17</u> Date

DATE	AGREEMENTS
01/26/2017	1. DOE-ORP acknowledged the need for a Phase 2 RFI at WMA A-AX.
01/26/2017	2. Available tank waste and concrete condition information will be considered for inclusion in the RFI/CMS report(s).
01/26/2017	3. Problem Statement: "Vadose zone contamination in and adjacent to the A-AX Tank Farms may pose a current and future risk to human health and the environment, including groundwater, that requires corrective action to support closure."
03/30/17	4. The DQO will move forward with a modified scope. The DQO will evaluate the Tank 241-A-104/105 focus area. Additional information is needed on an accelerated timeline regarding the movement of contaminants in the environment that came from releases from these tanks. Information from the resulting investigation will inform the development of the model being developed for the 241-A/AX performance assessment.

ACTIONS (3 pages)			
Action Number	Actionee	Description	Status
2017-01-26-01	Barnes	Provide the key document list for the 2011 DQO effort.	Closed. A CD containing key documents was provided by Ecology (Barnes) to WRPS (Tabor) on February 7, 2017.
2017-01-26-02	Radloff	Locate the Woodward-Clyde document and verify whether it is available for public release.	In progress. The document is <i>An Estimate of Bottom Topography, Volume and Other conditions in Tank 105A, Hanford, Washington, WCC Project 1397A – 0300</i> . Its clearance status is under investigation with the intent being to ensure it is available to the public.

ACTIONS (3 pages)			
Action Number	Actionee	Description	Status
2017-01-26-03	Radloff	Provide information regarding OU/WMA assignments for 302-B Catch Tank, A-39 Crib, AX-155 Diversion Box, AY-151 Diversion Box, A-41 Crib, and 244-AR Vault.	Closed. 241-A-302B Catch Tank is assigned to 200-EA-1 (TPA Action Plan, Apx C). 216-A-39 is assigned to 200-EA-1 (TPA Action Plan, Apx C). AX-155 Diversion Box is located within 241-AY Farm and is assigned to TSD S-2-4 (WIDS Summary Report). AY-151 Diversion Box is located within 241-AY Farm and is assigned to RSD S-2-4 (WIDS Summary Report). A-41 Crib is assigned to 200-EA-1 (TPA Action Plan, Apx C). 244-AR Vault is assigned to 200-IS-1.
2017-01-26-04	Hildebrand	Provide the document reference for the casing corrosion study to Mr. Barnes.	Closed. The documents, <i>Interim Status Groundwater Quality Assessment Plan for the Single-Shell Tank Waste Management Area A-AX</i> , DOE/RL-2015-49 Rev 0, and <i>Sampling Instruction for Characterization of Well 299-E25-236 During Decommissioning</i> , SGW5848, were provided to Ecology (Barnes) through WRPS (Radloff) on March 15, 2017.
2017-01-26-05	Radloff	Provide the 2010 SGE report number to Mr. Hildebrand	Closed. The document reference, <i>Surface Geophysical Exploration for the A and AX Tank Farms</i> , RPP-RPT-46613, was provided on March 29, 2017.
2017-01-26-06	Radloff	Verify the status of groundwater wells inside the WMA A-AX fence line.	Closed. 241-AX Farm: Two groundwater wells (299-E25-13, 299-E25-131) listed as "in-use." 299-E-25-13 last sampled in 1993. Found no information to support 299-E25-131 was sampled for groundwater. 241-A-Farm: Six GW wells (299-E24-13, 299-E25-1, 299-E25-16, 299-E24-14, 299-E25-15, 299-E25-94). Only 299-E25-94 recently sampled (2017). Last date other wells were sampled: 299-E24-13 in 1991, 299-E25-1 in 2003, 299-E25-16 in 1975, 299-E24-14 in 1976, and 299-E25-15 in 1962.
2017-01-26-07	Team	Discuss work to support/confirm tanks 241-AX-102, 241-A-103, and 241-AX-104 are not leakers as part of Step 7	Closed. These tanks are outside the scope of this DQO process.
2017-01-26-08	Luke	Combine PSQs 3 and 4 and DSs 3 and 4 for review by the Team	Closed. See agreed upon updates in Attachment 2.

ACTIONS (3 pages)			
Action Number	Actionee	Description	Status
2017-03-30-01	Tabor	Provide copy of internal lessons learned notes to Ecology.	New
2017-03-30-02	Tabor	Provide information on when performance assessment model results will be available to identify whether there are data gaps that would require additional vadose zone characterization work.	New
2017-03-30-03	Lyon	Ecology will identify whether there are other potential 241-A/AX focus areas of interest and their level of interest in other focus areas relative to the Tanks A-104/105 focus area.	New
2017-03-30-04	Tabor	Report back about whether an engineering evaluation has been or could be developed to determine whether temperatures seen in 2014 at direct push boreholes can be explained by thermal heat propagating from Tanks A-104/105.	New
2017-03-30-05	Barnes	Provide document references related to thermal heat levels in and near Tanks A-104/105.	New
2017-03-30-06	Tabor	Report back with information about the retrieval construction schedule for the 241-A/AX Tank Farms so that it can be factored into discussions on focus areas and timing of investigation activities.	New
2017-03-30-07	Luke/Tabor	Report back regarding whether the Tank 241-A-104 DQO is considering the need to obtain information on the physical/chemical properties of the tank waste that could affect the movement of that waste in the environment.	New
2017-03-30-08	Hildebrand	Provide information about releases (e.g., volumes, contaminants – including chloride from ion exchange) related to power house filter wash down effluent discharged to a trench.	New

Attachment 1

Step 1: Problem Statement:

Vadose zone contamination in and adjacent to the A-AX Tank Farms may pose a current and future risk to human health and the environment, including groundwater that requires corrective action to support closure.

With respect to focus area Tanks A-104/A-105

Step 2: Identify goals (objectives, principal study questions, and decision statements):

The goal is to ensure the appropriate vadose zone soil characterization data needs are identified to support corrective measure decisions for WMA A-AX, recognizing the need to integrate characterization and closure actions with ongoing and nearby operations and waste site/groundwater remedial actions.

The objectives of the DQO are to:

- Define the WMA A-AX vadose zone characterization data necessary to guide planning to make vadose zone soil remedial decisions, support an evaluation of risks by direct contact and to ecological receptors, and support vadose zone groundwater integration
- Optimize a data collection program to support the Phase 2 RFI/CMS characterization of WMA A-AX and to support risk informed retrieval efforts.
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Support refining the preliminary conceptual site model (CSM)

Principal Study Questions	Decision Statement
1. Do the concentrations of radionuclide contaminants in vadose zone soils in and around WMA A-AX exceed acceptable levels?	Determine if vadose zone radionuclide concentrations in and around WMA A-AX exceed acceptable levels.
2. Do the concentrations of nonradionuclide (chemical) contaminants in vadose zone soils in and around WMA A-AX exceed acceptable levels?	Determine if vadose zone nonradionuclide concentrations in and around WMA A-AX exceed acceptable levels.
3. Do the available data reflect the nature and extent of contamination in the vadose zone that will allow us to make corrective action decisions?	Determine if the nature and extent of contamination in the vadose zone allows us to make corrective action decisions.
4. What are the chemical/physical properties of the vadose zone soils that could affect contaminant movement in and near WMA A-AX?	Determine the chemical/physical properties of the vadose zone soils that could affect contaminant movement in and near WMA A-AX

Notes:

Principal study questions (PSQs) identify key unknown conditions that will reveal solutions to the problem and generally require data to be resolved. PSQs and alternative actions normally are then combined into a decision statement but for this DQO they were not.

During DQO 2011 Workshop #5 discussions, two actions were taken to document team agreements:

- Action A-AX-DQO-2 documents that information regarding groundwater contamination will be considered as the sampling design is developed.

Action A-AX-DQO-3 documents that features and events that could have influenced contaminant distribution need to be considered as the sampling design is developed.

Attachment 2

Updated Proposed PSQs and Decision Statements

Principal Study Question (PSQ)	Proposed Alternative Action	Decision Statement
<p>#1—Do the concentrations of contaminants (radiological and nonradiological) in vadose zone soils in and around WMA A-AX exceed acceptable levels?</p> <p>(Combined #1 and #2)</p>	<p>If the contaminant concentrations in the vadose zone soil do not exceed acceptable levels, then corrective measures in a corrective measures study (CMS) are not required, otherwise corrective measures in a CMS are required.</p>	<p>#1—Determine if the vadose zone contaminant concentrations in and around WMA A-AX exceed acceptable levels and if corrective measures are required or not.</p>
<p>#2 – Do the available contaminant data and the conceptual site model (CSM) reflect the nature and extent of contamination in the vadose zone in WMA A-AX that will allow us to make corrective action decisions?</p>	<p>If the distribution of contaminants can be defined, then no additional information is needed, otherwise determine what additional information is needed to support the CMS process.</p>	<p>#2 – Determine the nature and extent of contamination in the vadose zone that will allow us to make corrective action decisions.</p>
<p>#3 – Are there vadose zone soil and tank waste chemical/physical properties that could affect contaminant movement in and near WMA A-AX that can help define nature and extent and refine the CSM?</p>	<p>If vadose zone soil chemical/physical properties can be used to better refine the CSM, then update CSM.</p>	<p>#3 – Determine the vadose zone soil chemical/physical and tank waste properties that could affect contaminant movement in and near WMA A-AX and if there is a need to refine the CSM or not.</p>
<p>#4 – Do the concentrations of contaminants in the vadose zone soils in and around WMA A-AX indicate a leak in the WMA has occurred and confirm leak loss interpretations?</p>	<p>If the vadose zone contaminant concentrations in and around WMA A-AX do not support leak loss interpretations, then determine if additional information is needed (e.g., refinement of leak loss interpretation, tank visual inspections or samples).</p>	<p>#4 – Determine if vadose zone contaminant concentrations support the WMA A-AX leak loss interpretations and current tank waste conditions.</p>

**Attachment 3
Action Updates**

- 2017-01-26-01** A CD containing key documents was provided by Ecology (Barnes) to WRPS (Tabor) on February 7, 2017.
- 2017-01-26-02** The document, *An Estimate of Bottom Topography, Volume and Other conditions in Tank 105A, Hanford, Washington, WCC Project 1397A – 0300*, is not cleared for public release.
- 2017-01-26-03** 241-A-302B Catch Tank is assigned to 200-EA-1 (TPA Action Plan, Apx C)
216-A-39 is assigned to 200-EA-1 (TPA Action Plan, Apx C)
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- 2017-01-26-06** Two groundwater wells in 241-AX Farm (299-E25-13, 299-E25-131) listed as “in-use.” 299-E-25-13 last sampled in 1993. Found no information to support 299-E25-131 was sampled for groundwater.
- Six GW wells in 241-A-Farm (299-E24-13, 299-E25-1, 299-E25-16, 299-E24-14, 299-E25-15, 299-E25-94). Only 299-E25-94 recently sampled (2017). Last date other wells were sampled 299-E24-13 in 1991, 299-E25-1 in 2003, 299-E25-16 in 1975, 299-E24-14 in 1976, and 299-E25-15 in 1962.