

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 610	TPA CHANGE NOTICE FORM	Date: February 11, 2014									
Document Number, Title, and Revision: DOE/RL-2009-45, 300 Area Remedial Investigation/Feasibility Study Sampling and Analysis Plan for the 300-FF-1, 300-FF-2 and 300-FF-5 Operable Units, Rev. 0		Date Document Last Issued: January 2009									
Originator: Marty Doornbos		Phone: 376-2980									
<p>Description of Change: DOE/RL-2009-45, Rev. 0, is revised to indicate that the quarterly groundwater sampling of remedial investigation wells in the 300 Area has been completed and no further groundwater sampling will be conducted under this SAP.</p>											
<p><u>Briant Charboneau</u> and <u>Larry Gadbois</u> agree that the proposed change <div style="display: flex; justify-content: space-around; margin-top: -10px;"> DOE-RL Environmental Protection Agency </div> modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i>, and not Chapter 12.0, <i>Changes to the Agreement</i>.</p> <p>Section 3.5.2.1, page 3-17, of DOE/RL-2009-45, 300 Area Remedial Investigation/Feasibility Study Sampling and Analysis Plan for the 300-FF-1, 300-FF-2 and 300-FF-5 Operable Units, Rev. 0, is revised to add text stating that the quarterly groundwater sampling of remedial investigation wells required under this SAP has been completed and no further groundwater sampling will be conducted under this SAP.</p> <p>The revision to Section 3.5.2.1 of DOE/RL-2009-45 Rev. 0 is attached. Deleted text is identified by strikethrough. Added text is identified by <u>double underline</u>.</p>											
<p>Justification and Impacts of Change: Because the Record of Decision (ROD) for the 300-FF-5 OU was signed in November 2013, groundwater characterization sampling and analysis is being reduced by (1) deleting sampling at wells where data needs have been met; (2) reducing frequency of sampling at aquifer tubes; and (3) eliminating analyses for filtered metals. Sampling and analysis will continue to support monitoring for the contaminants of concern identified in the ROD. Sampling and analysis is being supplemented by adding sampling at wells to monitor impacts from waste site remediation. These changes are being implemented through the following four TPA change notices: TPA-CN-611 for DOE/RL-2002-11, 300-FF-5 Operable Unit Sampling and Analysis Plan, Rev 2; TPA-CN-612 for DOE/RL-2000-59, Sampling and Analysis Plan for Aquifer Sampling Tubes, Rev. 1; TPA-CN-609 for DOE/RL-2009-30, 300 Area Remedial Investigation/Feasibility Study Work Plan for the 300-FF-1, 300-FF-2, and 300-FF-5 Operable Units, Rev. 0; and TPA-CN-610 for DOE/RL-2009-45, 300 Area Remedial Investigation/Feasibility Study Sampling and Analysis Plan for the 300-FF-1, 300-FF-2 and 300-FF-5 Operable Units, Rev. 0.</p> <p>The quarterly groundwater characterization data required at the remedial investigation wells in accordance with DOE/RL-2009-45 Rev. 0 were collected from December 2011 through December 2013, and the data needs were met. The data were used to develop the Conceptual Site Model, which has been incorporated into the 300 Area RI/FS report (DOE/RL-2010-99, Rev. 0). Therefore, this SAP is updated to indicate that the characterization is complete and no further groundwater sampling will be conducted under this SAP.</p> <p>The remedial investigation wells that were sampled as part of DOE/RL-2009-45 Rev. 0 will be considered in the future for inclusion in the groundwater monitoring network needed to support implementation of the remedial action for the 300-FF-5 OU selected in the Record of Decision.</p>											
<p>Approvals:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 45%; border-bottom: 1px solid black; padding: 5px;"> BRIANT CHARBONEAU DOE Project Manager </td> <td style="width: 15%; border-bottom: 1px solid black; padding: 5px;"> 2-12-14 Date </td> <td style="width: 40%; padding: 5px;"> <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved </td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;"> EPA Project Manager </td> <td style="border-bottom: 1px solid black; padding: 5px;"> 2-13-2014 Date </td> <td style="padding: 5px;"> <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved </td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px; text-align: center;"> N/A Ecology Project Manager </td> <td style="border-bottom: 1px solid black; padding: 5px;"> Date </td> <td style="padding: 5px;"> <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved </td> </tr> </table>			 BRIANT CHARBONEAU DOE Project Manager	2-12-14 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	 EPA Project Manager	2-13-2014 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	N/A Ecology Project Manager	Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved
 BRIANT CHARBONEAU DOE Project Manager	2-12-14 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved									
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N/A Ecology Project Manager	Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved									

3.5.1.2 Geophysical Logging

The planned boreholes and new groundwater monitoring wells will be geophysically logged with the high-resolution, spectral gamma-ray logging system to determine the vertical distribution and concentration of gamma emitting radionuclides. Soil moisture will be determined using a neutron logging tool. The groundwater monitoring wells and boreholes will be logged before the casing is telescoped and before the borehole is decommissioned. The starting point for logging will be recorded; this is usually at the ground surface or the top of the casing. Boreholes will be decommissioned with RL and EPA approval, in accordance with WAC 173-160 after geophysical logging and all sampling are completed.

3.5.2 Groundwater Characterization

Groundwater characterization, including well activities, identification of wells to be sampled, well depth and screen placement, and well drilling and completion procedures, is discussed in this section.

3.5.2.1 New Groundwater Wells

Table 3-2 summarizes well activities. For each new well screened in the Ringold Formation Upper Mud Unit, slug testing and pump testing will be performed to characterize hydraulic conductivity. Groundwater samples will be collected from the groundwater wells (including temporary wells) installed under the scope of this SAP quarterly for the first year, with a reduction in frequency for subsequent years, if warranted, in accordance with DOE/RL-2002-11, *300-FF-5 Operable Unit Sampling and Analysis Plan*. The quarterly groundwater sampling of remedial investigation wells required under this SAP has been completed. No further groundwater sampling will be conducted under this SAP.

Well Depth and Screen Placement

For the 11 new groundwater wells in the unconfined aquifer in the 300 Area, a 4.6 m (15-ft) screen will be installed such that groundwater samples can be taken from the well during all expected groundwater elevation conditions. An exception to this will be made if VOC contamination is discovered deeper in the unconfined aquifer (i.e., at a depth horizon comparable to that observed at Well 399-1-16B). If that occurs, screen length and placement will be specified based on the contaminated horizons and sediment characteristics encountered, with the intent to be able to sample distinct contaminated horizons. Concurrence of EPA on screen placement will be gained prior to completing the well. This exception has the greatest likelihood of occurrence at locations No. 6, No. 8, and No. 9 (Figure 1-1) (wells C7656, C7653, and C7654). Screen length at a particular location may be modified to account for local hydrologic conditions. Also, screen slot size will be based on conditions encountered at the site.

For the five temporary groundwater wells, designated RIFS-a, RIFS-b, RIFS-c, RIFS-d and RIFS-e, to be completed in the unconfined aquifer in the 300 Area, a 0.6 m (2-ft) screen will be installed to cover the top of the water table at low seasonal conditions. Screen length may be modified to account for local hydrologic conditions. Also, screen slot size will be based on conditions encountered at the site.

For the three boreholes in the 600 Area subregion, each will be decommissioned with RL and EPA approval, in accordance with WAC 173-160, after sampling and geophysical logging are completed.

Well Drilling and Completion Procedures

Well drilling will be performed in accordance with WAC 173-160. The 11 new wells will be drilled using 25.4 cm (10-in.-) diameter (or larger) casing to total depth. The five temporary wells will be drilled using 20.3 cm (8-in.-) diameter (or larger) casing to total depth. The drilling method(s) will be determined based on discussions between the drilling lead and drilling contractor.

The 11 new wells will be constructed as 15.2 cm (6-in.) wells with Schedule 10, Type 304 or 316 stainless steel, V-slot continuous wire-wrap screen, atop a 1.5 m (5-ft-) long, stainless steel sump