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DISTRIBUTION
PROJECT MANAGERS MEETING,
200 AREA GROUNDWATER and SOURCE OPERABLE UNITS
July 19, 2018

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Correspondence Control	H7-08

200-IS-1
200-EA-1
200-SW-1, 2
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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200 AREA PROJECT MANAGERS MEETING
Attachments List
July 19, 2018

Minutes of the 200 Area Project Managers Meeting of July 19, 2018 are attached. Minutes are comprised of the following:

Attachment 1	**Agenda**
Attachment 2	**Attendees Sign-In Sheets**
Attachment 3	**Signature Approval Page**
Attachment 4	**Milestones and O.U. Status, May - June Data**
Attachment 5	**Action Item List**
Attachment 6	**Documents Entered into the AR, May – June Data**
Attachment 7	**Approved TPA-CNs, May – June Data**

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200 AREA PROJECT MANAGERS MEETING
AGENDA
July 19, 2018

Milestones and O. U. Status- May and June, 2018 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

Action Items

Documents for the Administrative Record and Approved TPA Change Notices

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:

  - July 19 Room 308
  - September 20 Room 308
  - November 15 Room 308

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200 Area Project Managers' Status Meeting
July 19, 2018

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Gretchen M. Hanson	CHPRC		373-7553
Nina Menard	ECY		376-7941
Shelley Cimon	ODOE		(541) 240-0161
Craig Cameron	EPA		376-8665
Brigitte Weese	Ecology		372 7936
JOSEPH AXTELL	DOE RL		373-6687
Ben Vannah	DOE-RL		376-9623
KIM WELSCH	ECY		372-7882
Marty Doornbos	CHPRC		438-5576
Sara Austin	CHPRC		376.4339

200 Area Project Managers' Status Meeting
July 19, 2018

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Kathy Higgins	DOE-RL	M-24	376-3658
Jeanne Stults	CHPRC	Strategic Mgmt	376-7510
Dib Goswami	Ecology	UM	372-7902
Stephanie Schlaff	Ecology	Proj. Mgr	372-7929
Kate Amrhein	DOE-RL		376-9391
Michael Cline	DOE/RL	PM	376-6070

200 Area Project Managers Meeting
Meeting Minutes Approval
July 19, 2018

APPROVAL: _____ **DATE:** 7/19/2018
Michael Cline, 200 Area Project Manager, DOE/RL

APPROVAL: _____ for **DATE:** 7/19/2018
Al Farabee, 200 Area Project Manager, DOE/RL

APPROVAL: Craig Cameron **DATE:** 7/19/18
Craig Cameron, 200 Area Project Manager, EPA

APPROVAL: Nina M. Menard **DATE:** 7/19/18
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 agreements and commitments identified in the attached "Milestones and O.U. Status" and the "Action Item List". Approval does not apply to the minutes themselves or to any other attachments.

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200 AREA PROJECT MANAGERS MEETING

Milestones and O.U. Status, – May-June Data

July 19, 2018

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

- Significant progress continues on the preparation of a Treatability Test Evaluation Report that summarizes the results from historical treatability tests and screens other technologies that may be applicable for remediation of the deep vadose zone. The draft report is undergoing internal comment resolution.
- The Field Summary Reports for B-, S- and T-Complex. The reports were issued in April and May, respectively. A Field Summary Report for 28 Shallow Risk Boreholes is in internal review.
- Two 200-DV-1 Workbook briefings have taken place with EPA and Ecology during May and June, 2018, that have been well received. The content of the briefings included a review of the sampling and analysis results performed per the Sampling and Analysis Plan for B-Complex and T-Complex.
- A total of 241,000 gallons have been pumped from the perched water wells YE-28, YE-29 and YE-30 calendar year to date (June), with 73,000 gallons pumped during the months of May and June 2018.

Perched well	Cumulative to date CY2018 (gallons)	May 2018 (gallons)	June 2018 (gallons)
YE-28	29,000	5,000	5,000
YE-29	150,000	23,000	22,000
YE-30	62,000	9,000	9,000

Regulatory Agency Comments: None

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

- A meeting was held on May 16, 2018, with EPA and Ecology to discuss the results from the laboratory studies performed on the U-8 Crib samples and the path forward. Based upon this data, the URGS treatability test will not be performed at the U-8 crib site due to increased uranium mobility following treatment. The Treatability Test Report will be prepared to provide the available laboratory data on this technology, present the additional characterization data on the possible interferences associated with this crib, and discuss the cost metrics for full-scale implementation. The need for additional treatability studies will be provided in the 200-DV-1 OU Treatability Test Evaluation Report.

Regulatory Agency Comments: None

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, plan to begin in FY19.

Regulatory Agency Comments: None

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

- Continued progress is being made on preparation of the RI/FS Work Plan.
  - Completed continuity review of the 200-EA-1 RI/FS work plan and SAP April 29, 2018.
  - Completed formal internal review of the 200-EA-1 RI/FS work plan and SAP on May 14, 2018.
  - Briefed RL on 200-EA-1 RI/FS Work Plan and SAP internal comments modifications on June 11, 2018.
  - The Draft A 200-EA-1 RI/FS Work Plan (M-015-92A) was completed and transmitted to Ecology on July 12, 2018.

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

- Status: Completed 7/12/2018 Due 7/31/2018

Regulatory Agency Comments: None

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

- 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.

- Status: at risk, not funded in FY2018. A signed TPA Change control form (M-15-18-03) was provided to Ecology for approval on June 19, 2018. No response was received from Ecology and as a result, dispute resolution was invoked on July 9, 2018, (18-AMRP-0135).

Regulatory Agency Comments: None

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

- No work planned for FY2018.

Regulatory Agency Comments: None

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

- No work planned for FY2018.

Regulatory Agency Comments: None

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

- Conducted internal comment resolution on Draft TPA Change Notice for SAP modifications based on target analyte changes on June 11, 2018.
- Draft TPA Change Control Form sent to EPA.

Regulatory Agency Comments: None

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

- Completed regulator meeting on the scope/status of the 200-BP-5/200-PO-1 Interim Record of Decision (IROD) Feasibility Study. The meeting which addressed the groundwater technology screening approach and project schedule was held on May 3, 2018.
- Completed additional comment resolution meetings with Ecology on the 200-BP-5 RI and 200-PO-1 RI Addendum and continue incorporating Ecology comment dispositions for Ecology review.
- The Draft A SAP is being finalized and is expected to be delivered to Ecology and EPA for review in July.
- Initiated construction activities for the extension of the 200-BP-5 extraction system to a third extraction well, 299-E33-361.

M-015-21A: Submit 200-BP-5 and 200-PO-1 OU FS Report & PP(s) to Ecology, 3/31/2019.

- Status: On schedule.

Regulatory Agency Comments: None

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

- Not funded in FY2018.

Regulatory Agency Comments: None

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

- Completed construction of the last of 22 200-UP-1 wells in support of Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-016-193. Completion criteria is consistent as discussed during the April 26, 2018, conference call with EPA (18-AMRP-0132).

- Completed RL's review of the Decisional Draft Remedial Design Investigation Report for the 200-UP-1 Operable Unit Southeast Chromium Plume on June 28, 2018.

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. Letter 18-AMRP-123 (dated July 11, 2018) was transmitted to EPA identifying the completion criteria for well drilling under M-016-193.

- Status: on schedule.

Regulatory Agency Comments: None

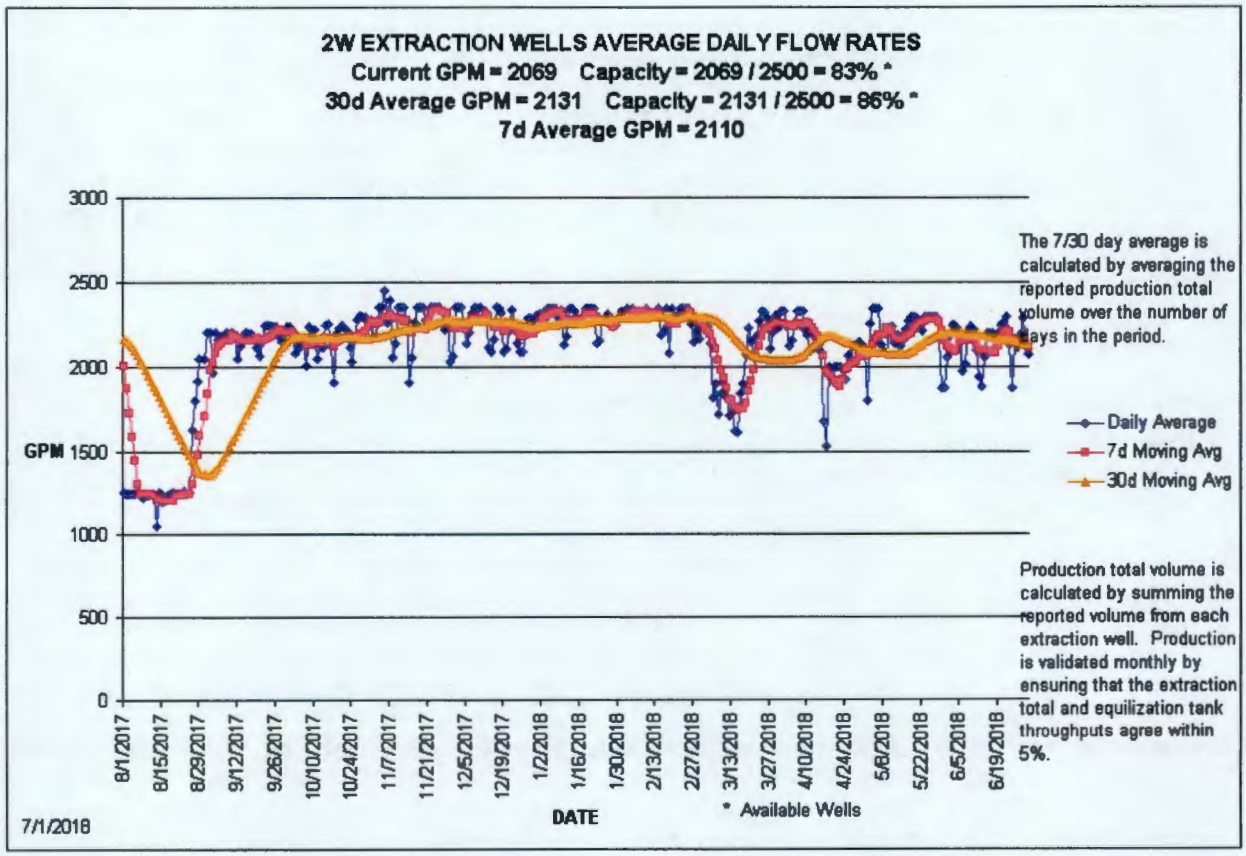
200-ZP-1 EPA Lead (RL – Kate Amrhein, CHPRC – Mark Byrnes)

- Drilling concluded at injection well (YJ-34/C9880) on June 6, 2018, reaching a total depth of 475.6 ft. bgs. The water table was encountered at 238.2 ft. bgs. Construction will begin July 9, 2018. Drilling began June 13, 2018, at injection well (YJ-33/C9878) and reached a depth of 305 ft. bgs on June 29, 2018. The water table was encountered at 240 ft. bgs.
- TPA-CN-0818 – Removal of the requirement to perform split-spoon sampling from the vadose zone and add water sampling for biofouling of injection wells YJ-33/C9878 and YJ-34/C9880 was approved May 14, 2018.
- Continued with updates to 200-ZP-1 RD/RAWP, 200-ZP-1 O&M Plan, and 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 OU.
- Completed the first campaign of sediment removal in MSU #3 June 1, 2018, removing approximately 25 cubic yards of removable sediments.
- Treatment of MSU #3 water began on June 15, 2018, with approximately 100,000 gallons being treated at the end of June 2018.
- The Chlorination Pilot Test for YJ-14 successfully concluded on June 18, 2018. The specific injection well capacity steadily increased after one week of use. This Pilot test will continue after selection of an additional injection well.

Regulatory Agency Comments: None

200 Area Groundwater/200 West P&T Facility

- Treated 861.7 M gallons of water in **FY2018** as of the end of June, which included the removal of:
  - 74,780 kgs of nitrate
  - 1,747 kgs of carbon tetrachloride
  - 76.8 kgs of chromium
  - 116.2 kgs of uranium
  - 1.98 Ci of Tc-99



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

M-024-58K: Initiate discussions of well commitments to maintain a three-year-rolling prioritized drilling schedule consistent with site-wide clean-up priorities.

- Status: Completed 5/31/2018 Due 6/01/2018.

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

- 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

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

M-024-69-T01: Conclude discussions of well commitments initiated under M-024-58K.

- Status: Completed 7/11/2018 Due 8/1/2018

Regulatory Agency Comments: None

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

- Initiated internal scoping for the 216-A-37-1 closure plan on May 22, 2018.
- Completed Option 2 Closure Plan Template on June 14, 2018.
- Conducted Closure plan needs meeting with Ecology on June 14, 2018, for the 216-A-37-1 crib.

Regulatory Agency Comments: None

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

- Nothing to report.

Regulatory Agency Comments: None

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

- Completed and submitted REDOX SAP Draft C, REDOX AM Draft A, and B Plant EE/CA Draft B to Regulators for review and comment.
- Finalizing REDOX RAWP Draft A and Tier 2 B Plant SAP Draft A; expect to transmit to Regulators for review and comment in July 2018.
- Finalizing comment resolution for Ecology comments on the Tier 2 B Plant RAWP and 276BA RCRA Closure Plan.
- Revising Draft A 200 Area Tier 2 Miscellaneous Facilities RAWP, which will be resubmitted to DOE-RL during Q2/Q3 FY 2018.

Regulatory Agency Comments: EPA is ready to approve the REDOX SAP once the action memorandum and RAWP are approved by DOE. Ecology stated that the RCRA unit, hexone tanks, needs to be addressed under the REDOX Action Memorandum with acknowledging the RCRA closure plan.

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

- Submitted to Ecology the three year rolling prioritized schedule as described in TPA milestone M-016-250C on March 28, 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.

- Status: Complete on 3/28/2018 M-016-250C, due 3/31/2018.

Regulatory Agency Comments: Change Control form M-16-16-01 addressing Milestones M-016-255 and M-016-256 was disapproved by ECY on July 12, 2018.

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 Complete
M-024-58K	Initiate Discussions of Well Commitments	5/31/2015 Complete
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 Complete
M-015-92A	Submit RFI/CMS & RI/FS Work Plan for 200-EA-1 Work Plan to Ecology	7/12/2018 Complete
M-024-69-T01	Conclude discussions of well commitments initiated under M-024-58	7/11/2018 Complete
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
	Fiscal Year 2019	
M-024-69	Complete construction of all wells listed for CY18 and before as listed in M-24-15-01	5/31/2017 Complete

M-016-256	DOE shall complete the removal of all waste sites for FY2019 as identified in TPA Change Package M-16-16-01.	9/30/2019
M-015-21A	Submit BP-5/PO-1 FS/PP for Interim ROD	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
	Fiscal Year 2021	
M-015-112	Submit RFI/CMS & RI/FS Work Plan for 200-IS-1 Work Plan to Ecology	11/30/2020
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
	Fiscal Year 2022	
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
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

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OPEN ACTION ITEM TRACKING

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Status
187	Review process for adding documents to the AR, namely RL and agency understanding prior submittal to AR and acknowledgment in the PMM	Marty Doombos	EPA	5/17/2018	7/19/2018		Complete

Documents Submitted to the AR **May - June Data**		
Number	**Title**	**Referencing Document**
ECF-200UP1-16-0073	Calculated Timeframes for Attainment of Cleanup Levels in the 200-UP-1 Operable Unit for Remedial Actions based on 95th Percent Upper Confidence Limit Calculation for Groundwater Monitoring Data and Updated Simulated Future Groundwater Fate and Transport	Annual Reports
ECF-200ZP1-15-0002	Description of Groundwater Calculations and Assessments for the Calendar Year 2014 (CY2014) 200 Areas Pump-and-Treat Report	Annual Reports
ECF-Hanford-17-0084	Radiological and Toxic Air Emission for 242B and 242BL Buildings	DOE/RL-2016-50
SGW-60527	CR-2016-1543 - Redundancy Analysis for the 200-ZP-1 Groundwater Monitoring Network	Annual Reports
SGW-60658	Process for Establishing flow recipes at 200 West Pump and Treat	Annual Reports
SGW-60957	Evaluation and Recommendation of Phosphate Free Antiscalant	Annual Reports
SGW-61317	Borehole Summary Report for the Installation of Four Injection Wells in the 200- ZP-1 Operable Unit, FY 2017	Annual Reports
SGW-61705	200-ZP-1 Injection Well Performance, First Quarter - Fiscal Year 2018	Annual Reports
ECF- HANFORD-13-0033	Exposure Point Concentrations for Baseline Conditions for Remedial Investigation/ Feasibility Studies of the 200- BP-5 and 200-PO-1 Groundwater Operable Units	BP-5 RI
HW-28408	Decontamination of Metal Recovery Process Waste: Interim Report	BP-5 RI
SGW-44071	Data Quality Assessment Report for the 200-BP-5 Groundwater Operable Unit	BP-5 RI
DOE/RL-2018-28	Optimization Test Plan for Treating Water from Modular Storage Units at 200 West Pump & Treat Facility	O&M Plan/Annual Reports
SGW-61319	Borehole Summary Report for the Installation of Five Monitoring Wells in the 200-UP-1 Operable Unit, FY 2017	DOE/ RL-2017-60
SGW-59416	Description of Work for the Installation of Three Monitoring Wells in the 200-UP-1 Groundwater Operable Unit, FY16	DOE/ RL-2017-60

SGW-60084	Description of Work for the Installation of Three Multipurpose Wells in the 200-UP-1 Groundwater Operable Unit, FY 2017	DOE/ RL-2017-60
SGW-60463	Borehole Summary Report for the Installation of Three Monitoring Wells in the 200-UP-1 Groundwater Operable Unit, Fiscal Year 2016	DOE/ RL-2017-60
SGW-60568	Description of Work for the Installation of Four Monitoring Wells Near the Southeastern Portion of the 200- UP-1 Operable Unit, FY 2017	DOE/ RL-2017-60
SGW-60727	Borehole Summary Report for Installation of Three Multipurpose Wells in the 200-UP-1 Groundwater Operable Unit, FY 2017	DOE/ RL-2017-60
ECF-200UP1-17-0238	Development of the 3D Hexavalent Chromium Groundwater Plume using Leapfrog for Southeast 200-UP-1	DOE/ RL-2017-60
ECF-200UP1-18-0008	Simulations of Remedial Options for the 200-UP-1 Southeast Chromium Plume using the Central Plateau Groundwater Model	DOE/ RL-2017-60
ECF-200W-17-0029	Description of Groundwater Calculations and Assessments for the Calendar Year 2016 (Cy 2016) 200 Areas Pump and Treat Report	Annual Reports
SGW-40032	Soil and Groundwater Remediation Project Facility Hazard Categorization	SGW-62183
SGW-50390	FY 2011 Simulation- Optimization of the 200-ZP-1 Remedy Using the Central Plateau Model	SGW-62183
SGW-58170- VA	Finding the Balance Between Biological Groundwater Treatment and Treated Injection Water	SGW-62183
SGW-61444	Evaluation of Sulfuric Acid Corrosion Potential During Well Rehabilitation	SGW-62183
SGW-61750	Bench-Scale Test of Chlorine Demand and Decay at 200 West Pump & Treat	SGW-62183
SGW-61974	Filter Test on YJ10 to Investigate and Mitigate Well Fouling 2017	SGW-62183
SGW-61975	Power Requirements to Raise Temperature of AMTs at 200 W P&T	SGW-62183

Approved Change Notices – None to Report

Number	Title
TPA-CN-0818	DOE/RL-2010-72, Sampling and Analysis Plan for Remediation Wells in the 200-ZP-1 Operable Unit, Revision 2

ATTACHMENT 7

[0065655H]

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 0818	TPA CHANGE NOTICE FORM	Date: May 10, 2018
Document Number, Title, and Revision: DOE/RL-2010-72, Sampling and Analysis Plan for Remediation Wells in the 200-ZP-1 Operable Unit, Revision 2		Date Document Last Issued: June 2014
Approved Change Notices Against this Document: TPA-CN-641, -0758, and -0794		
Originator: Kathy Leonard		Phone: 373-6375

Description of Change:
Table 3-1 is modified for two wells to remove the requirement to perform split-spoon sampling and adds additional water sampling.

M.W. Cline (DOE) and E. Laija (Lead Regulatory Agency) agree that the proposed change modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records*, and not Chapter 12.0, *Changes to the Agreement*.

The following changes to be made:

- An additional row has been added to Table 3-1 to provide sampling information for wells YJ-33/C9878 and YJ-34/C9880. The sampling information does not include split-spoon sampling in the vadose zone for biofouling sampling and analysis. It does include taking 3 water samples for each well at 240 ft bgs, 340, ft bgs, and 410 ft bgs.

Deleted text is denoted by ~~strikeout~~ and new text is denoted by <u>double underline</u>.

Note: Include affected page number(s): 3-2, 3-3, 3-4

Justification and Impacts of Change:
This change exempts the vadose zone sampling and analyses requirements for slime forming bacteria testing (capable of well fouling) during the drilling of 200-ZP-1 injection wells YJ-33/C9878 and YJ-34/C9880 that is to begin in April 2018. It also adds water sampling for purposes of biofouling analysis for both wells.

At the time TPA-CN-0794 was approved against this document for two new additional wells, it was uncertain if biofouling sampling and analysis would be needed in these wells since the results from the earlier sampling were not yet available. At this time, the results from the biofouling analyses performed in wells YJ-29/C9561, YJ-30/C95565, and YJ-32/C9563 are available and the conclusion is that slime forming bacteria in the soil formation is driving the fouling, not solely the "quality" of water leaving the 200 West P&T. The data also indicate limited spatial variation in the population of slime forming bacteria in the soil formation.

With this information, there is no longer a need to run biofouling analyses on soil samples from wells YJ-33/C9878 and YJ-34/C9880 in the vaodse zone.

Approvals:

DOE Project Manager	Date 5/10/2018	[X] Approved [ ] Disapproved
EPA Project Manager	Date 5/14/2018	[X] Approved [ ] Disapproved
N/A Ecology Project Manager	Date	[ ] Approved [ ] Disapproved

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Table 3-1. Well Sample/Measurement Locations and Depth

Sampling Location	Vadose Zone Sampling Depth, Frequency, and Analysis (ft bgs)	Aquifer Sampling Depth, Frequency, and Analysis (ft bgs)	
		Water Samples	Soil Samples (Sediment) Below Water Table[a]
YE-11, YE-13, YE-14, YE-17, YE-20, YJ-1, YJ-2, YJ-3, YJ-7, YJ-8, YJ-9, YJ-10, YJ-12, YJ-14, YJ-15, YJ-16, YJ-17, YJ-23, MW-1, MW-7, MW-2, MW-3, MW-8, and MW-6	**Ground surface to water table at each of the new wells:** During drilling, archive grab samples for geological purposes will be collected every 5 ft and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings.	**During drilling, water samples to be collected (in accordance with Section 3.5.6) as follows:** at 20 ft intervals throughout aquifer, unless visual observation in aquifer material change by the field geologist calls for 10 ft intervals for further clarification: • Carbon tetrachloride for quick-turnaround samples[b] • Table 1-2 constituents at standard turnaround time • Field screening parameters (temperature, pH, dissolved oxygen, specific conductance, and NTU)	**During drilling, soil samples to be collected:** • Every 5 ft, grab archive samples will be collected and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings • Every 20 ft, in correlation with aquifer water samples, grab two composite soil samples in pint jars from drill cuttings over the 20 ft interval for field screening grain-size (sieve) analysis
YJ-24 and YJ-25	**Ground surface to water table at each of the new wells:** During drilling, archive grab samples for geological purposes will be collected every 5 ft and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings.	**During drilling, water samples to be collected (in accordance with Section 3.5.6) as follows:** one sample just below the water table, one sample at about the middle of the aquifer (~390 ft bgs), and one sample just above the Ringold lower mud unit. Each sample will be analyzed for volatile organic compounds only.	**During drilling, soil samples to be collected:** • Every 5 ft, grab archive samples will be collected and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings • Every 20 ft, in correlation with aquifer water samples, grab two composite soil samples in pint jars from drill cuttings over the 20 ft interval for field screening grain-size (sieve) analysis
YJ-29, YJ-30, and YJ-32~~, YJ-33, and YJ-34~~	**Ground surface to water table at each of the new wells during drilling:** • Split-spoon samples for analytical purposes will be collected at about 80 ft bgs, 140 ft bgs, and 200 ft bgs. Samples to be analyzed for Table 1-2 biofouling constituents at quick turnaround times[c].	**During drilling, water samples to be collected (in accordance with Section 3.5.6) as follows:** five samples at 240 ft bgs, 260 ft bgs, 290 ft bgs, 340 ft bgs and 410 ft bgs and one sample collected 10 ft below the Ringold lower mud unit (if present), unless visual observation in aquifer material change by the field geologist calls for additional sampling for further clarification:	**During drilling, soil samples to be collected:** • Split-spoon samples for analytical purposes will be collected at about 240 ft bgs, 340 ft bgs, and 410 ft bgs. Samples to be analyzed for Table 1-2 biofouling constituents at quick turnaround times[c]. • Every 5 ft, grab archive samples will be collected and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings. • Every 20 ft, in correlation with aquifer water samples, grab two composite soil samples in pint jars from drill

Table 3-1. Well Sample/Measurement Locations and Depth

Sampling Location	Vadose Zone Sampling Depth, Frequency, and Analysis (ft bgs)	Aquifer Sampling Depth, Frequency, and Analysis (ft bgs)	
		Water Samples	Soil Samples (Sediment) Below Water Table[a]
	• Archive grab samples for geological purposes will be collected every 5 ft and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings.	• Carbon tetrachloride for quick-turnaround samples[b] • Table 1-2 constituents at standard turnaround time • Field screening parameters (temperature, pH, dissolved oxygen, specific conductance, and NTU) Following construction and development of each well, one water sample will be collected and analyzed for Table 1-2 post development constituents at standard turnaround times to provide baseline concentrations for each constituent.	cuttings over the 20 ft interval for field screening grain-size (sieve) analysis.
YJ-31			**During drilling, soil samples to be collected:** • Every 5 ft, grab archive samples will be collected and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings. • Every 20 ft, in correlation with aquifer water samples, grab two composite soil samples in pint jars from drill cuttings over the 20 ft interval for field screening grain-size (sieve) analysis.
YJ-33 and YJ-34	**Ground surface to water table at each of the new wells during drilling:** • Archive grab samples for geological purposes will be collected every 5 ft and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings.	**During drilling, water samples to be collected (in accordance with Section 3.5.6) as follows:** Three water samples at 240 ft bgs, 340 ft bgs and 410 ft bgs for biofouling analysis for constituents in Table 1-2 at quick turnaround times[c] (1 L containers). Five samples at 240 ft bgs, 260 ft bgs, 290 ft bgs, 340 ft bgs and 410 ft bgs and one sample collected 10 ft below the Ringold lower mud unit (if present), unless visual observation in aquifer material change by	**During drilling, soil samples to be collected:** • Split-spoon samples for analytical purposes will be collected at about 240 ft bgs, 340 ft bgs, and 410 ft bgs. Samples to be analyzed for Table 1-2 biofouling constituents at quick turnaround times[c]. • Every 5 ft, grab archive samples will be collected and where lithology changes occur in one-pint jar and a chip tray from the drill cuttings. Every 20 ft, in correlation with aquifer water samples, grab two composite soil samples in pint jars from drill cuttings over the 20 ft interval for field screening grain-size (sieve) analysis.

Table 3-1. Well Sample/Measurement Locations and Depth

Sampling Location	Vadose Zone Sampling Depth, Frequency, and Analysis (ft bgs)	Aquifer Sampling Depth, Frequency, and Analysis (ft bgs)	
		Water Samples	Soil Samples (Sediment) Below Water Table[a]
		the field geologist calls for additional sampling for further clarification: • Carbon tetrachloride for quick-turnaround samples[b] • Table 1-2 constituents at standard turnaround time • Field screening parameters (temperature, pH, dissolved oxygen, specific conductance, and NTU) Following construction and development of each well, one water sample will be collected and analyzed for Table 1-2 post development constituents at standard turnaround times to provide baseline concentrations for each constituent.	

a. If field screening instruments indicate radiological contamination above background at a given interval, grab two additional pint jar samples. Send one pint jar for 24-hour turnaround gamma-energy analysis and one additional jar for testing based on the gamma-energy analysis results (as determined by the groundwater remediation manager).

b. If samples have elevated organic concentrations, an "E" flag may be applied to the data due to a lack of time for dilutions and re-runs on a quick-turnaround time. The standard turnaround time sample will account for dilutions and re-runs, as applicable.

c. Samples not used will be archived until a decision about needs for any additional sampling associated with injection well performance are determined then disposed in accordance with Section 3.6.

bgs = below ground surface
YE = extraction wells
YJ = injection wells
NTU = nephelometric turbidity unit