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CHPRC-03663

[0064919H]

**DISTRIBUTION
PROJECT MANAGERS MEETING,
200 AREA GROUNDWATER and SOURCE OPERABLE UNITS
March 15, 2018**

DOE/RL

(No hard copy distribution)

EPA

Craig Cameron

A3-46

Ecology

Nina Menard

H0-57

CHPRC

Laura O'Mara (original)

R3-50

Administrative Record (2)

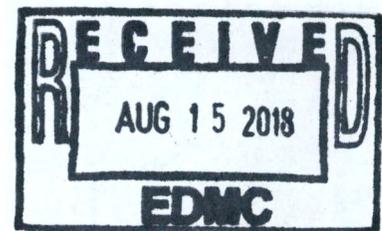
H6-08

Correspondence Control

H7-08

200-15-1
200-EA-1
200-SW-2,1
200-OA-1
200-CW-1, 3,5
200-BC-1
200-WA-1
200-BP-5
200-PO-1
200-PW-1,3,6

200-UP-1
200-ZP-1



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CONFIDENTIAL

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200 AREA PROJECT MANAGERS MEETING

March 15, 2018

Minutes of the 200 Area Project Managers' Meeting of March 15, 2018 are attached. Minutes are comprised of the following:

- | | |
|---------------------|---|
| Attachment 1 | Agenda |
| Attachment 2 | Attendees Sign In Sheets |
| Attachment 3 | Signature Page |
| Attachment 4 | Milestones and Operations, January – February 2018 Data |
| Attachment 5 | Action Items List |
| Attachment 6 | TPA-CN-0796, RL and EPA approved TPA-CN-0796 for the Sampling and Analysis Plan for the 200-DV-1 Operable Unit Perched Water Pumping/Pore Water Extraction (DOE/RL-2014-51). This change notice removes the requirement to perform continuous field monitoring for conductivity in the three perched water extraction wells (299-E33-344, 299-E33-350, and 299-E33-351). |
| Attachment 7 | Email, N. Minard to J. Sands, dated March 14, 2018. Subject "Air Sampling for the 100-N Bioventing System" |

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200 AREA PROJECT MANAGERS MEETING AGENDA March 15, 2018

Operational Status and Milestones by OU- January and February Data

- Deep Vadose Zone
- 200-IS-1 and 200-EA-1
- 200-SW-2
- 200-SW-1
- 200-OA-1, 200-CW-1, 200-CW-3
- 200-BC-1 and 200-WA-1
- 200-BP-5 and 200-PO-1
- M-015 Milestone Series
- 200-PW-1/3/6 and 200-CW-5
- 200-UP-1
- 200-ZP-1
- 200 Area Groundwater/200 West P&T Facility
- M-016 Milestone Series
- M-024 Milestone Series
- 200 Area RCRA TSD Closures
- Canyon Facilities
- Waste Site Removal
- Documents for the Administrative Record

Action Items

Approved TPA Change Notices

TPA-CN-0796 RL and EPA approved TPA-CN-0796 for the Sampling and Analysis Plan for the 200-DV-1 Operable Unit Perched Water Pumping/Pore Water Extraction (DOE/RL-2014-51). This change notice removes the requirement to perform continuous field monitoring for conductivity in the three perched water extraction wells (299-E33-344, 299-E33-350, and 299-E33-351).

Closing Comments (all)

- Sign concurrence to meeting minutes if applicable
- The 2018 PMM will be held in 2420 Stevens from 3:00-4:00pm as follows:
 - March 15 Room 308
 - May 17 Room 308
 - July 19 Room 308
 - September 20 Room 308
 - November 15 Room 308

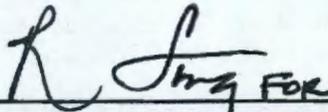
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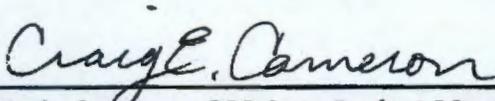
200 Area Project Managers' Status Meeting
March 15, 2018

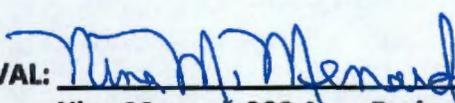
PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Craig Cameron	EPA	Prj. Mgr.	509 376 8665
Stephanie Schlef	Ecology	Prj. Mgr.	509-372-7929
Shawny Simon	ODOB		(541) 240-0161
Dib Goswami	Ecology	PM	509-372-7902
Kelly Elsethagen	Ecology	PM	509-372-7923
Kate Amrhein	DOE RL		509-376-9391
Martin Doornbos	CHPRC	Director	438-5516
Benjamin Vannah	DOE-RL	EA-1	376-9623
JOE AXTELL	DOE-RL	200 WA 1	373 6687
RA Wilderbrand	DOE-RL	200-1 RL	373-9622
Bea Jay	CHPRC	Proj. Mgr.	539-0002
James P. Hanson	DOE-RL	200 Area GW	373-9068
GEORGE JACKSON	CHPRC	PM	373 9355
Glossbrenner, Zilwood	DOE-RL		376 5828
Keelan Abenth	DOE-RL		509-376-1876
Michael Cline	DOE-RL	PM	509-376-6070

**Meeting Minutes Transmittal/Approval
Project Managers' Meeting
200 Area Groundwater and Source Operable Units
March 15, 2018**

APPROVAL:  DATE: 3/15/2018
Michael Cline, 200 Area Unit Manager, DOE/RL

APPROVAL:  DATE: 3/15/2018
Al Farabee, 200 Area Project Manager, DOE/RL

APPROVAL:  DATE: 3/15/18
Craig Cameron, 200 Area Project Manager, EPA

APPROVAL:  DATE: 3/15/18
Nina Menard, 200 Area Project Manager, Ecology

HFFACO Action Plan Section 4.1 requires signature of agreements and commitments made during the Project Manager Meeting. Approval of these minutes documents approval of agreements and commitments documented in Attachment 4 and 5 to these minutes. Approval does not apply to any other attachments, which are included in these minutes for informational purposes.

200 AREA PROJECT MANAGERS' MEETING

Milestones and Operations – January-February 2018 Status by OU
March 15, 2018

200-DV-1 Ecology Lead (RL –Jim Hanson, CHPRC – Mark Byrnes)

- Drilling of 28 shallow boreholes to support the baseline risk assessment commenced January 9, 2018. Twenty two of the shallow boreholes have been drilled and decommissioned to date. The drilling was placed on hold January 25, 2018 due to access control restrictions. Drilling the remaining six shallow boreholes are expected to resume the week of March 12, 2018.
- RL and EPA approved TPA-CN-0796 for the Sampling and Analysis Plan for the 200-DV-1 Operable Unit Perched Water Pumping/Pore Water Extraction (DOE/RL-2014-51). This change notice removes the requirement to perform continuous field monitoring for conductivity in the three perched water extraction wells.
- Significant progress continues on the preparation of a Treatability Test Evaluation Report that summarizes the results from historical treatability tests and will screen for other technologies that may require testing.
- Held a kick-off meeting for the 200-DV-1 Remedial Investigation/Feasibility Study (RI/FS) Workbook with EPA and Ecology February 8, 2018. The workbook was a tool identified from the document improvement meeting (Kaizen) that will be used to work collaboratively with Ecology during preparation of the RI/FS.

Regulatory Agency Comments:

Deep Vadose Zone Treatability Studies EPA Lead (RL –Jim Hanson, CHPRC – Dave St John)

- Completed ammonia injection trailer manufacturing and site construction activities for the Uranium Reactive Gas Sequestration (URGS) Treatability Test site. Completed readiness activities for the injection of ammonia. Initiated temporary lay-up of the project on February 22, 2018 and adjusting the schedule to be able to initiate injections in October 2018.
- Issued the Deep Vadose Zone Treatability Test of Soil Desiccation for the Hanford Central Plateau: Final Report (PNNL-26902).

Regulatory Agency Comments:

200-IS-1 Ecology Lead (RL- Doug Hildebrand, CHPRC – Mike Hickey)

- No work planned for FY2018.

M-015-112: Submit Draft B, 200-IS-1 OU Pipeline System Waste Sites RFI/CMS/RI/FS work plan to Ecology, including a schedule of completion dates for major tasks and deliverables, 11/30/2020.

- Status: on schedule.

Regulatory Agency Comments:

200-EA-1 Ecology Lead (RL- Ben Vannah, CHPRC – Mike Hickey)

- Continued progress is being made on preparation of the RI/FS Work Plan.
 - Provided revised RI/FS Work Plan Chapter 3 to Ecology on February 12, 2018, for informal review.
 - Updated Chapter 4 and Appendix A (SAP) based on RL comments.
 - Scheduled an informal comment resolution meeting with Ecology on Appendix E (ARARs) Ecology on March 8, 2018.
 - Resolved Ecology's comments on Chapter 1.
- Discussed Ecology's desire to document the Tri-Party agreement on Principles and Parameters for the benefits of future projects and project managers. RL and Ecology took the action to continue discussions and determine the most appropriate path forward (considerations included using the *IAMIT Decision/Determination/Action Statement* form).

M-015-92A: Submit a RFI/CMS & RI/FS work plan for the 200-EA-1 OU (200 East Inner Area) to Ecology, 7/31/2018

- o Status: on schedule.

Regulatory Agency Comments:

200-SW-2 Ecology Lead (RL- Doug Hildebrand, CHPRC – Mike Hickey)

- o No actions planned in FY2018 due to funding.

M-015-93C: Initiate characterization field work for the 200-SW-2 Operable Unit landfills in accordance with the schedule in the approved RI/FS/RFI/CMS Work Plan.

- o Status: at risk, not funded in FY2018.

Regulatory Agency Comments:

200-SW-1 Ecology Lead (RL- Doug Hildebrand)

- o No work planned for FY2018.

Regulatory Agency Comments:

200-OA-1 (Outer Area), 200-CW-1, and 200-CW-3 EPA Lead (RL- Ben Vannah, CHPRC – Mike Hickey)

- o No work planned for FY2018.

Regulatory Agency Comments:

200-BC-1 and 200-WA-1 EPA Lead (RL- Joe Axtell, CHPRC – Mike Hickey)

- o Continued to optimize the target analyte list in the 200-BC-1/200-WA-1 SAP and incorporate 200-DV-1 lessons learned.
- o Completed Electrical Resistivity Tomography (ERT) computer simulation for three different areas around U Plant. These simulations will be used to determine how informative the ERT surface surveys will be to help locate the deeper boreholes around the cribs.

Regulatory Agency Comments:

200-BP-5 and 200-PO-1 Ecology Lead (RL – James Hanson, CHPRC – Curt Wittreich)

- o Prepared 200-BP-5 and 200-PO-1 Interim Record of Decision (ROD) strategy for 200-BP-5 and 200-PO-1 for RL and Regulator concurrence.
- o Completed several comment resolution meetings with Ecology and have resolved the majority of comments received on the 200-BP-5 and 200-PO-1 Remedial Investigation (RI) reports.
- o Completed a data quality objectives (DQO) meeting with Ecology on January 24, 2018, in support of the 200-BP-5 removal action drilling sampling and analysis plan (SAP).
- o Completed the comment resolution process with Ecology on the 200-BP-5 Removal Action Work Plan. Obtained approval of the Rev. 0 RAWP.

M-015-21A: Submit 200-BP-5 and 200-PO-1 OU FS Report & PP(s) to Ecology, 6/30/2018.

- o Status: On schedule. Milestone due date was revised to March 31, 2019, (TPA Change Control Form M-15-18-01) due to delays in receipt of Ecology's comments on the RI (received two years later than planned) and the strategy to pursue an interim ROD.

Regulatory Agency Comments:

200-PW-1/3/6 and CW-5 EPA Lead (RL- Robert Long, CHPRC – Mike Hickey)

- o Nothing new to report.
- o RL anticipates completing acquisition process in accordance with the RD/RA Work Plan.

Regulatory Agency Comments:

200-UP-1 EPA Lead (RL – Kate Amrhein, CHPRC – Curtis Wittreich, PNNL-D. Wellman [I-129])

- Completed quarterly groundwater samples for the first six southeast chromium plume wells.
- Initiated the preparation of the Southeast Chromium Plume Remedial Design Investigation Report.
- Completed two of five remedy performance monitoring wells planned in FY2018.

M-016-193: Complete the remedial design investigation of the SE chromium plume, including the installation of new wells and evaluation of the GW monitoring data and install monitoring wells needed for remedy performance monitoring as defined in the UP-1 RD/RA WP, 9/30/2018.

- Status: At Risk. The last five of the 14 remedy performance monitoring wells were planned to be completed in FY2018 in support of the milestone. PFP work control zone restrictions have impacted completion of three of the five wells that are located within the zone. All other aspects of the milestone, which include the remedial design investigation of the SE chromium plume including installation of new wells and evaluation of the GW monitoring data, will be completed on time.

Regulatory Agency Comments:

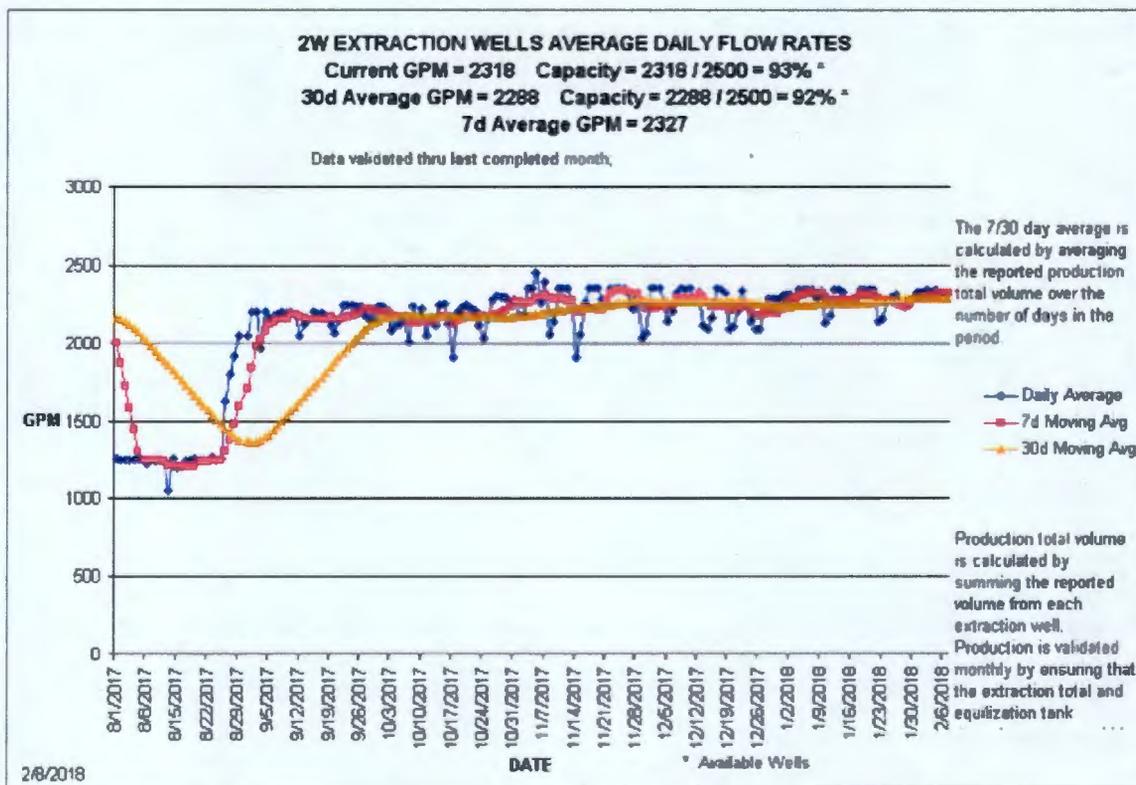
200-ZP-1 EPA Lead (RL – Kate Amrhein, CHPRC – Mark Byrnes)

- Awarded the drilling contract February 15, 2018, to drill two new injection wells (YJ-33 and YJ-34). Anticipate drilling to commence late March 2018.
- Briefed EPA on the 4th Quarter 2017 200 West P&T performance on February 12, 2018.
- Continued with major updates to Rev 0 200-ZP-1 RD/RAWP, Rev 5, 200-ZP-1 O&M Plan, and Rev 2 200-ZP-1 Performance Monitoring Plan. These documents are being updated based upon the first five years of operation and anticipated treatment needs for the Central Plateau.

Regulatory Agency Comments:

200 Area Groundwater/200 West P&T Facility

- Treated 489.8 M gallons of water in **FY2018** as of the end of February, which included the removal of:
 - 42,909 kgs of nitrate
 - 968 kgs of carbon tetrachloride
 - 42 kgs of chromium
 - 68 kgs of uranium
 - 1.08 Ci of Tc-99



M-024 Well Installation Ecology Lead (RL-Kathy Higgins, CHPRC-Dave Capelle)

M-024-68: Complete construction of all wells listed for CY2017 and before identified in TPA Change Package M-024-14-01.

- o Status: Completed 10/10/2016 (17-AMRP-0125). Due 12/31/2017.

M-024-69: Complete construction of all wells listed for CY18 and before as listed in M-24-15-01

- o Status: Completed 5/31/17. Due 12/31/18

Regulatory Agency Comments:

200 Area RCRA TSD Closures Ecology Lead (RL – Mostafa Kamal, CHPRC – Mike Hickey)

- o Prepared draft 216-A-36B closure plan implementing Ecology's Option 2 (coordinated closure) annotated template.
- o Identified Ecology availability for two workshops in March to reach agreement on the technical elements and discuss closure plan and annotated template.

Regulatory Agency Comments:

U Plant Canyon EPA Lead (RL – Robert Long, CHPRC – TBD)

- o Nothing to report.

Regulatory Agency Comments:

Canyon Facilities EPA/Ecology Lead (RL – Robert Long, CHPRC –George Jackson)

- o Finalizing Draft B B Plant EE/CA, REDOX SAP Appendices C-I, and REDOX AM; expect to submit to EPA/Ecology in March 2018.
- o Finalizing comment resolution for REDOX RAWP.
- o Finalizing comment resolution for Ecology comments on the Tier 2 B Plant RAWP.
- o Revising Draft A 200 Area Tier 2 Miscellaneous Facilities RAWP, which will be resubmitted to DOE-RL during Q1 FY 2018.
- o Submitted Draft A, PUREX EE/CA to Ecology with associated proposal letter; completed TPA M-085-082.
- o Revising Tier 2 PUREX RAWP, which will be resubmitted to DOE-RL during Q2 FY 2018.

Regulatory Agency Comments:

Waste Site Removal Ecology Lead (RL- Al Farabee, CHPRC – Darin Corriell)

- o Three year rolling schedule for waste site remediation is in development and will be submitted by March 31, 2018.

M-016-250: Submit to Ecology for approval a three year rolling prioritized schedule consistent with site-wide clean-up priorities to implement waste site removal actions per Action Memoranda, 3/31/2016 and annually thereafter.

- o Status: On schedule M-016-250C, due 3/31/2018.

Regulatory Agency Comments:

Monthly Performance Report Assessment

The DOE project managers have not identified any significant issues with CHPRC's previous Monthly Performance Report to be addressed at this meeting.

Central Plateau Milestones due post 1/1/2018

MS#	Title	Due Date
Fiscal Year 2018		
M-016-250C	Submit to Ecology for approval a three year rolling prioritized schedule consistent with site-wide clean-up priorities to implement waste site removal actions per Action Memoranda (DOE/RL-2009-37, DOE/RL-2009-48, and DOE/RL-2009-86).	3/31/2018
M-024-58K	Initiate Discussions of Well Commitments	6/1/2018
M-085-74	Submit proposals for expedited response actions for one or more of the Tier 1 and Tier 2 facilities in the B Plant geographic area	6/30/2018
M-015-92A	Submit RFI/CMS & RI/FS Work Plan for 200-EA-1 Work Plan to Ecology	7/31/2018
M-024-69-T01	Conclude discussions of well commitments initiated under M-024-58	8/1/2018
M-015-93C	Initiate characterization field work for the 200-SW-2 OU	9/30/2018 At Risk
M-016-255	DOE shall complete the removal of all waste sites for FY2018 as identified in TPA Change Package M-16-16-01.	9/30/2018
M-016-193	Investigate SE Chromium Plume, Install Wells, Eval. GW Monitoring Data & Install Monitoring Wells	9/30/2018 At Risk
Fiscal Year 2019		
M-024-69	Complete construction of all wells listed for CY18 and before as listed in M-24-15-01	12/31/2018
M-015-21A	Submit BP-5/PO-1 FS/PP	3/31/2019
M-015-98	Complete remedial investigation of U Plant related waste sites located in 200-WA-1 in accordance with the WA-1 RI/FS Work Plan	6/30/2019 At Risk
M-085-70	Submit RI/FS Work Plan for 200-CB-1	9/30/2019 At Risk
Fiscal Year 2020		
M-015-99	Complete remedial investigation of PFP related waste sites located in 200-WA-1 in accordance with the 200-WA-1 and 200-BC-1 RI/FS Work Plan.	12/31/2019 At Risk
M-024-71-T01	Conclude discussions of well commitments initiated under M-024-58	8/1/2020
M-085-72	Submit RAWP to implement the approved Action Memorandum for 224-B	9/30/2020
M-085-80	Submit RI/FS Work Plan for 200-CP-1	9/30/2020
M-085-100	Submit a RAWP to implement the approved Action Memorandum for 224-T	9/30/2020
M-037-10	Complete Unit-Specific closure requirements for six TSD units	9/30/2020
M-015-112	Submit RFI/CMS & RI/FS Work Plan for 200-IS-1 Work Plan to Ecology	11/30/2020
Fiscal Year 2021		

M-016-86	Complete remedial actions for 618-11 Burial Ground	9/30/2021
M-085-90	Submit RI/FS Work Plan for 200-CR-1	9/30/2021
M-015-84	Complete RI of 200-WA-1 and 200-BC-1 Waste Sites in Accordance with RI/FS Work Plan	12/31/2021 At Risk
Fiscal Year 2022		
M-037-13	Complete unit-specific closure requirements for 241-CX Tank System	9/30/2022
Fiscal Year 2023		
M-015-92B	Submit RFI/CMS, RI/FS Study report and Proposed CAD/PP for 200-EA-1	11/30/2022
M-015-93B	Submit RFI/CMS & RI/FS Study Report and proposed CAD/PP for 200-SW-2 OU	1/31/2023
M-015-92C	Submit RFI/CMS & RI/FS Study report and proposed CAD/PP for the 200-IS-1 OU to Ecology	3/31/2023
M-015-38B	Submit FS/PP for 200-CW-1, 200-CW-3 and 200-OA-1 OUs	7/31/2023
M-015-91B	Submit FS/PP for 200-BC-1 and 200-WA-1 OUs	7/31/2023 At Risk
M-015-110B	Submit CMS & FS and Proposed CAD/PP for 200-DV-1 OU	9/30/2023
Fiscal Year 2024		
M-016-200A	Complete U Plant canyon demolition	9/30/2024
M-037-11	Complete unit-specific closure requirements for 216-B-3 Main Pond System and 216-S-10 Pond and Ditch	9/30/2024
Fiscal Years 2025-2027		
M-085-76	Initiate response actions for the B Plant geographic area	9/30/2025
M-085-84	Initiate response actions for the PUREX geographic work	9/30/2025
M-085-01	Submit change package to establish a date for major milestone M-085-00	6/30/2026
M-016-200B	Complete U Plant barrier construction	9/30/2027

Documents Submitted to the AR
January – February 2018

Number	Title	Referencing Document
CP-60092	Groundwater Protection Plan for the Environmental Restoration Disposal Facility, formerly WCH-198 Rev. 1	DOE/RL-2013-07
RPP-RPT-50780 R0	Hanford 241-TX Farm Leak Inventory Assessment Report	SGW-60576
ECF-HANFORD-17-0120 R0	Preparation of the March 2017 Hanford Site and Potentiometric Surface Maps	SGW-38815
SGW-61398 R1	Nature of Injection Well Foulant and Recommendations to Limit Injection Well Fouling at 200 West Pump & Treat	SGW-60832
CHPRC-00189 R14	Environmental Quality Assurance Program Plan	All

Number	Title	Referencing Document
ECF-200BP5-16-0145 R0	Particle Tracking and Transport Modeling in Support of Removal Action Memorandum	DOE/RL-2017-11
RPP-ASMT-38219 R0	Tank 241-C-110 Leak Assessment Report	SGW-60588
RPP-ASMT-39155 R0	Tank 241-C-111 Leak Assessment Report	SGW-60588
ECF-HANFORD-17-0241 R0	Hydraulic Gradient and Velocity Calculations for RCRA Sites in 2017	DOE/RL-2017-65
ECF-200E-17-0121	Preparation of 200 East Area Water Table Maps for the Calendar Year 2016	DOE/RL-2017-66

Approved Change Notices

Number	Title
TPA-CN-0796	RL and EPA approved TPA-CN-0796 for the Sampling and Analysis Plan for the 200-DV-1 Operable Unit Perched Water Pumping/Pore Water Extraction (DOE/RL-2014-51). This change notice removes the requirement to perform continuous field monitoring for conductivity in the three perched water extraction wells (299-E33-344, 299-E33-350, and 299-E33-351).

OPEN ACTION ITEM TRACKING

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Status
186	Provide total gallons and the previous two months for the DV-1 Perched water added into meeting minutes of next PMM	Marty Doombos	Ecology	3/15/2018	5/17/2018		

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 0796	TPA CHANGE NOTICE FORM	Date: January 31, 2018									
Document Number, Title, and Revision: DOE/RL-2014-51, Sampling and Analysis Plan for 200-DV-1 Operable Unit Perched Water Pumping/Pore Water Extraction, Revision 0		Date Document Last Issued: December 2015									
Approved Change Notices Against this Document: TPA-CN-0720											
Originator: Greg Bergquist / Mark Byrnes		Phone: 373-3996									
<p>Description of Change: This change notice for DOE/RL-2014-51 removes the requirement to perform continuous field monitoring for conductivity in the three perched water extraction wells (299-E33-344, 299-E33-350, and 299-E33-351).</p> <p><u>M.W. Cline</u> and <u>D. Goswami / C.E. Cameron</u> agree that the proposed change DOE Lead Regulatory Agency 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>. The change deletes continuous conductivity measurements in Table 3-1 of DOE/RL-2014-51. All deletions are indicated by strikeout and new text is indicated by <u>double underline</u>. A copy of the page affected by the change is attached.</p>											
Note: Include affected page number(s): 3-5											
<p>Justification and Impacts of Change: The sampling and analysis plan (DOE/RL-2014-51) specifies both quarterly measurements for conductivity and continuous measurements for conductivity at the three perched water extraction wells (299-E33-344, 299-E33-350, and 299-E33-351). The conductivity probes installed in the three perched water extraction wells were used to collect continuous measurements in 2016. Evaluation of the 2016 data indicates that the probe data do not offer a benefit over the quarterly data for interpreting perched water conditions and are not directly correlated to a specific contaminant. The quarterly sampling data, which include specific conductance and contaminant concentrations, capture trends at an appropriate frequency based on the data collected to date and the pumping rates. Discontinuation of conductivity probes will not impact interpretation of remedy performance or perched water geochemical and contaminant conditions. The probe data are not required by the data quality objectives process to address a principal study question. The requirement for continuous conductivity measurements is being deleted. Each of the wells will continue to be sampled and analyzed for conductivity quarterly.</p>											
<p>Approvals:</p> <table border="0"> <tr> <td><u>M.W. Cline</u> DOE Project Manager</td> <td>1/31/2018</td> <td><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved</td> </tr> <tr> <td><u>Craig E. Cameron</u> EPA Project Manager</td> <td>1/31/2018</td> <td><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved</td> </tr> <tr> <td><u>[Signature]</u> Ecology Project Manager</td> <td>1/31/2018</td> <td><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved</td> </tr> </table>			<u>M.W. Cline</u> DOE Project Manager	1/31/2018	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	<u>Craig E. Cameron</u> EPA Project Manager	1/31/2018	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	<u>[Signature]</u> Ecology Project Manager	1/31/2018	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
<u>M.W. Cline</u> DOE Project Manager	1/31/2018	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved									
<u>Craig E. Cameron</u> EPA Project Manager	1/31/2018	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved									
<u>[Signature]</u> Ecology Project Manager	1/31/2018	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved									

Table 3-1. Sampling Frequency

Media	Constituent	CAS No.	Sampling Frequency from Perched Water Wells and Container
	Other analyses (magnesium, potassium, bicarbonate alkalinity, carbonate alkalinity, total inorganic carbon, total organic carbon, total dissolved solids)	—	Once at startup
Field/operational parameters	Barometric pressure	—	Continuous
	Conductivity	—	Continuous
	Extracted flow rate	—	Continuous
	Conductivity	—	Once per quarter
	Dissolved oxygen	—	Once per quarter
	Oxidation-reduction potential	—	Once per quarter
	pH	—	Once per quarter
	Temperature	—	Once per quarter
	Turbidity	—	Once per quarter
	Water level (well)	—	Continuous
	Water level (container)	—	Once per shipment

a. Sample only when using the vacuum-enhanced recovery extraction technology.

b. These analyses will be performed by PNNL and will be conducted in accordance with PNNL procedures, QC standards, and analytical performance requirements.

CAS = Chemical Abstracts Service

COC = contaminant of concern

PNNL = Pacific Northwest National Laboratory

QC = quality control

At the startup of the gravity drain extraction operations under this removal action, perched water samples, along with operational and physical parameters, will be collected from all three extraction wells. All chemical (except for cadmium and manganese) and radiological parameters will be analyzed for baseline development purposes. For COCs and physical parameters, the sampling activity will be repeated every quarter thereafter. The sampling frequency for the non-COC carbon-14 is semiannual and annual for all other non-COCs.

At the startup of the vacuum-enhanced recovery operations, perched water samples will be obtained from all operational wells. Physical parameters will also be obtained. All chemical (including cadmium and manganese) and radiological parameters will be analyzed for baseline development purposes. For COCs

O'Mara, Laura K

From: Menard, Nina (ECY) <nmen461@ECY.WA.GOV>
Sent: Thursday, March 15, 2018 2:12 PM
To: O'Mara, Laura K
Subject: Fwd: Air Sampling for the 100-N Bioventing System

Sent from my iPhone

Begin forwarded message:

From: "Menard, Nina (ECY)" <nmen461@ECY.WA.GOV>
Date: March 14, 2018 at 9:46:52 AM PDT
To: "Sands, John P (john.sands@rl.doe.gov)" <john.sands@rl.doe.gov>
Cc: "Lee, Art K" <Art_K_Lee@rl.gov>, "Boyd, Alicia (ECY)" <aboy461@ecy.wa.gov>
Subject: Air Sampling for the 100-N Bioventing System

John and Art,

Ecology is currently reviewing draft TPA change notice 0815 regarding the 100-N Bioventing System. While the change notice is still under review, Ecology agrees with the decision to move from monthly air sampling to quarterly air sampling. Since air sampling was performed in January of 2018, it is acceptable to not perform February and March air sampling.

Please have this email entered into the 200 PMM meeting minutes at our next meeting.

Thank you,

Nina M Menard
Project Manager
Environmental Restoration
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509-420-6839