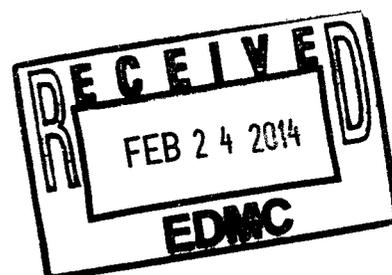


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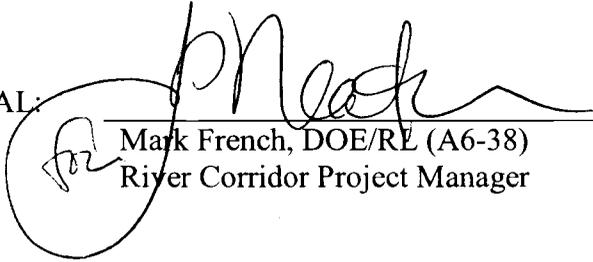
100/300 AREA UNIT MANAGER MEETING ATTENDANCE AND DISTRIBUTION

| NAME | E-MAIL ADDRESS | MSIN | COMP |
|----------------------|----------------------------|-------|-------|
| Childers, Heather | Original +1 copy | H6-08 | ADREC |
| Charboneau, Briant L | Briant_L_Charboneau@rl.gov | A6-33 | DOE |
| French, Mark | Mark_S_French@rl.gov | A6-38 | DOE |
| Menard, Nina | NMEN461@ECY.WA.GOV | H0-57 | ECO |
| Gadbois, Larry E | Gadbois.larry@epa.gov | B1-46 | EPA |
| Hadley, Karl A | karl.hadley@wch-rcc.com | H4-21 | WCH |



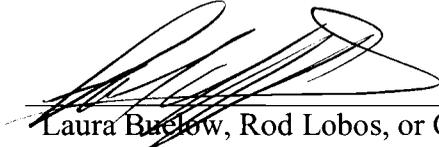
100/300 AREA UNIT MANAGERS MEETING
APPROVAL OF MEETING MINUTES

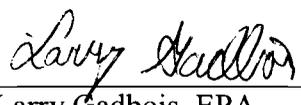
January 9, 2014

APPROVAL:  Date 2/13/14
for Mark French, DOE/RL (A6-38)
River Corridor Project Manager

APPROVAL:  Date 2/13/14
Brian Charboneau, DOE/RL (A6-63)
Groundwater Project Manager

APPROVAL:  Date 2/13/14
for Nina Menard, Ecology (H0-57)
Environmental Restoration Project
Manager

APPROVAL:  Date 2/13/14
Laura Buelow, Rod Lobos, or Christopher
Guzzetti, EPA (B1-46)
100 Area Project Manager

APPROVAL:  Date 2-13-2014
Larry Gadbois, EPA
(B1-46)
300 Area Project Manager

100 & 300 AREA UNIT MANAGER MEETING MINUTES

Groundwater and Source Operable Units; Facility Deactivation, Decontamination, Decommission, and Demolition (D4); Interim Safe Storage (ISS); Field Remediation (FR); Mission Completion; and 100-K Sludge Treatment Project and 100-K Facility Demolition and Soil Remediation Projects

January 9, 2014

ADMINISTRATIVE

- **Next Unit Manager Meeting (UMM)** – The next meeting will be held February 13, 2014, at the Washington Closure Hanford (WCH) Office Building, 2620 Fermi Avenue, Room C209. A presentation on the annual groundwater report using Phoenix software will occur at 1:30 p.m. (open to all) followed by the regular UMM at 2:00 p.m.
- **Attendees/Delegations** – Attachment A is the list of attendees. Representatives from each agency were present to conduct the business of the UMM.
- **Approval of Minutes** – The November 14, 2013, meeting minutes were approved by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL). (There was no meeting in December.)
- **Action Item Status** – The status of action items was reviewed and updates were provided (see Attachment B).
- **Agenda** – Attachment C is the meeting agenda.

EXECUTIVE SESSION (Tri-Parties Only)

An Executive Session was not held by RL, EPA, and Ecology prior to the January 9, 2014, UMM.

100-K AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides status and information for Field Remediation activities. Attachment 3 provides a schedule for Field Remediation at the 100-K Area. Attachment 4 provides a status of the 100-K Sludge Treatment Project and the 100-K Facility Demolition and Soil Remediation projects. No issues were identified and no agreements or action items were documented.

100-B/C AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides status and information for Field Remediation activities. Attachment 5 provides a schedule for Field Remediation at 100-B/C Area. Attachment 6 provides status and information for D4/ISS activities at 100-N, 100-D and 100-B. No issues were identified and no agreements or action items were documented.

100-N AREA (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides status and information for Field Remediation activities. Attachment 6 provides status and information for D4/ISS activities at 100-N, 100-D and 100-B. Attachment 7 provides the 100-N Area FR Schedule. Attachment 8

provides a chart showing biovent well sample results for 199-N-171 and 199-N-169. No issues were identified and no action items were documented.

Agreement 1: Attachment 9 provides EPA's approval to ship seven 55-gallon drums of bunker oil (approximately 285 gallons) and one 3.5 gallon poly container that holds "Eppley Standard Cell" offsite to Burlington Environmental, LLC, in Kent, WA for treatment and disposal.

Agreement 2: Attachment 10 provides DOE's and Ecology's concurrences to leave segments of 100-N-84:5 and 100-N-84:6 pipelines in place without further remediation.

Agreement 3: Attachment 11 provides DOE's and Ecology's concurrences to utilize smaller CERCLA warning signs at the entrances of the 100-N-94 and 100-N-99 sites

Agreement 4: Attachment 12 provides Ecology's approval for a one year extension of the CERCLA container storage area at 100-N.

Agreement 5: Attachment 13 provides Ecology's approval to partially backfill a couple of small portions of 100-N-79 prior to approval of the RSVP to prevent a potential fish stranding during high river flows and to allow D4 to gain access to the downstream 181-N cable barrier anchor block.

Agreement 6: Attachment 14 provides DOE's and Ecology's concurrences to install an alternate land bridge for access to the east side of the 105-N reactor and to enable removal of the current land bridge at 100-N-84:2.

Agreement 7: Attachment 15 provides DOE's and Ecology's concurrences to place approximately 32 pieces of clean inert debris along with 100-N anchor blocks into the 182-N subgrade foundation prior to backfill of the area.

Agreement 8: Attachment 16 provides EPA's approval to ship two 55-gallon drums of cadmium contaminated soil from 600-383:4 offsite to Burlington Environmental, LLC, in Kent, WA for treatment and disposal.

100-D & 100-H AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides status and information for Field Remediation activities. Attachment 17 provides the Field Remediation Schedule for 100-D and 100-H. Attachment 6 provides status and information for D4/ISS activities at 100-N, 100-D and 100-B. No issues were identified and no action items were documented.

Agreement 1: Attachment 18 provides Ecology's concurrence to decrease the 100-DX groundwater pump and treat flow rates by up to 200 gpm through approximately March 2014 to determine the impacts of nearby injection wells on current groundwater levels in proximity to the 100-D-100 excavation.

Agreement 2: Attachment 19 provides the Facility Status Change Form for the 183D Water Treatment Plant.

Agreement 3: Attachment 20 provides DOE's and Ecology's approvals to treat the 100-D-30 chromium contaminated soil in accordance with the "Treatment Plan and Protocol for Treatment of Chromium Contaminated Soils, WCH-284, Rev. 2."

100-F & 100-IU-2/100-IU-6 AREAS (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides status and information for Field Remediation activities. Attachment 21 provides the Field Remediation Schedule for IU-2/6. No issues were identified and no action items were documented.

Agreement 1: Attachment 22 provides DOE's and Ecology's concurrences to perform additional remediation and resampling at the 600-340 waste site (adjacent to the 100 Area Fire Station).

300 AREA – 618-10/11 (GROUNDWATER, SOILS)

Attachment 1 provides status and information for groundwater. Attachment 2 provides status and information for Field Remediation activities. No issues were identified and no agreements or action items were documented.

300 AREA - GENERAL (GROUNDWATER, SOILS, D4/ISS)

Attachment 1 provides status and information for groundwater. Attachment 23 provides status of the 300 Area Closure Project activities. No issues were identified and no agreements or action items were documented.

MISSION COMPLETION PROJECT

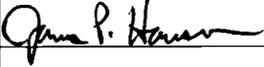
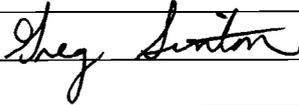
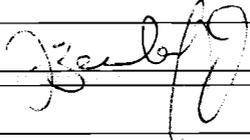
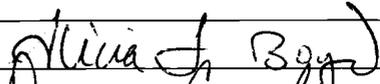
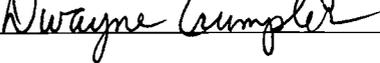
Attachment 24 provides status and information regarding the Long-Term Stewardship, the 100-K Shoreline Characterization, and a Document Review Look-Ahead. No issues were identified and no agreements or action items were documented.

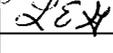
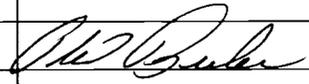
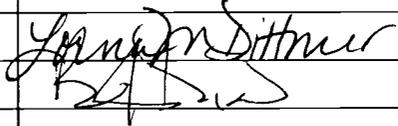
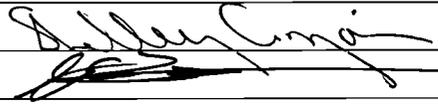
Attachment A

100/300 AREA UNIT MANAGER MEETING

ATTENDANCE AND DISTRIBUTION

January 9, 2014

| NAME | E-MAIL ADDRESS | MSIN | COMP | SIGNATURE |
|-----------------------|---------------------------------|-------|-------|---|
| Childers, Heather | Original +1 copy | H6-08 | ADREC | |
| Balone, Steven N | steven.balone@rl.doe.gov | A3-04 | DOE | |
| Chance, Joanne C | joanne.chance@rl.doe.gov | A3-04 | DOE | |
| Charboneau, Briant L | briant.charboneau@rl.doe.gov | A6-33 | DOE | |
| Clark, Clifford E | cliff.clark@rl.doe.gov | A5-15 | DOE | |
| Cline, Michael | michael.cline@rl.doe.gov | A6-33 | DOE | |
| Dagan, Ellen | ellen.dagan@rl.doe.gov | A3-04 | DOE | |
| French, Mark | mark.french@rl.doe.gov | A3-04 | DOE | |
| Glossbrenner, Ellwood | ellwood.glossbrenner@rl.doe.gov | A3-04 | DOE |  |
| Guercia, Rudolph F | rudolph.guercia@rl.doe.gov | A3-04 | DOE | |
| Hansen, James A | james.hansen@rl.doe.gov | A5-11 | DOE | |
| Hanson, James P | James_P_Hanson@rl.gov | A5-11 | DOE |  |
| Louie, Catherine S | catherine.louie@rl.doe.gov | A3-04 | DOE | |
| Morse, John G | John_G_Morse@rl.gov | A5-11 | DOE | |
| Neath, John P | john.neath@rl.doe.gov | A3-04 | DOE |  |
| Teynor, Thomas K | thomas.teynor@rl.doe.gov | A3-04 | DOE | |
| Post, Thomas | thomas.post@rl.doe.gov | A3-04 | DOE | |
| Quintero, Roger | roger.quintero@rl.doe.gov | A6-38 | DOE | |
| Sands, John P | john.sands@rl.doe.gov | A3-04 | DOE | |
| Sinton, Gregory L | gregory.sinton@rl.doe.gov | A6-38 | DOE |  |
| Smith, Chris | douglas.smith@rl.doe.gov | A3-04 | DOE | |
| Thompson, Mike | kenneth.thompson@rl.doe.gov | A6-38 | DOE | |
| Zeisloft, Jamie | jamie.zeisloft@rl.doe.gov | A3-04 | DOE |  |
| Ayres, Jeffrey M | JAYR461@ECY.WA.GOV | H0-57 | ECO | |
| Bond, Fredrick | FBON461@ECY.WA.GOV | H0-57 | ECO | |
| Boyd, Alicia | ABOY461@ECY.WA.GOV | H0-57 | ECO |  |
| Crumpler, Dwayne | DCRU461@ECY.WA.GOV | H0-57 | ECO |  |
| Elliot, Wanda | WELL461@ECY.WA.GOV | H0-57 | ECO | |
| Goswami, Dib | DGOS461@ECY.WA.GOV | H0-57 | ECO | |
| Huckaby, Alisa D | AHUC461@ECY.WA.GOV | H0-57 | ECO | |
| Jackson-Maine, Zelma | ZJAC461@ECY.WA.GOV | H0-57 | ECO | |
| Jones, Mandy | MJON461@ECY.WA.GOV | H0-57 | ECO | |
| Kapell, Arthur | AKAP461@ECY.WA.GOV | H0-57 | ECO | |

| | | | | |
|-------------------------|------------------------------|-------|--------|---|
| Menard, Nina | NMEN461@ECY.WA.GOV | H0-57 | ECO | |
| Rochette, Elizabeth | BROC461@ECY.WA.GOV | H0-57 | ECO | |
| Smith-Jackson, Noe'l | NSMI461@ECY.WA.GOV | H0-57 | ECO | |
| Whalen, Cheryl | CWHA461@ECY.WA.GOV | H0-57 | ECO | |
| Buelow, Laura | Buelow.laura.epa.gov | B1-46 | EPA |  |
| Gadbois, Larry E | Gadbois.larry@epa.gov | B1-46 | EPA |  |
| Gerhart, Rebecca | | B1-46 | EPA | |
| Guzzetti, Christopher | Guzzetti.christopher@epa.gov | B1-46 | EPA |  |
| Lobos, Rod | Lobs.rod@epa.gov | B1-46 | EPA | |
| Barrett, Bill F | William_F_Barrett@rl.gov | E6-44 | CH | |
| Borghese, Jane V | Jane_V_Borghese@rl.gov | E6-35 | CH | |
| Bowles, Nathan A. | Nathan_Bowles@rl.gov | R3-60 | CH | |
| Burke, Philip A | Philip_A_Burke@rl.gov | A0-20 | CH |  |
| Day, Roberta E | Roberta_E_Day@rl.gov | E6-35 | CH | |
| Dittmer, Lorna M | Lorna_M_Dittmer@rl.gov | H8-45 | CH |  |
| Dixon, Brian J | Brian_J_Dixon@rl.gov | T4-03 | CH | |
| Doornbos, Martin | Martin_H_Doorbos@rl.gov | R3-50 | CH | |
| Eluskie, James | James_A_Eluskie@rl.cov | R3-50 | CH | |
| Faught, William | William_R_Faught@rl.gov | R3-50 | CH | |
| Ford, Bruce H | Bruce_H_Ford@rl.gov | H8-43 | CH | |
| Hartman, Mary J | Mary_J_Hartman@rl.gov | B6-06 | CH | |
| Toews, Michelle R | Michelle_R_Toews@rl.gov | R3-60 | CH | |
| Triner, Glen C | Glen_C_Triner@rl.gov | E6-44 | CH | |
| Fruchter, Jonathan S | john.fruchter@pnl.gov | K6-96 | PNNL | |
| Peterson, Robert E | robert.peterson@pnl.gov | K6-75 | PNNL | |
| Cimon, Shelley | scimon@oregontrail.net | -- | Oregon |  |
| Boothe, Gabriel | Gabriel.Boothe@doh.wa.gov | -- | WDOH | |
| Danielson, Al | Al.danielson@doh.wa.gov | -- | WDOH | |
| Utley, Randy | Randell.Utley@doh.wa.gov | -- | WDOH | |
| Lilligren, Sandra | sandral@nezperce.org | -- | TRIBES | |
| Vanni, Jean | jvynerm@hotmaill.com | -- | TRIBES | |
| Biebrich, Ernie | mailto:ejbiebri@wch-rcc.com | X3-40 | WCH | |
| Buckmaster, Mark A | mark.buckmaster@wch-rcc.com | X9-08 | WCH | |
| Carlson, Richard A | richard.carlson@wch-rcc.com | X4-08 | WCH | |
| Capron, Jason | jmcapron@wch-rcc.com | H4-23 | WCH | |
| Cearlock, Christopher S | cscearlo@wch-rcc.com | H4-22 | WCH | |
| Clark, Steven W | steven.clark@wch-rcc.com | H4-23 | WCH | |

Attachment B

100/300 Area UMM
Action List
January 9, 2014

| Open (O)/ Closed (X) | Action No. | Co. | Actionee | Project | Action Description | Status |
|-------------------------|---------------|-----|-------------|---------|--|--------------------------|
| O | 100-198 | RL | M. Thompson | 100-N | DOE will sample the C7935 and C7936 aquifer tubes at 100-N Area in August 2013. If the sample results are high or inclining, or if the sample results are not available, the samples will be repeated in September 2013. | Open: 5/9/13; Action: |
| | | | | | | |

Attachment C

100/300 Area Unit Manager Meeting
January 9, 2014
Washington Closure Hanford Building
2620 Fermi Avenue, Richland, WA 99354
Room C209; 2:00p.m.

Administrative:

- Approval and signing of previous meeting minutes (November 14, 2013)
- Update to Action Items List
- Next UMM (2/13/2014, Room C209)

Open Session: Project Area Updates - Groundwater, Field Remediation, D4/ISS:

- 100-K Area (Jim Hanson, Ellwood Glossbrenner, Roger Quintero)
- 100-B/C Area (Greg Sinton, Tom Post)
- 100-N Area (Joanne Chance, Rudy Guercia, Mike Thompson)
- 100-D & 100-H Areas (Jim Hanson, Tom Post, Elwood Glossbrenner)
- 100-F & 100-IU-2/6 Areas (Greg Sinton, Tom Post, Ellwood Glossbrenner)
- 300 Area - 618-10/11 exclusively (Jamie Zeisloft)
- 300 Area (Mike Thompson/Rudy Guercia)
- Mission Completion Project (Jamie Zeisloft)

Special Topics/Other

Adjourn

Attachment 1

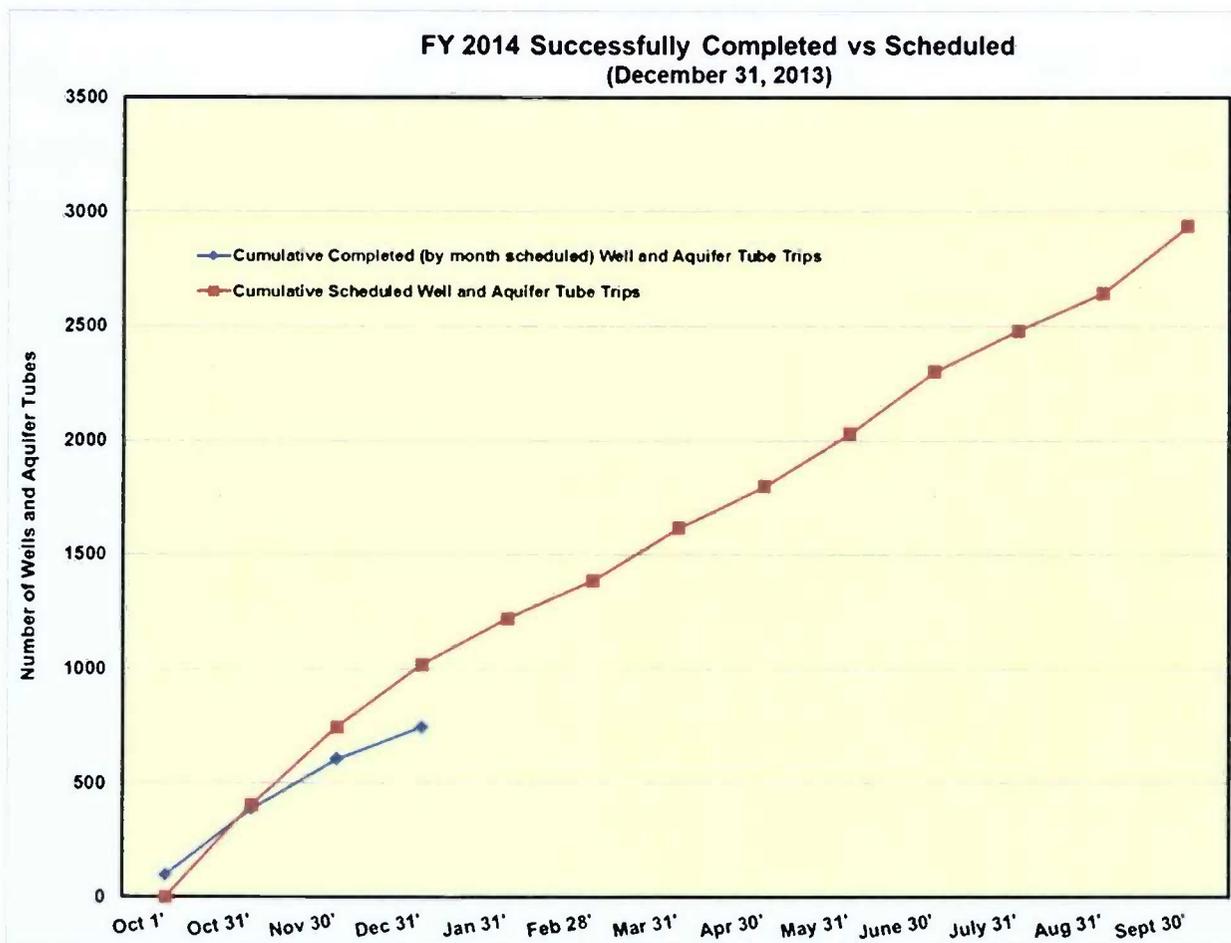
**100/300 Areas Unit Managers Meeting
January 9, 2014**

General information on Groundwater Sampling

Hanford's overall Site groundwater monitoring program (river corridor and central plateau) for FY2014 has 2936 samples scheduled for collection. For December 2013 (month three) the program successfully completed 122 groundwater sampling trips of the 275 scheduled for December and 87 trips scheduled for October and November. This brings the total number of sample trips scheduled for October through December to be collected successfully to 743 of 1018. In addition, 4 sample trips scheduled for January were completed in December (ahead of plan) and 2 trips from various times and locations in FY2013 were completed making the December total successful trips of 215.

The specific wells, aquifer tubes and spring sampled in the river corridor areas during December 2013 are listed in Table 1. Table 2 presents the samples for the river corridor only that were not successfully completed in December. Sample trips scheduled for collection in January 2014 are listed in Table 3. These tables are located at the end of this report.

The sampling results are available in HEIS and can be accessed from the Environmental Dashboard Application which can be accessed from the HLAN at <http://\environet.rl.gov\eda> or from the internet at <http://\environet.hanford.gov\eda>.



**100/300 Areas Unit Managers Meeting
January 9, 2014**

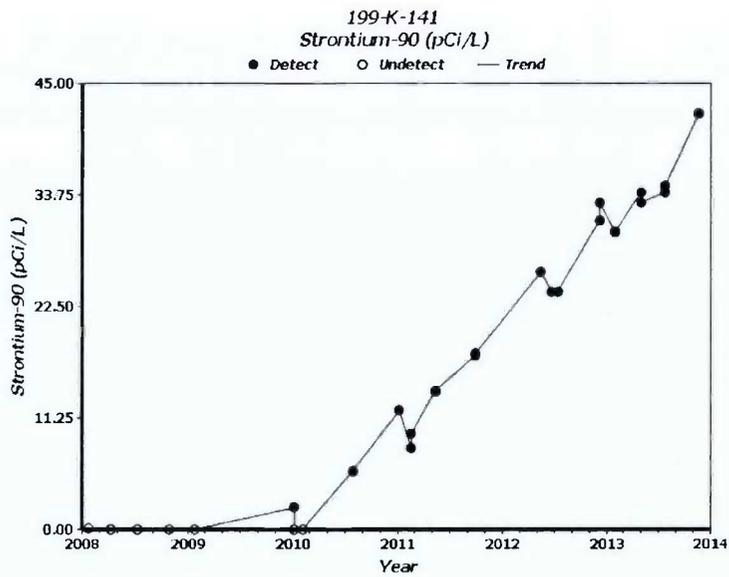
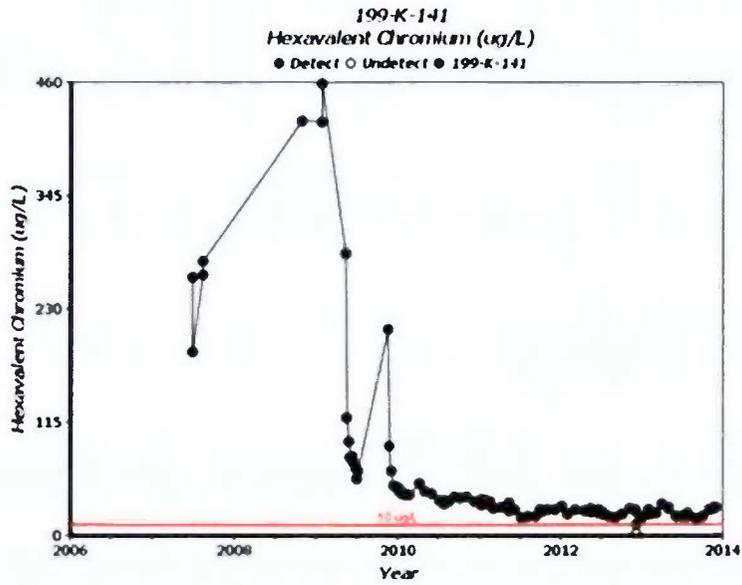
General Information on Annual Reports – Bill Faught/Naomi Bland

The 2013 Annual Groundwater Monitoring Report will begin upgrades to the new web-based application starting in November so it can be used in January for the report.

100-KR-4 Groundwater Operable Unit – Bert Day/Chuck Miller/Randy Hermann

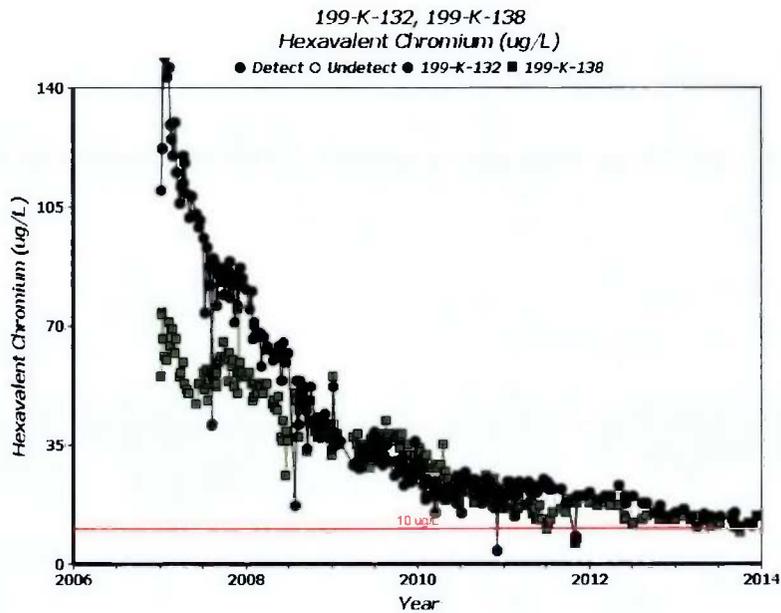
- CERCLA Process Implementation
 - RI/FS and Proposed Plan: The documents are on hold pending 100-K East Reactor waste site characterization wells (116-KE-3 and UPR-100-K-1) and modeling. EPA has stipulated that these results are required to be incorporated into the RI/FS prior to Rev. 0 signatures.
 - RD/RAWP, Monitoring Plan, and Operations and Maintenance Plan: Conducting Decisional Draft review.
- Remedial Actions & System Modifications
 - Operations continue at KX, KR-4, and KW pump-and-treat systems. November and December 2013 performance:
 - The systems treated 89.81 million gallons.
 - The system removed 8.10 kg of hexavalent chromium.
 - Initiated operational testing activities on 199-K-198 and 199-K-199 (KR4) and 199-K-181 (KX) in December 2013. Activities are currently on hold due to freezing temperatures.
- Monitoring and Reporting
 - Well Installation
 - 199-K-202: Completed construction and final development on November 5, 2013.
 - 199-K-205: Initiated construction on October 29, 2013.
 - 199-K-206: Completed drilling on October 9, 2013, awaiting well construction.
 - Aquifer tube sampling at 100-K was completed during late September and October during the low river stage period. All scheduled aquifer tubes were sampled.
 - KX system extraction well 199-K-141 continues to exhibit a low hexavalent chromium concentration while Strontium-90 concentration continues to increase in groundwater removed from that well. We are continuing to assess the potential effects of the strontium-90 at this location

100/300 Areas Unit Managers Meeting
January 9, 2014

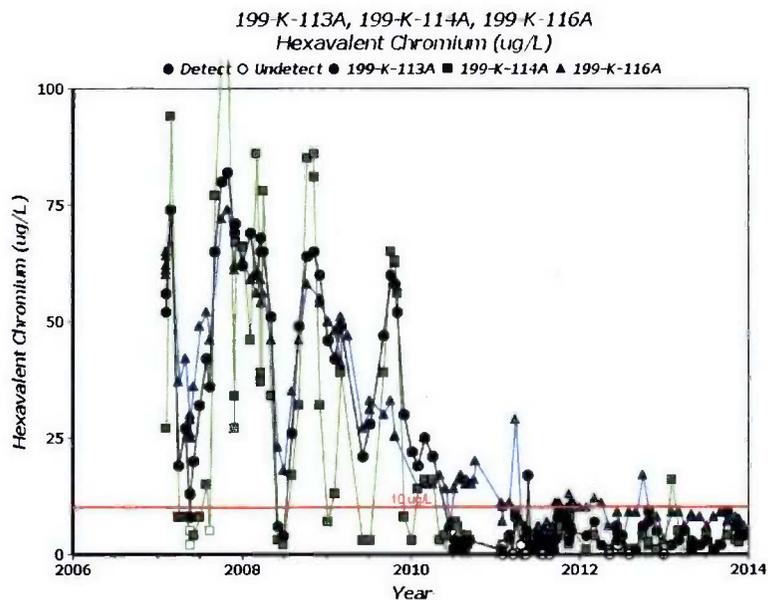


- Near-river extraction wells 199-K-132 and 199-K-138 (part of the KW pump-and-treat system) continue to exhibit declining hexavalent chromium concentrations approaching the river protection goal of 10 ug/L.

100/300 Areas Unit Managers Meeting
January 9, 2014



- Extraction wells associated with the KR4 pump-and-treat system, 199-K-113A, K-114A, and K-116A, had historically exhibited hexavalent chromium concentrations between 75 and 100 ug/L. During 2013, these wells all exhibited hexavalent chromium concentrations below the 10 ug/L river protection criterion.



**100/300 Areas Unit Managers Meeting
January 9, 2014**

100-BC-5 Groundwater Operable Unit – Phil Burke/Mary Hartman

(M-015-79 due 12/15/2016, Submit CERCLA RI/FS Report and Proposed Plan for the 100-BC-1, 100-BC-2 and 100-BC-5 Operable Units for groundwater and soil.)

- CERCLA Process Implementation:
 - Drilling of new wells continued in November and December. As of January 2, 2014, three wells were complete, and a fourth was under construction. Two additional boreholes are being drilled.
- Monitoring & Reporting
 - Hyporheic sampling points (HSPs): After the first month of high-frequency sampling (November), EPA and DOE agreed that the frequency of future sampling could be reduced. The second round of high-frequency sampling was completed successfully in December, as was the first round of grab samples from 17 HSPs (one HSP out of the 18 HSPs in the network needs repair and was not sampled this month). Figure BC-1 shows Cr(VI) results for grab samples collected in December 2013. Co-contaminant data have not yet been loaded into HEIS.
 - The next round of HSP sampling is planned to begin the week of January 13.
 - Monitoring wells were sampled in October through December 2013 and most of the data have been loaded into HEIS. Results are consistent with movement of the southern 100-BC Cr(VI) plume toward the northeast. Figure BC-2 shows two wells in central 100-BC that have concentrations above the 48 ug/L MTCA level.
 - Cr(VI) concentrations in well 199-B4-14, north of 100-C-7:1, rose to approximately 40 µg/L in December (Figure BC-3). Concentrations vary inversely with water level, but does not appear to be a dilution effect (the well is far inland, and conductivity does not vary). The variable Cr(VI) concentrations are believed to be related to changes in groundwater flow directions.
 - Strontium-90 trends and distribution in the aquifer at concentrations above the DWS are consistent with previous results.
 - Tritium trends and distribution in the aquifer are consistent with previous results. Concentrations were all below the DWS.

**100/300 Areas Unit Managers Meeting
January 9, 2014**

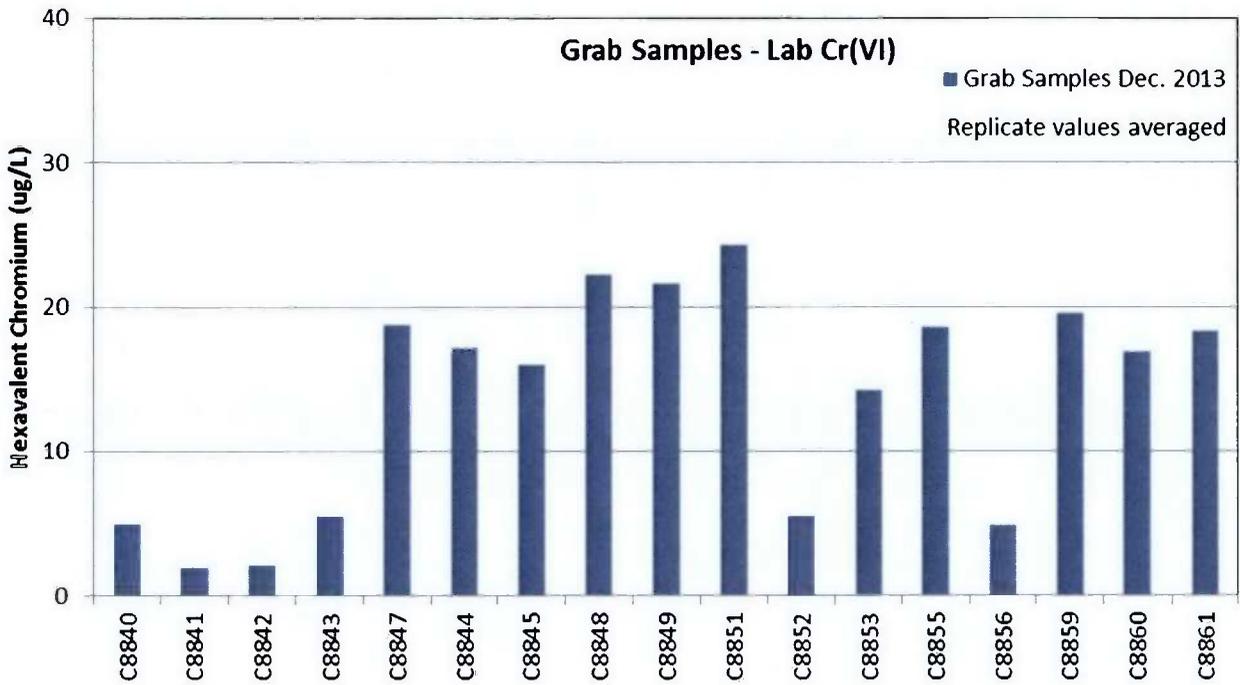


Figure BC-1. Cr(VI) Concentrations in 100-BC Hyporheic Sampling Points

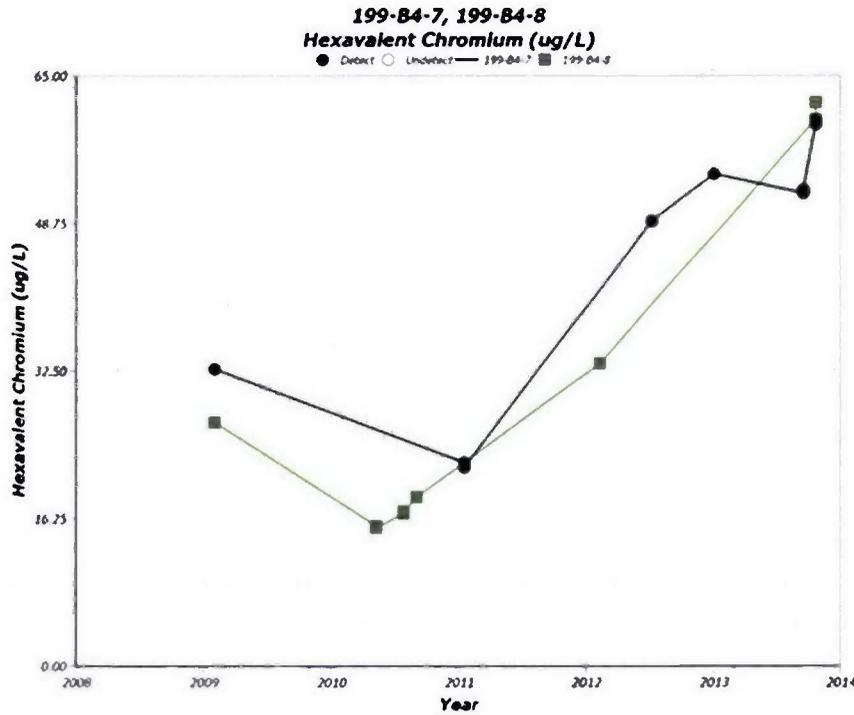


Figure BC-2. Hexavalent Chromium in Central 100-BC

100/300 Areas Unit Managers Meeting
January 9, 2014

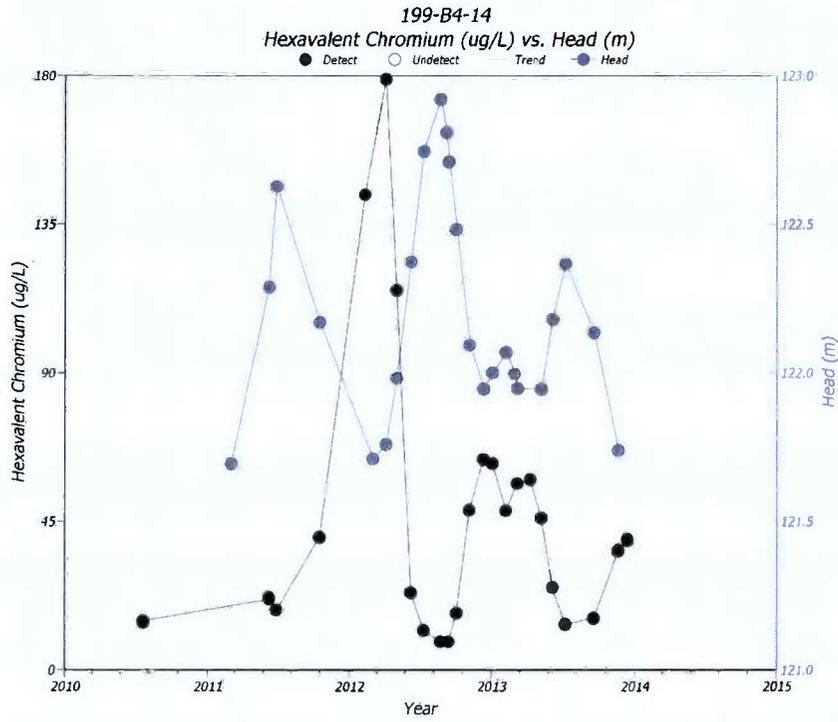


Figure BC-3. Hexavalent Chromium and Water Levels in 199-B4-14

**100/300 Areas Unit Managers Meeting
January 9, 2014**

100-NR-2 Groundwater Operable Unit – Bill Faught/Virginia Rohay

- CERCLA Process Implementation:
 - The Draft A RI/FS report (DOE/RL-2012-15) and Proposed Plan (DOE/RL-2012-68) were transmitted to Ecology on June 24, 2013, completing TPA milestone M-015-75. Ecology comments on the RI/FS report were received on October 2, 2013. Preliminary responses have been prepared and in RL review.
 - Preliminary responses have been prepared to Ecology's comments on Rev. 1 Draft A of the Remedial Design/Remedial Action Work Plan (DOE/RL-2001-27). The RD/RAWP was revised to support the interim ROD amendment.
 - The report is being prepared on the apatite barrier extension completed in 2011 in accordance with the design optimization study.
- Monitoring & Reporting:
 - Aquifer tubes C7934, C7935, and C7936 are located adjacent to one another, with screens at depths of 14.41 ft (C7934), 18.75 ft (C7935), and 29.19 ft (C7936). The locations of aquifer tubes C7934, C7935, and C7936 are shown on Figure 100NR2-1. Samples were collected from these aquifer tubes on October 7, 2013, as part of routine annual sampling of aquifer tubes. Both the November and the December sampling events were missed because of the 100-BC-5 sampling and resource limitations. The next samples are scheduled for January 2014.
 - Concentrations of tritium increased in all three aquifer tubes to 120,000 pCi/L, 110,000 pCi/L, and 57,000 pCi/L, respectively (Figure 100NR2-2). The increase in the tritium concentrations is likely due to existing contamination that was mobilized by the application of water for dust suppression during nearby field remedial activities in 2012 and 2013. Field activities in this area requiring dust suppression water are anticipated to continue through February 2014.
 - The strontium-90 concentrations measured in all three aquifer tubes from the October 2013 sample were consistent with concentrations measured prior to December 2012 (Figure 100NR2-3). Strontium-90 concentrations are higher in the shallow (C7934) and mid-depth (C7935) aquifer tubes and show slight downward trends (Figure 100NR2-4). The strontium-90 concentrations in the deep (C7936) aquifer tube show a slight upward trend. These concentrations are consistent with the conceptual site model that the strontium-90 concentrations will exceed the drinking water standard for an extended period of time.
 - Based on information indicating that field remedial actions will continue for several additional months, and that tritium concentrations continue to increase, it is recommended that aquifer tubes C7934, C7935, and C7936 be sampled monthly for the next three months. The samples will be analyzed for tritium and strontium-90. The need for additional monthly sampling will be evaluated based on the concentration trends through March 2014.
 - As of January 6, 52 of the 53 wells scheduled for CERCLA and RCRA sampling in September had been sampled. The road to one well needs maintenance for access. As of January 6, all three wells scheduled for

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December sampling had been sampled. The next sampling event is scheduled for March 2014. As of December 5, all 24 aquifer tubes scheduled for sampling in September had been sampled. As of January 6, 5 of the 27 aquifer tubes scheduled for sampling in December had been sampled. As of December 5, all 22 apatite barrier monitoring wells and aquifer tubes scheduled for sampling in September had been sampled.



Figure 100NR2-1. Locations of Aquifer Tubes C7934, C7935, and C7936.

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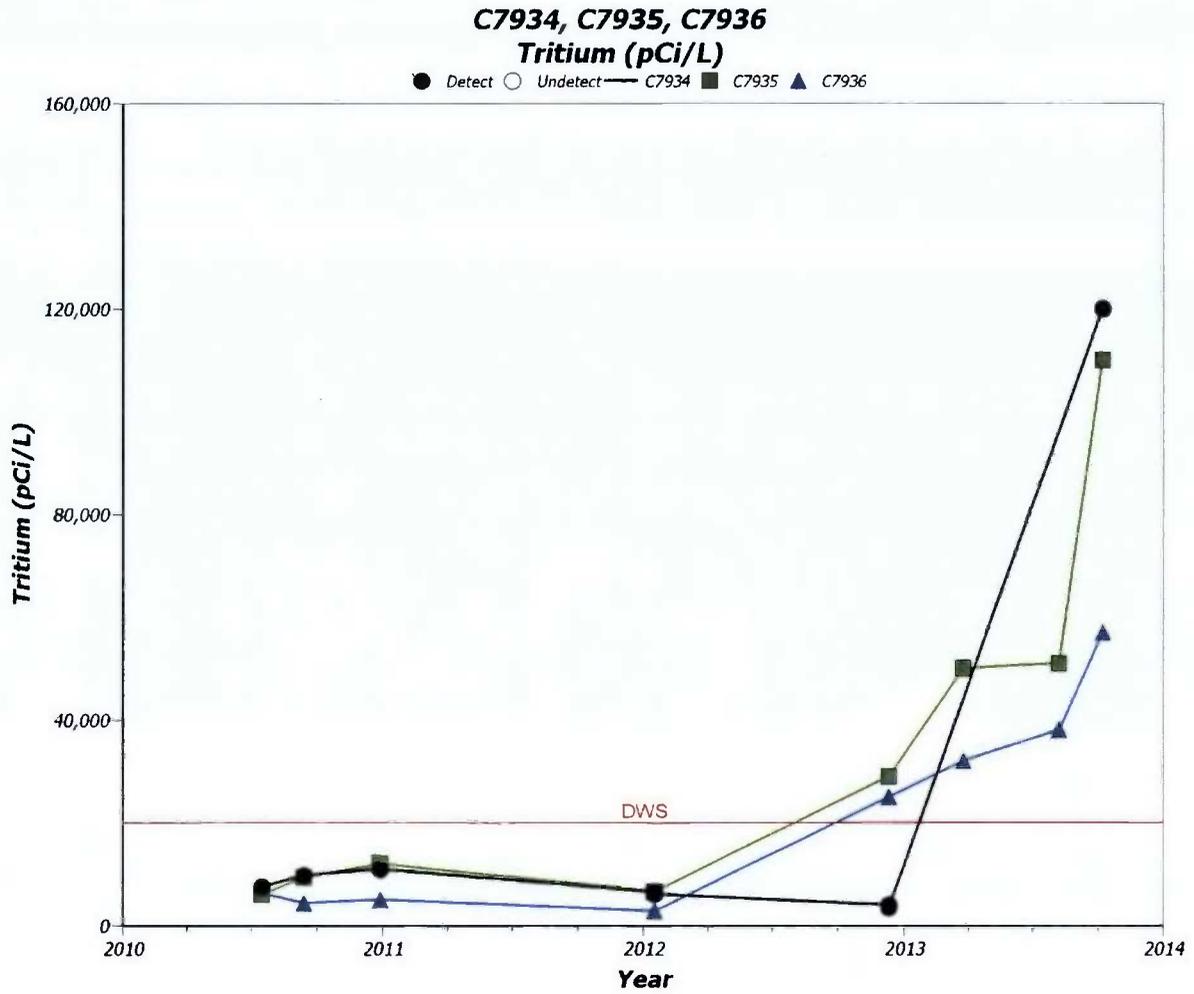


Figure 100NR2-2. Tritium Trends (through October 7, 2013) at Aquifer Tubes C7934, C7935, and C7936 in the 100-NR-2 OU

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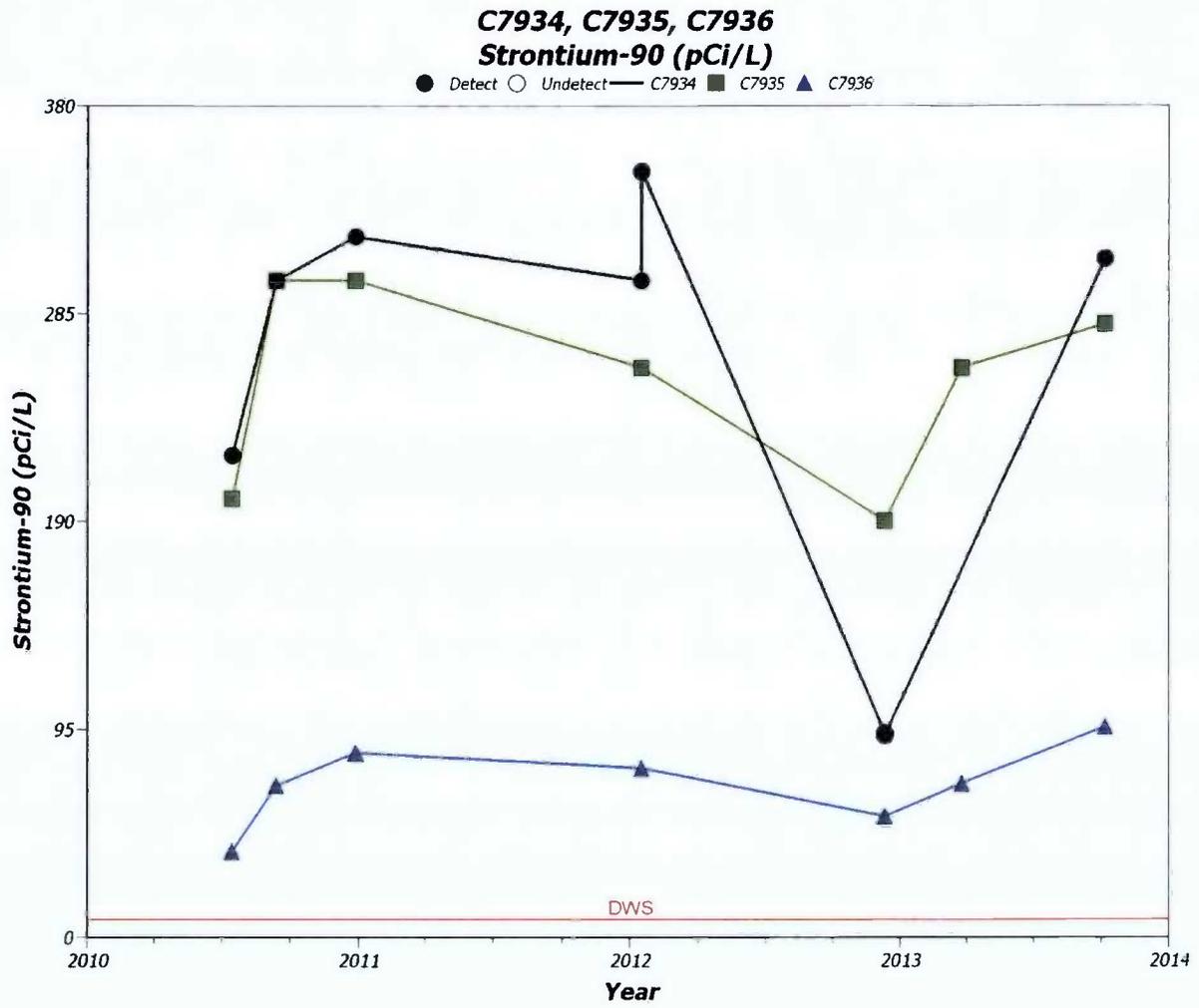


Figure 100NR2-3: Strontium-90 Trends (through October 7, 2013) in Aquifer Tubes C7934, C7935, and C7936

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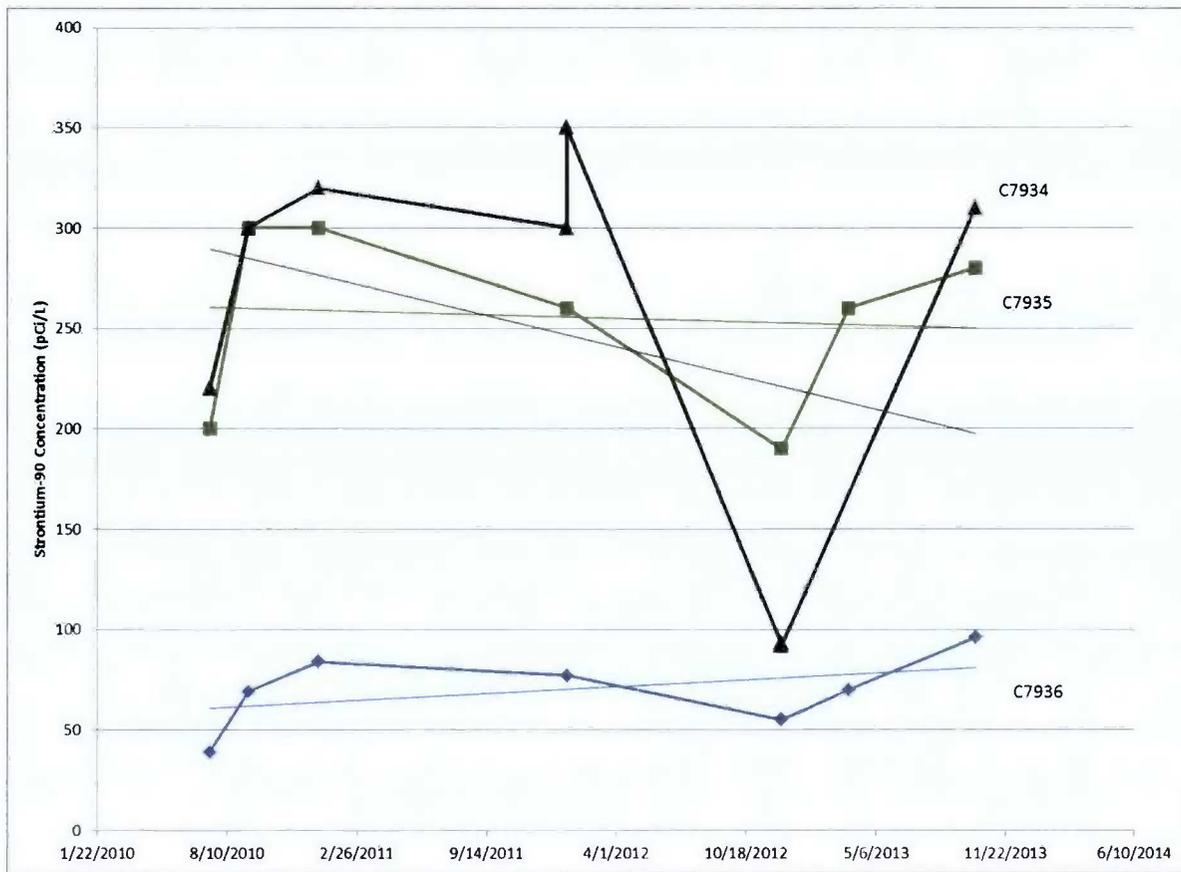


Figure 100-NR2-4. Strontium-90 Trend Plots and Linear Trend-Lines for Aquifer Tubes C7934, C7935, and C7936 as of October 7, 2013

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100-HR-3 Groundwater Operable Unit – Bert Day/Kris Ivarson

- CERCLA Process Implementation:
 - RI/FS & PP: RL has provided proposed responses to approximately 93% of more than 700 comments on the RI/FS document. RL and Ecology have reach agreement on resolution of approximately 87% of the comments.
 - RD/RAWP and Monitoring Plan: Conducting Decisional Draft review
 - Operations and Maintenance Plan: Preparing for Decisional Draft review
- Remedial Actions and System Modifications
 - Operations continue at DX and HX pump-and-treat system. November & December 2013 performance:
 - The systems treated 100.96 million gallons
 - The system removed 51.52 kg of hexavalent chromium.
 - Conducted 199-D5-146 and 199-D5-153 well realignment (DX extraction) field walk down on October 24, 2013; initiated design changes.
- Monitoring & Reporting
 - Hexavalent chromium concentrations in Well 199-D5-103, located cross-gradient of the 100-D-104 waste site, declined slightly. Piping to nearby injection wells was moved on December 19, 2013 to allow for excavation expansion to the southeast.
 - Remediation at waste site 100-D-100 has reached groundwater and yellow colored groundwater is present in the open excavation. Concentrations in extraction Well 199-D5-104, downgradient of waste site 100-D-100, remain nearly constant.
 - Aquifer tubes were scheduled for sampling in November 2013. Resource limitations did not permit sampling all ~130 tubes, so a subset of 22 tubes were prioritized for sampling in November and December, based on location, previous data, and the evaluation conducted for the Draft Monitoring Plan. To date, a total of 41 aquifer tubes have been sampled. Sampling of the remaining aquifer tubes will be attempted during January and February, dependent on river stage conditions.

100-FR-3 Groundwater Operable Unit – Phil Burke/Mary Hartman

- CERCLA Process Implementation:
 - On December 12, 2013, the Proposed Plan was sent to EPA legal for review. Comments are expected in January and the final Rev 0 Documents (RI/FS, Proposed Plan and Fact Sheet) will be completed in the January-April timeframe. The public comment period is anticipated to occur in May/June. Preparation of the ROD and Responsiveness Summary will occur from June to September and the ROD is anticipated to be issued in September 2014.
- Monitoring & Reporting
 - All but one monitoring well were sampled in October and November. Well 199-F8-3 needed repair, and will be sampled in January 2014.
 - Concentrations and distribution of Cr(VI), nitrate, strontium-90, and TCE in October 2013 were consistent with previous results.
 - Well 699-71-30 was sampled for TCE in October. The well is located ~1.5 km south of 100-F and is not routinely sampled for TCE. The constituent was added

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this year to follow up on trace detections in 2010 as part of the RI. The October 2013 sample had no detectable TCE.

- 26 of 31 aquifer tubes were sampled in September and October. One tube did not yield water, and four were delayed into 2014 because of resource limitations.

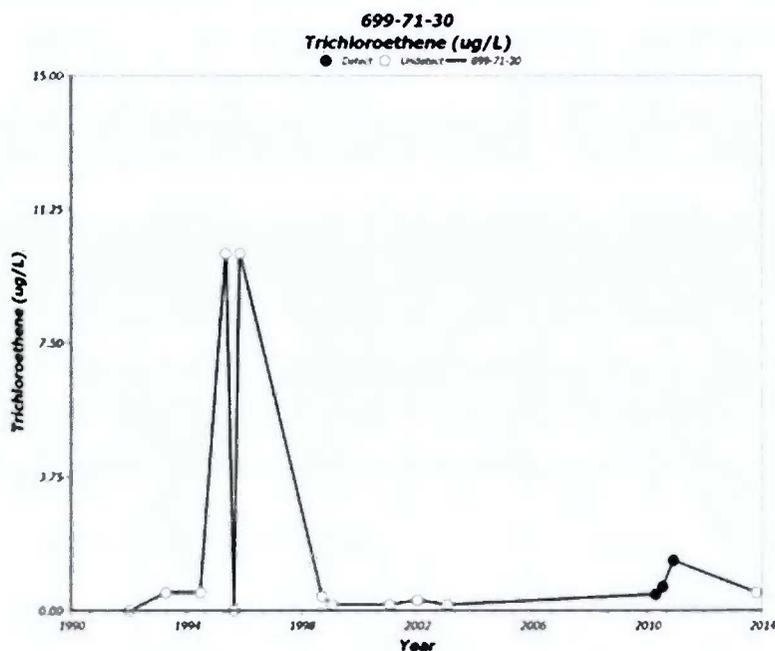


Figure Well 699-71-30 was sampled for TCE in October

300-FF-5 Groundwater Operable Unit – Phil Burke/Virginia Rohay

- CERCLA Process Implementation:
 - The Record of Decision was issued November 26, 2013.
 - Preparation of the Remedial Design/Remedial Action Work Plan is underway and a decisional draft for RL review is scheduled for Mid-February.
- Monitoring & Reporting
 - The 300-FF-5 Groundwater OU includes the groundwater impacted by releases from waste sites associated with three geographic subregions: 300 Area Industrial Complex, 618-11 Burial Ground, and 618-10 Burial Ground/316-4 Cribs.
 - 300 Area Industrial Complex — As of January 6, 2013, 37 of the 40 wells that were scheduled to be sampled in September had been sampled and none of the 64 wells scheduled to be sampled in December had been sampled. The next sampling event is scheduled for March 2014.
 - 618-11 Burial Ground — As of January 6, five of the six wells scheduled for sampling in October had been sampled. The next sampling event is scheduled for January 2014.
 - 618-10 Burial Ground/316-4 Crib — As of January 6, 2014, none of the 6 wells scheduled for sampling in December 2013 had been sampled. One of them is currently buried in dirt due to the associated construction activities for

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- 618-10 and the other 5 are scheduled to be sampled on January 8, 2014.
- RCRA Monitoring – 300 Area Process Trenches (316-5)
 - As of January 6, none of the 8 wells scheduled to be sampled in December had been sampled. The next sampling event is scheduled for January 2014.
- 300 Area Aquifer Tubes
 - As of January 6, 2014, 25 of the 28 aquifer tubes scheduled to be sampled in December had been sampled. The next sampling event is scheduled for March 2014.

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Information Tables for Groundwater Sampling

Table 1. Wells, Aquifer Tubes and Springs in the River Corridor Areas Successfully Sampled in December 2013

| | | | | | | |
|-----------|--|------------|-----------|------------|---------------|------------|
| 199-B2-14 | | 199-D4-14 | 199-H3-2A | 199-K-106A | 199-K-150 | 699-12-4D |
| 199-B3-47 | | 199-D4-22 | 199-H4-10 | 199-K-111A | 199-N-165 | 699-13-1E |
| 199-B3-51 | | 199-D4-23 | 199-H4-11 | 199-K-112A | 199-N-169 | 699-S3-E12 |
| 199-B4-1 | | 199-D4-25 | 199-H4-13 | 199-K-118A | 199-N-171 | AT-3-3-D |
| 199-B4-14 | | 199-D4-27 | 199-H4-45 | 199-K-119A | 199-N-173 | AT-3-3-M |
| 199-B5-1 | | 199-D4-31 | 199-H4-5 | 199-K-125A | 199-N-183 | AT-3-3-S |
| 199-B8-9 | | 199-D4-32 | 199-H4-84 | 199-K-133 | 199-N-186 | AT-3-4-D |
| C8840 | | 199-D4-36 | 47-D | 199-K-134 | 199-N-187 | AT-3-4-M |
| C8841 | | 199-D4-38 | 47-M | 199-K-135 | 199-N-188 | AT-3-4-S |
| C8842 | | 199-D4-4 | 48-M | 199-K-136 | 199-N-19 | AT-3-5-S |
| C8843 | | 199-D4-48 | 48-S | 199-K-157 | 199-N-3 | AT-3-6-D |
| C8844 | | 199-D4-62 | AT-H-1-M | 199-K-185 | 199-N-56 | AT-3-6-M |
| C8845 | | 199-D4-7 | AT-H-1-S | 199-K-188 | 199-N-71 | AT-3-6-S |
| C8847 | | 199-D5-103 | AT-H-3-D | 199-K-189 | 199-N-72 | AT-3-7-M |
| C8848 | | 199-D5-104 | AT-H-3-S | 199-K-190 | 199-N-73 | AT-3-7-S |
| C8849 | | 199-D5-106 | C5633 | 199-K-192 | 199-N-74 | C6341 |
| C8851 | | 199-D5-123 | C5638 | 199-K-194 | 199-N-81 | C6342 |
| C8852 | | 199-D5-125 | C5641 | 199-K-197 | 199-N-96A | C6343 |
| C8853 | | 199-D5-126 | C5678 | 199-K-200 | C6132 | C6344 |
| C8855 | | 199-D5-15 | C5682 | 199-K-201 | N116mArray-0A | C6348 |
| C8856 | | 199-D5-16 | | 199-K-22 | N116mArray-2A | C6350 |
| C8859 | | 199-D5-34 | | 199-K-32A | N116mArray-4A | C6351 |
| C8860 | | 199-D5-38 | | 199-K-32B | | |
| C8861 | | 199-D5-39 | | 199-K-36 | | |
| | | 199-D5-97 | | 199-K-37 | | |
| | | 199-D8-5 | | | | |
| | | 199-D8-53 | | | | |
| | | 199-D8-54B | | | | |
| | | 199-D8-68 | | | | |
| | | 199-D8-69 | | | | |
| | | 199-D8-70 | | | | |
| | | 199-D8-88 | | | | |
| | | 199-H1-5 | | | | |
| | | 199-H4-80 | | | | |
| | | 199-H4-81 | | | | |
| | | 199-H4-82 | | | | |
| | | 38-D | | | | |

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| 100-BC-5 | 100-FR-5 | 100-AT-3-D | 100-AT-3-M | 100-AT-3-S | 100-DD-2 | 100-DD-3 |
|----------|----------|------------|------------|------------|----------|----------|
| | | 38-M | | | | |
| | | 699-97-48C | | | | |
| | | AT-D-3-D | | | | |
| | | AT-D-3-M | | | | |
| | | AT-D-3-S | | | | |
| | | DD-12-2 | | | | |
| | | DD-16-4 | | | | |
| | | DD-44-4 | | | | |
| | | DD-49-3 | | | | |

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Table 2 Sample Trips Outstanding at the end of December 2013

| UMA | WELL TYPE | SITE NAME | SCHEDULE DATE | STATUS | |
|--------------|--------------------------|------------|---------------|----------------------|-----------|
| 100-BC-5 | PROPOSED AQUIFER TUBE | C8846 | 10/1/2013 | Installed 10-17-2013 | |
| 100-FR-3 | WELL | 199-F8-3 | 10/1/2013 | Maintenance required | |
| | AQUIFER TUBE | 74-D | 10/1/2013 | Quarterly | |
| | AQUIFER TUBE | 75-D | 10/1/2013 | Quarterly | |
| | AQUIFER TUBE | 76-D | 10/1/2013 | Quarterly | |
| | AQUIFER TUBE | 77-D | 10/1/2013 | Quarterly | |
| 100-HR-3-D | WELL | 199-D3-2 | 12/1/2013 | Quarterly | |
| | WELL | 199-D4-1 | 12/1/2013 | Quarterly | |
| | WELL | 199-D5-145 | 12/1/2013 | | |
| | WELL | 199-D5-146 | 11/1/2013 | Maintenance required | |
| | WELL | 199-D5-146 | 12/1/2013 | Maintenance required | |
| | WELL | 199-D5-149 | 11/1/2013 | Quarterly | |
| | WELL | 199-D5-43 | 12/1/2013 | Quarterly | |
| | WELL | 199-D8-54A | 12/1/2013 | Maintenance required | |
| | WELL | 199-D8-6 | 10/1/2013 | Maintenance required | |
| | WELL | 199-D8-68 | 3/1/2013 | Sampled 5/29/2013 | |
| | WELL | 199-D8-72 | 3/1/2013 | Maintenance required | |
| | WELL | 199-D8-72 | 6/1/2013 | Maintenance required | |
| | WELL | 199-D8-72 | 9/1/2013 | Maintenance required | |
| | WELL | 199-D8-72 | 12/1/2013 | Maintenance required | |
| | WELL | 199-D8-73 | 12/1/2013 | Maintenance required | |
| | AQUIFER TUBE | AT-D-4-M | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-D-5-D | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-D-5-M | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6266 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6267 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6268 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6269 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6270 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6271 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6272 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6275 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6278 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6281 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6282 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C7645 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C7646 | | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C7648 | | 11/1/2013 | Quarterly |
| AQUIFER TUBE | DD-06-2 | | 11/1/2013 | Quarterly | |

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| GWA | PUMP SITE TYPE | PITE NAME | MONITORING DATE | STATUS |
|--------------|-----------------------|--------------------|------------------------|----------------------|
| | AQUIFER TUBE | DD-06-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-12-4 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-15-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-15-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-15-4 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-16-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-17-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-17-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-39-1 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-41-1 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-41-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-42-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-42-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-42-4 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-43-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-43-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-44-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-49-1 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-49-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-49-4 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-50-1 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-50-2 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-50-3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | DD-50-4 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | Redox-1-3.3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | Redox-2-6.0 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | Redox-3-3.3 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | Redox-4-3.0 | 11/1/2013 | Quarterly |
| AQUIFER TUBE | Redox-4-6.0 | 11/1/2013 | Quarterly | |
| | SPRING | SD-098-1 | 9/1/2013 | |
| | SPRING | SD-110-1 | 9/1/2013 | |
| 100-HR-3-H | SPRING | 100-H SPRING 145-1 | 11/1/2013 | Quarterly |
| | SPRING | 100-H SPRING 150-1 | 11/1/2013 | Quarterly |
| | SPRING | 100-H SPRING 152-2 | 11/1/2013 | Quarterly |
| | SPRING | 100-H SPRING 153-1 | 11/1/2013 | Quarterly |
| | WELL | 199-H1-3 | 12/1/2013 | Quarterly |
| | WELL | 199-H1-32 | 11/1/2013 | Maintenance required |
| | WELL | 199-H1-33 | 11/1/2013 | Maintenance required |
| | WELL | 199-H1-39 | 12/1/2013 | Maintenance required |
| | WELL | 199-H1-4 | 12/1/2013 | Quarterly |
| | WELL | 199-H4-8 | 11/1/2013 | Sample dry |

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| GWIA | WELL SITE TYPE | WELL ID# | DATE | STATUS |
|------|----------------|----------|-----------|-----------|
| | AQUIFER TUBE | 45-D | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 45-M | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 45-S | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 50-M | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 50-S | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 51-D | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 51-M | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 51-S | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 52-D | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 52-M | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 52-S | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 54-D | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 54-M | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | 54-S | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-H-1-D | 11/1/2013 | |
| | AQUIFER TUBE | AT-H-2-D | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-H-2-M | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-H-2-S | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5632 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5634 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5635 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5636 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5637 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5644 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5673 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5674 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5676 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5677 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5679 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5680 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C5681 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6284 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6285 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6286 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6287 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6288 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6290 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6291 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6293 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6296 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6297 | 11/1/2013 | Quarterly |

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| GWA | SAMP. SITE TYPE | SITE NAME | SCHEDULE DATE | Sample Status Comment |
|--------------|------------------------|-------------------|----------------------|------------------------------|
| | AQUIFER TUBE | C6299 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6300 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C6301 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C7649 | 11/1/2013 | Quarterly |
| | AQUIFER TUBE | C7650 | 11/1/2013 | Quarterly |
| | SPRING | SD-110-2 | 11/1/2013 | Quarterly |
| | SPRING | SH-144-1 | 11/1/2013 | Quarterly |
| 100-KR-4 | SPRING | 100-K SPRING 68-1 | 10/1/2012 | Sampled 10/1/2013 |
| | WELL | 199-K-144 | 11/1/2013 | Maintenance required |
| | WELL | 199-K-163 | 11/1/2013 | Maintenance required |
| | WELL | 199-K-181 | 11/1/2013 | Maintenance required |
| | WELL | 199-K-198 | 11/1/2013 | Maintenance required |
| | WELL | 199-K-199 | 11/1/2013 | Maintenance required |
| | WELL | 199-K-23 | 11/1/2013 | |
| 100-NR-2 | WELL | 199-K-149 | 11/1/2013 | Maintenance required |
| | WELL | 199-N-32 | 12/1/2013 | |
| | WELL | 199-N-41 | 9/1/2013 | |
| | WELL | 199-N-41 | 12/1/2013 | Maintenance required |
| | AQUIFER TUBE | C7881 | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-10A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-11A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-13A | 9/1/2013 | |
| | AQUIFER TUBE | N116mArray-13A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-15A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-1A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-3A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-6A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-8.5A | 9/1/2013 | |
| | AQUIFER TUBE | N116mArray-8.5A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-8A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | N116mArray-9A | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | NVP1-1 | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | NVP1-2 | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | NVP1-3 | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | NVP1-4 | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | NVP1-5 | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | NVP2-115.1 | 12/1/2013 | Quarterly |
| AQUIFER TUBE | NVP2-115.4 | 12/1/2013 | Quarterly | |
| AQUIFER TUBE | NVP2-115.7 | 12/1/2013 | Quarterly | |
| AQUIFER TUBE | NVP2-116.0 | 12/1/2013 | Quarterly | |
| AQUIFER TUBE | NVP2-116.3 | 12/1/2013 | Quarterly | |

**100/300 Areas Unit Managers Meeting
January 9, 2014**

| GWA | SAMP SITE TYPE | SITE ID# | DATE | STATUS |
|------------|-----------------------|-----------------|-------------|----------------------|
| 300-FF-5 | WELL | 399-1-1 | 12/1/2013 | Quarterly |
| | WELL | 399-1-10A | 12/1/2013 | |
| | WELL | 399-1-10B | 12/1/2013 | |
| | WELL | 399-1-11 | 12/1/2013 | Quarterly |
| | WELL | 399-1-12 | 12/1/2013 | Quarterly |
| | WELL | 399-1-15 | 12/1/2013 | Quarterly |
| | WELL | 399-1-16A | 12/1/2013 | |
| | WELL | 399-1-16B | 12/1/2013 | |
| | WELL | 399-1-16C | 12/1/2013 | Quarterly |
| | WELL | 399-1-17A | 12/1/2013 | |
| | WELL | 399-1-17B | 12/1/2013 | |
| | WELL | 399-1-17C | 12/1/2013 | Quarterly |
| | WELL | 399-1-18A | 12/1/2013 | |
| | WELL | 399-1-18B | 12/1/2013 | |
| | WELL | 399-1-18C | 12/1/2013 | Quarterly |
| | WELL | 399-1-2 | 12/1/2013 | Quarterly |
| | WELL | 399-1-21A | 12/1/2013 | Quarterly |
| | WELL | 399-1-21B | 12/1/2013 | Quarterly |
| | WELL | 399-1-23 | 12/1/2013 | Quarterly |
| | WELL | 399-1-54 | 12/1/2013 | Quarterly |
| | WELL | 399-1-55 | 12/1/2013 | Quarterly |
| | WELL | 399-1-56 | 12/1/2013 | Quarterly |
| | WELL | 399-1-57 | 12/1/2013 | Quarterly |
| | WELL | 399-1-58 | 12/1/2013 | Quarterly |
| | WELL | 399-1-59 | 12/1/2013 | Quarterly |
| | WELL | 399-1-6 | 12/1/2013 | Quarterly |
| | WELL | 399-1-61 | 12/1/2013 | Quarterly |
| | WELL | 399-1-62 | 12/1/2013 | Quarterly |
| | WELL | 399-1-63 | 9/1/2013 | Maintenance required |
| | WELL | 399-1-64 | 12/1/2013 | Quarterly |
| | WELL | 399-1-7 | 12/1/2013 | Quarterly |
| | WELL | 399-1-8 | 12/1/2013 | Quarterly |
| | WELL | 399-1-9 | 12/1/2013 | Quarterly |
| | WELL | 399-2-1 | 12/1/2013 | Quarterly |
| | WELL | 399-2-2 | 12/1/2013 | Quarterly |
| | WELL | 399-2-32 | 12/1/2013 | Quarterly |
| WELL | 399-2-5 | 12/1/2013 | Quarterly | |
| WELL | 399-3-1 | 12/1/2013 | Quarterly | |
| WELL | 399-3-10 | 12/1/2013 | Quarterly | |
| WELL | 399-3-12 | 12/1/2013 | Quarterly | |
| WELL | 399-3-18 | 12/1/2013 | Quarterly | |

**100/300 Areas Unit Managers Meeting
January 9, 2014**

| GWIA | SAMP_SITE_TYPE | SITE_NAME | SCHEDULE_DATE | Sample Status Comment |
|-------------|-----------------------|------------------|----------------------|------------------------------|
| | WELL | 399-3-19 | 9/1/2013 | Maintenance required |
| | WELL | 399-3-19 | 12/1/2013 | Quarterly |
| | WELL | 399-3-2 | 12/1/2013 | Access Restricted |
| | WELL | 399-3-20 | 12/1/2013 | Quarterly |
| | WELL | 399-3-21 | 12/1/2013 | Quarterly |
| | WELL | 399-3-22 | 12/1/2013 | Quarterly |
| | WELL | 399-3-33 | 12/1/2013 | Quarterly |
| | WELL | 399-3-38 | 12/1/2013 | Quarterly |
| | WELL | 399-3-6 | 12/1/2013 | Access Restricted |
| | WELL | 399-3-9 | 12/1/2013 | Quarterly |
| | WELL | 399-4-1 | 12/1/2013 | Quarterly |
| | WELL | 399-4-10 | 12/1/2013 | Quarterly |
| | WELL | 399-4-11 | 12/1/2013 | Quarterly |
| | WELL | 399-4-12 | 12/1/2013 | Maintenance required |
| | WELL | 399-4-14 | 12/1/2013 | Quarterly |
| | WELL | 399-4-15 | 12/1/2013 | Quarterly |
| | WELL | 399-4-7 | 12/1/2013 | Quarterly |
| | WELL | 399-4-9 | 12/1/2013 | Maintenance required |
| | WELL | 399-5-4B | 12/1/2013 | Quarterly |
| | WELL | 399-6-3 | 12/1/2013 | Quarterly |
| | WELL | 399-6-5 | 9/1/2013 | Access Restricted |
| | WELL | 399-6-5 | 12/1/2013 | Access Restricted |
| | WELL | 399-8-1 | 12/1/2013 | Quarterly |
| | WELL | 399-8-5A | 12/1/2013 | Quarterly |
| | WELL | 699-13-3A | 10/1/2013 | |
| | WELL | 699-S19-E13 | 12/1/2013 | Quarterly |
| | WELL | 699-S20-E10 | 12/1/2013 | Quarterly |
| | WELL | 699-S6-E4A | 12/1/2013 | Maintenance required |
| | WELL | 699-S6-E4B | 12/1/2012 | Maintenance required |
| | WELL | 699-S6-E4B | 6/1/2013 | Maintenance required |
| | WELL | 699-S6-E4B | 12/1/2013 | Maintenance required |
| | WELL | 699-S6-E4D | 12/1/2013 | Quarterly |
| | WELL | 699-S6-E4E | 12/1/2013 | Quarterly |
| | WELL | 699-S6-E4K | 12/1/2013 | Quarterly |
| | WELL | 699-S6-E4L | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-3-1-D(1) | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-3-1-M | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-3-1-S | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-3-2-M | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-3-2-S | 12/1/2013 | Quarterly |
| | AQUIFER TUBE | AT-3-7-D | 12/1/2013 | Quarterly |

**100/300 Areas Unit Managers Meeting
January 9, 2014**

| GWA | SAMP SITE TYPE | SITE NAME | SCHEDULE DATE | SAMPING FREQUENCY |
|-----|----------------|-----------|---------------|-------------------|
| | AQUIFER TUBE | C6347 | 12/1/2013 | Quarterly |

Table 3 Groundwater Sampling Locations in the River Corridor Areas Scheduled to be sampled in January 2014

| 100-DC-5 | 100-FR-3 | 100-DC-10 | 100-FR-11 | 100-K-1 | 100-K-2 | 100-FR-12 |
|-----------|----------|------------|-------------|------------|-----------|------------|
| 199-B4-14 | | 199-D4-19 | 199-H4-6 | 199-K-117A | 199-K-150 | 399-1-10A |
| 199-B4-7 | | 199-D4-26 | 199-H4-84 | 199-K-166 | C7934 | 399-1-10B |
| 199-B5-6 | | 199-D4-86 | 699-100-43B | 199-K-173 | C7935 | 399-1-16A |
| 199-B8-9 | | 199-D4-92 | 699-101-45 | 199-K-18 | C7936 | 399-1-16B |
| C8840 | | 199-D4-93 | | 199-K-20 | | 399-1-17A |
| C8841 | | 199-D4-95 | | 199-K-34 | | 399-1-17B |
| C8842 | | 199-D4-96 | | 699-73-61 | | 399-1-18A |
| C8843 | | 199-D4-97 | | C7641 | | 399-1-18B |
| C8844 | | 199-D4-98 | | C7642 | | 699-10-E12 |
| C8847 | | 199-D4-99 | | C7643 | | 699-12-2C |
| C8848 | | 199-D5-101 | | | | 699-13-2D |
| C8851 | | 199-D5-103 | | | | 699-13-3A |
| C8852 | | 199-D5-104 | | | | 699-S3-E12 |
| C8855 | | 199-D5-106 | | | | |
| C8856 | | 199-D5-127 | | | | |
| C8859 | | 199-D5-13 | | | | |
| C8860 | | 199-D5-130 | | | | |
| C8861 | | 199-D5-131 | | | | |
| | | 199-D5-14 | | | | |
| | | 199-D5-145 | | | | |
| | | 199-D5-146 | | | | |
| | | 199-D5-20 | | | | |
| | | 199-D5-32 | | | | |
| | | 199-D5-33 | | | | |
| | | 199-D5-34 | | | | |
| | | 199-D5-36 | | | | |
| | | 199-D5-37 | | | | |
| | | 199-D5-39 | | | | |
| | | 199-D5-97 | | | | |
| | | 199-D7-3 | | | | |
| | | 199-D7-6 | | | | |
| | | 199-D8-101 | | | | |
| | | 199-D8-4 | | | | |
| | | 199-D8-6 | | | | |

**100/300 Areas Unit Managers Meeting
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| 100-BC-5 | 100-FR-3 | 100-HR-3-D | 100-HR-3-H | 100-KR-4 | 100-NR-2 | 300-FF-5 |
|----------|----------|------------|------------|----------|----------|----------|
| | | 199-D8-89 | | | | |
| | | 199-D8-90 | | | | |
| | | 199-D8-91 | | | | |
| | | 199-D8-95 | | | | |
| | | 199-D8-96 | | | | |
| | | 199-D8-97 | | | | |
| | | 199-D8-98 | | | | |

Attachment 2

January 9, 2014 Unit Manager's Meeting
Field Remediation Status

100-B/C

- Closure documentation for 100-C-7:1 expected for completion before end of February 2014
- Continued backfill activities at 100-C-7:1

100-D

- Completed design excavation at 100-D-100. Possible excavation expansion in the northeast corner of 100-D-100
- Began expansion of the 100-D-30/104 excavation at the southeast corner
- Continued remediation and stockpiling activities at 100-D-31:11/12
- Continued super-dump load-out to ERDF
- Began LDR chromium shipments to ERDF

100-H

- Continued excavation activities at 100-H-28:2-5 and 100-H-42
- Collecting 100-H-46 verification samples

100-K

- Waste Site Reclassification forms complete for 100-K orphan sites
- Backfill campaign complete a 100-K orphan sites
- Revegetation in progress at 100-K orphan sites

100-N

- Continued remediation of 100-N-84:4, 100-N-84:5, 100-N-84:6, and RR Tracks North of 105-N
- Planning for work at 100-N-94 and 100-N-99
- Planning for further remediation at 100-N-97 (hand dig site) and plume chase at 600-340
- Completed remediation of 100-N-84:2/4/5 (immediately North of 105-N Reactor)
- Continued system operations for in-situ bioremediation system for UPR-100-N-17, deep vadose zone remediation and commenced respirometry testing of system
- Continued preparation of closure documents and conducting verification sampling

618-10 Trench Remediation

- Continued excavation and sorting of trench area
- Continued waste load out

- Continued drum characterization & handling activities

100-IU-2/6

- Completed excavation and load-out activities at 600-279, 600-373, 600-374, 600-375, 600-376 and 600-377 pending favorable sample results
- Completed Remediation of 600-382, 600-383 and 600-384
- Collected closeout samples at 600-279, 600-373, 600-374, 600-375 and 600-376, 600-377
- Began excavation and load-out activities at 600-378 and 600-379
- Began backfilling activities at various IU-2 sites

Attachment 3

Attachment 4

**100K Area Unit Managers Meeting
January 9, 2014**

RL-0012 Sludge Treatment Project

TPA Milestone M-016-173, *K Basin Sludge Treatment and Packaging Technology Selection* (3/31/15) - At Risk

- The phase 2 treatment and packaging site evaluation report was issued in September 2012. Evaluation of options and consideration of overarching policy issues leading to preparation of a recommendation are not funded in FY14.

TPA Milestone M-016-175, *Begin Sludge Removal from 105-KW Fuel Storage Basin* (9/30/14) - At Risk

- Major concrete placements for the 105-K West Basin Annex were completed in December.
- Fabrication of building structural steel has started and the overhead crane has been fabricated and delivered. Mezzanine structural steel installation planned to start in early February.
- The Integrated Process Optimization Demonstration continues with sludge retrieval in-progress at MASF.

TPA Milestone M-016-176, *Complete Sludge Removal from 105-KW Fuel Storage Basin* (12/31/15) – At Risk

- Initiation of this milestone follows completion of Milestone M-016-175.

TPA Milestone M-016-178, *Initiate Deactivation of 105-KW Fuel Storage Basin* (12/31/15) – At Risk

- 105-K West Basin criticality safety classification was formally downgraded to a limited control facility in November.

RL-0041 K Facility Demolition and Soil Remediation

TPA Milestone M-016-143, *Complete the Interim Response Actions for 100 K Area Phase 2* (12/31/15) – At Risk

- Response actions for phase 2 buildings are complete. Remediation of phase 2 waste sites is not currently funded in FY14.

TPA Milestone M-093-28, *Submit a Change Package for Proposed Interim Milestones for 105-KE and 105-KW Reactor Interim Safe Storage* (12/31/15) - On Schedule

- New milestone created by TPA Change Package M-93-12-02, signed 4/25/2013. Replaced the deleted milestones M-093-22 and M-093-26.

TPA Milestone M-093-27, *Complete 105-KE and 105-KW Reactor Interim Safe Storage in Accordance with the Removal Action Work Plan* (12/31/19) - On Schedule

Other Information

- No demolition or soil remediation activities were conducted at 100K during November and December.
- The annual evaluation of Institutional Controls required by DOE/RL-99-89, *Remedial Design Report and Remedial Action Work Plan for the K Basins Interim Remedial Action*, Revision 1, was completed in December. The evaluation was documented in a report and concluded that the controls are being met and are adequate.
- DOE/RL-99-89 was modified in December via TPA-CN-604 to align the K Basins Interim Remedial Action Plan with the Sitewide Institutional Controls Plan. The change notice also modified the language on access controls related to fencing. Similar changes to the current access control languages for other K Basin work plans were made via TPA-CN-605, TPA-CN-606, and TPA-CN-607.

Attachment 5

UMM B/C SCHEDULE

| Activity ID | Activity Name | % Cmpl | RD | Start | Finish | J | F | M | A | M | J |
|---------------------------------------|--|--------|----|-------------|-----------|---|---|---|---|---|---|
| 100-C-7 Waste Site Remediation | | | | | | | | | | | |
| Closeout Sampling & Docs | | | | | | | | | | | |
| BC502D131 | Prepare Closure Document for 100-C-7:1 West Sidewall / Stockpile Areas | 96% | 26 | 06-Mar-13 A | 19-Feb-14 | ■ | | | | | |
| BC524G86 | RL/Regulator Sign Rev. 0 Closure Document for 100-C-7:1 West Sidewall | 0% | 4 | 03-Feb-14* | 06-Feb-14 | □ | | | | | |
| Backfill | | | | | | | | | | | |
| BC502C41 | 100-C-7:1 Post C-7 Work Remaining Backfill | 70% | 20 | 19-Aug-13 A | 06-Feb-14 | ■ | | | | | |
| Revegetation | | | | | | | | | | | |
| BC502E22 | 100-C-7:1 Perform Revegetation (30 acres) | 15% | 21 | 02-Jan-14 A | 10-Feb-14 | ■ | | | | | |
| 600-253 Waste Site (Pit 24) | | | | | | | | | | | |
| Backfill | | | | | | | | | | | |
| BC508C | 600-253 (Pit 24) Recontouring | 0% | 10 | 12-May-14* | 28-May-14 | | | | | | □ |
| Revegetation | | | | | | | | | | | |
| BC508E2 | 600-253 (Pit 24) Plant Reveg/Sage (40 acres) | 0% | 4 | 03-Nov-14* | 06-Nov-14 | | | | | | |

Attachment 6

100 Area D4/ISS Status

January 9, 2014

100-N

100-N Miscellaneous Items – Removal and disposition of miscellaneous materials and equipment from around the site continues. Preparing for decontamination of remaining heavy equipment and relocating to either the 300 Area or ERDF. Continue preparation for D4 demobilization from 100-N.

181-N River Pump House Anchor Blocks – Core drilling of anchor blocks initiated 12/30/13, completed 1/2/14, wire cutting began week of 1/6/14.

100-D

151-D Electrical Switchyard – Demolition and load-out of below grade structure material completed 1/6/14. Demobilization complete 1/9/14.

100-B

151-B Electrical Switchyard – Demolition of above grade structure continues.

183-B Clearwells – Mobilization activities commenced 1/7/14.

Attachment 7

| Activity ID | Activity Name | RD | Start | Finish | 13 | January 2014 | | | | | February 2014 | | | | | March 2014 | | | |
|-------------|---------------|----|-------|--------|----|--------------|----|----|----|----|---------------|----|----|----|----|------------|----|----|----|
| | | | | | | 23 | 30 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 03 | 10 | 17 | 24 |

FY14 CPP 100-N AREA CURRENT

Excavation

| Activity ID | Activity Name | RD | Start | Finish | % Cmpl |
|-------------|---|----|-------------|-----------|--------|
| NB5B8A | Excavation - 100-N-84:6 (12,721 BCM) | 3 | 10-Apr-13 A | 16-Jan-14 | 9% |
| NB5B4D08 | Excavation over IPB - 100-N-84:2 (20,819 BCM) | 8 | 17-Apr-13 A | 20-Jan-14 | 99% |
| NB5B7A | Excavation - 100-N-84:5 (39,722 BCM) | 4 | 03-Jul-13 A | 05-Feb-14 | 27% |
| NB596A | Excavation - 120-N-4 (646.86 BCM) | 1 | 08-Oct-13 A | 30-Dec-13 | 99% |
| NB5B1A | Excavation - 100-N-81 (690 BCM) | 1 | 22-Oct-13 A | 30-Dec-13 | 99% |
| NB5A3A | Excavation - 100-N-101 (132.36 BCM) | 1 | 05-Nov-13 A | 30-Dec-13 | 67% |
| NB5093A | Excavation - 100-N-97 (10.09 BCM) | 1 | 12-Nov-13 A | 30-Dec-13 | 99% |
| NB590A | Excavation - 100-N-91 (4.05 BCM) | 0 | 12-Nov-13 A | 30-Dec-13 | 99% |
| NB595A | Excavation - 100-N-100 (89.58 BCM) | 1 | 13-Nov-13 A | 30-Dec-13 | 99% |
| NB5B6A | Excavation - 100-N-84:4 (8,348 BCM) | 12 | 02-Dec-13 A | 03-Feb-14 | 14% |
| NB591A | Excavation - 100-N-94 (51.34 BCM) | 1 | 06-Jan-14* | 06-Jan-14 | 0% |
| NB594A | Excavation - 100-N-99 (40.33 BCM) | 1 | 07-Jan-14 | 07-Jan-14 | 0% |
| NB5C1A | Excavation - 100-N-84:8 (0 BCM) | 12 | 20-Jan-14 | 06-Feb-14 | 0% |
| NB5C7A | Excavation - 100-N-104 (49 BCM) | 6 | 21-Jan-14 | 29-Jan-14 | 0% |
| NB583A | Excavation - 100-N-82 | 3 | 04-Mar-14 | 06-Mar-14 | 0% |
| NB5C3A | Excavation - 100-N-96 (2600 BCM) | 6 | 01-Oct-14* | 09-Oct-14 | 0% |
| NB5B2A | Excavation - 100-N-83 (20,659 BCM) | 30 | 13-Oct-14 | 04-Dec-14 | 0% |
| NB5B6A60 | Design - 100-N-107 (Final ROD) | 55 | 01-Oct-15* | 13-Jan-16 | 0% |
| NB5B6A10 | Excavation - 100-N-107 (Final ROD) | 16 | 09-Jun-16 | 07-Jul-16 | 0% |

Loadout

| Activity ID | Activity Name | RD | Start | Finish | % Cmpl |
|-------------|---|----|-------------|-----------|--------|
| NB5B8B | Loadout - 100-N-84:6 (27,987 UST) | 3 | 10-Apr-13 A | 16-Jan-14 | 9% |
| NB5B4D09 | Loadout over IPB - 100-N-84:2 (45,800 UST) | 8 | 17-Apr-13 A | 20-Jan-14 | 99% |
| NB5A1B10 | Loadout over IPB quantity - 100-N-93 (79,895) | 13 | 13-May-13 A | 03-Mar-14 | 79% |
| NB5B7B | Loadout - 100-N-84:5 (87,389 UST) | 4 | 11-Jul-13 A | 05-Feb-14 | 27% |
| NB596B | Loadout - 120-N-4 (1,379.16 UST) | 1 | 08-Oct-13 A | 30-Dec-13 | 99% |
| NB5B1B | Loadout - 100-N-81 (1,518.0 UST) | 1 | 22-Oct-13 A | 30-Dec-13 | 99% |
| NB584D10 | Loadout - 100-N-54 (500 UST) | 1 | 04-Nov-13 A | 30-Dec-13 | 99% |
| NB5A3B | Loadout - 100-N-101 (220.0 UST) | 1 | 05-Nov-13 A | 30-Dec-13 | 67% |
| NB5093B | Loadout - 100-N-97 (5.94 UST) | 1 | 12-Nov-13 A | 30-Dec-13 | 99% |
| NB590B | Loadout - 100-N-91 (0.71 UST) | 1 | 12-Nov-13 A | 30-Dec-13 | 99% |
| NB595B | Loadout - 100-N-100 (49.5 UST) | 1 | 13-Nov-13 A | 30-Dec-13 | 99% |
| NB5B6B | Loadout - 100-N-84:4 (18,366 UST) | 12 | 02-Dec-13 A | 03-Feb-14 | 14% |
| NB5A4D08 | Second Phase Loadout - 600-340 | 2 | 30-Dec-13* | 31-Dec-13 | 0% |
| NB5093B10 | Second Phase Loadout - 100-N-97 | 1 | 02-Jan-14 | 02-Jan-14 | 0% |
| NB591B | Loadout - 100-N-94 (49.5 UST) | 1 | 06-Jan-14 | 06-Jan-14 | 0% |
| NB594B | Loadout - 100-N-99 (42.1 UST) | 1 | 07-Jan-14 | 07-Jan-14 | 0% |
| NB5C1B | Loadout - 100-N-84:8 (0 UST) | 12 | 20-Jan-14 | 06-Feb-14 | 0% |

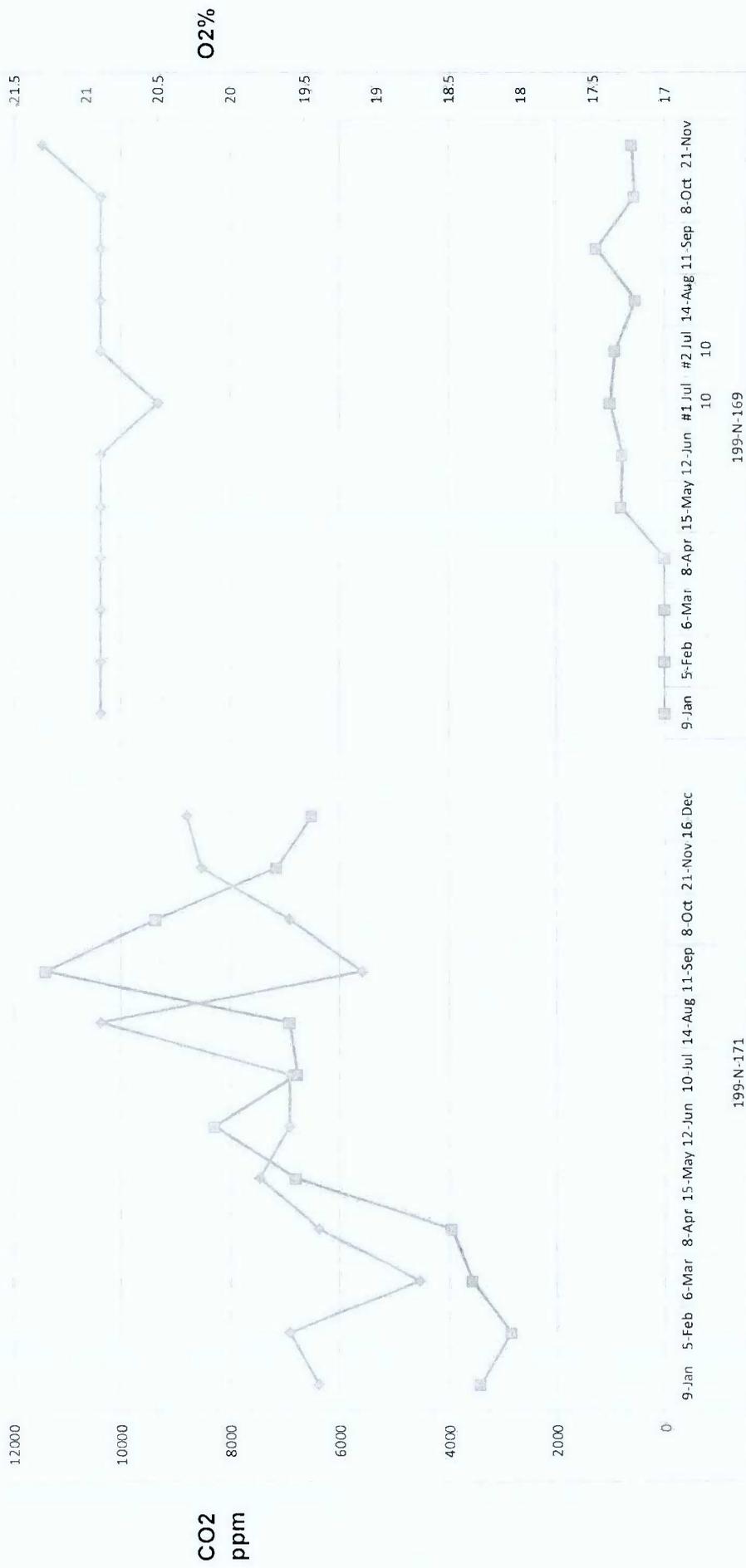
Actual Work
 Milestone
 Actual Milestone
 Remaining Work
 % Complete

Data Date: 30-Dec-13 Page 1 of 4

| Activity ID | Activity Name | % Cmpl | RD | Start | Finish | January 2014 | | | February 2014 | | | March 2014 | | | | | | | |
|-------------|------------------------------------|--------|----|-----------|------------|--------------|----|----|---------------|----|----|------------|----|----|----|----|----|----|----|
| | | | | | | 23 | 30 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 03 | 10 | 17 | 24 |
| NB5093C | Backfill - 100-N-97 (9.65 BCM) | 0% | 1 | 22-Oct-14 | 22-Oct-14 | | | | | | | | | | | | | | |
| NB591C | Backfill - 100-N-94 (49.11 BCM) | 0% | 1 | 23-Oct-14 | 23-Oct-14 | | | | | | | | | | | | | | |
| NB594C | Backfill - 100-N-99 (38.58 BCM) | 0% | 1 | 27-Oct-14 | 27-Oct-14 | | | | | | | | | | | | | | |
| NB5C1C | Backfill - 100-N-84.8 (0 BCM) | 0% | 1 | 12-Nov-14 | 12-Nov-14 | | | | | | | | | | | | | | |
| NB5B8C | Backfill - 100-N-84.6 (12,721 BCM) | 0% | 2 | 12-Nov-14 | 13-Nov-14 | | | | | | | | | | | | | | |
| NB5A1C | Backfill - 100-N-93 (0 BCM) | 0% | 1 | 08-Dec-14 | 08-Dec-14 | | | | | | | | | | | | | | |
| NB5B4C | Backfill - 100-N-84.2 (15,545 BCM) | 0% | 5 | 10-Dec-14 | 17-Dec-14 | | | | | | | | | | | | | | |
| NB583C | Backfill - 100-N-82 | 0% | 1 | 11-Dec-14 | 11-Dec-14 | | | | | | | | | | | | | | |
| NB5B7C | Backfill - 100-N-84.5 (72,786 BCM) | 0% | 5 | 31-Dec-14 | 08-Jan-15 | | | | | | | | | | | | | | |
| NB5C3C | Backfill - 100-N-96 (2600 BCM) | 0% | 1 | 22-Jul-15 | 22-Jul-15 | | | | | | | | | | | | | | |
| NB5B2C | Backfill - 100-N-83 (20,659 BCM) | 0% | 5 | 15-Sep-15 | 22-Sep-15 | | | | | | | | | | | | | | |
| PROJMS3 | 100-N Backfill Complete | 0% | 0 | | 22-Sep-15* | | | | | | | | | | | | | | |
| NB5B6A30 | Backfill - 100-N-107 (Final ROD) | 0% | 4 | 09-May-17 | 15-May-17 | | | | | | | | | | | | | | |

Actual Work
 Remaining Work
 % Complete
 Milestone
 Actual Milestone

Attachment 8



BIOVENT WELL SAMPLE RESULTS

| Well # | Date | O2% | CO2 ppm | Well # | Date | O2% | CO2 ppm |
|-----------|--------|------|---------|-----------|-----------|------|---------|
| 199-N-171 | 9-Jan | 19.4 | 3400 | 199-N-169 | 9-Jan | 20.9 | 0 |
| | 5-Feb | 19.6 | 2840 | | 5-Feb | 20.9 | 0 |
| | 6-Mar | 18.7 | 3570 | | 6-Mar | 20.9 | 0 |
| | 8-Apr | 19.4 | 3960 | | 8-Apr | 20.9 | 0 |
| | 15-May | 19.8 | 6820 | | 15-May | 20.9 | 800 |
| | 12-Jun | 19.6 | 8290 | | 12-Jun | 20.9 | 780 |
| | 10-Jul | 19.6 | 6800 | | #1 Jul 10 | 20.5 | 1020 |
| | 14-Aug | 20.9 | 6940 | | #2 Jul 10 | 20.9 | 920 |
| | 11-Sep | 19.1 | 11400 | | 14-Aug | 20.9 | 530 |
| | 8-Oct | 19.6 | 9380 | | 11-Sep | 20.9 | 1250 |
| | 21-Nov | 20.2 | 7160 | | 8-Oct | 20.9 | 550 |
| | 16-Dec | 20.3 | 6520 | | 21-Nov | 21.3 | 600 |
| | | | | | 16-Dec | 20.9 | 530 |

CO2 ppm

O2%

Attachment 9

173785

^WCH Document Control

From: Saueressig, Daniel G
Sent: Monday, November 18, 2013 6:11 AM
To: ^WCH Document Control
Subject: FW: 100-N OFFSITE APPROVAL REQUEST

Please provide a chron number. This email documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Einan, Dave [mailto:Einan.David@epa.gov]
Sent: Friday, November 15, 2013 8:01 AM
To: Saueressig, Daniel G
Subject: RE: 100-N OFFSITE APPROVAL REQUEST

Dan—

Sorry for the delay, I had missed your original email. Burlington is OK for shipments until January 14, 2014.

Dave Einan
509-376-3883

From: Saueressig, Daniel G [mailto:dgsauere@wch-rcc.com]
Sent: Tuesday, November 12, 2013 1:51 PM
To: Einan, Dave
Subject: RE: 100-N OFFSITE APPROVAL REQUEST

Dave, I don't mean to bug you, but have you heard back from Burlington yet? We may still be able to get this waste on the 11/19 milk run shipment.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Saueressig, Daniel G
Sent: Thursday, October 31, 2013 2:29 PM

11/18/2013

To: Einan, David R
Cc: Guzzetti, Christopher; Elliott, Wanda; Chance, Joanne C
Subject: 100-N OFFSITE APPROVAL REQUEST

Dave, I'd like to request your approval to send some waste from 100-N offsite for treatment and disposal.

We have 7 55-gallon drums of bunker oil (approximately 285 gallons) and one 3.5 gallon poly container that holds an "Epley Standard Cell" that we'd like to ship offsite for treatment and disposal.

Plans are to ship the material to

Burlington Environmental, LLC
20245 77th Avenue South
Kent, WA 98032

RCRA ID No.: WAD991281767

We've tentatively scheduled a shipment date of November 19, 2013.

Let me know if you concur or if you have any questions.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

11/18/2013

Attachment 10

173792

^WCH Document Control

From: Saueressig, Daniel G
Sent: Monday, November 18, 2013 9:42 AM
To: ^WCH Document Control
Cc: Jakubek, Joshua E; Howell, Theresa Q
Subject: 100-N-84:5/6 PROPOSAL TO LEAVE SEGMENTS IN PLACE
Attachments: Request to leave pipeline in place_final.doc; H-6-2185 SHT 1 REV 2.pdf; H-1-42118 - Sheet 1 - Rev 6 - [DA05729902][1].pdf

Please provide a chron number (and include the attachments). This email documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Chance, Joanne C [mailto:joanne.chance@rl.doe.gov]
Sent: Monday, November 18, 2013 9:39 AM
To: Elliott, Wanda; Saueressig, Daniel G
Cc: Jakubek, Joshua E
Subject: RE: 100-N-84:5/6 PROPOSAL TO LEAVE SEGMENTS IN PLACE

Hello all,

Just to clarify, I concurred previously, too. Thanks.

Joanne C. Chance
U.S. Department of Energy
Office of Assistant Manager for River and Plateau
825 Jadwin Ave / MSIN A3-04
Richland, WA 99352
(509) 376-0811

From: Elliott, Wanda (ECY) [mailto:well461@ecy.wa.gov]
Sent: Monday, November 18, 2013 7:36 AM
To: Saueressig, Daniel G
Cc: Chance, Joanne C; Jakubek, Joshua E
Subject: RE: 100-N-84:5/6 PROPOSAL TO LEAVE SEGMENTS IN PLACE

I concur with the proposal for leaving these sections of the pipes in place.

Wanda Elliott
(509) 372-7904
Environmental Scientist

11/18/2013

Nuclear Waste Program
Washington State Department of Ecology



From: Saueressig, Daniel G [<mailto:dgsauere@wch-rcc.com>]
Sent: Tuesday, November 05, 2013 12:39 PM
To: Elliott, Wanda (ECY)
Cc: Chance, Joanne C; Jakubek, Joshua E
Subject: 100-N-84:5/6 PROPOSAL TO LEAVE SEGMENTS IN PLACE

Wanda, per our discussion at the interface meeting this morning, attached is the proposal to leave some segments of 100-N-84:5/6 in place. I'm also including a couple drawings showing that the chlorine line (100-N-84:6 Segment 6) from the 182-N to the 181-NE was a gravity line indicating that any residual material in the line would not be an issue.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

<< File: Request to leave pipeline in place_final.doc >>

<< File: H-6-2185 SHT 1 REV 2.pdf >> << File: H-1-42118 - Sheet 1 - Rev 6 - [DA05729902][1].pdf >>

REQUEST TO LEAVE SEGMENTS OF THE 100-N-84:5 AND 100-N-84:6 PIPELINE SUBSITES IN PLACE

Washington Closure Hanford (WCH) requests approval from the U.S. Department of Energy (DOE) and the Washington State Department of Ecology (Ecology) to leave segments of the 100-N-84:5, 100-N Area Sanitary Sewer Pipelines and the 100-N-84:6, 100-N Area Chemical and Process Sewer Pipelines in place without further remediation.

Remediation of the segments of 100-N-84:5 and 100-N-84:6 discussed in this document would result in ecological impacts and the need to shut down or relocate utilities and an active groundwater monitoring well. Additionally, one pipeline segment is located in an area that would present a safety issue if remediated. The justification to leave the pipeline segments in place are provided below. An overall site location map showing the 100-N-84:5 pipeline and 100-N-84:6 pipeline segments is provided as Figure 1.

100-N-84:5 Segment 1

An approximate 50 m (164 ft) segment of the 100-N-84:5 pipeline subsite located northwest of the former location of the 107-N Building will be left in place with no further remediation. The pipeline segment is a 15 cm (6 in) storm sewer line that ran from the 100-N-72, 107-N East Area Water Runoff catch basin and drained to the 100-N-76, 181-N Pumphouse French Drain. The french drain received steam condensate and later excess storm water. The 100-N-72 is a "Not Accepted" waste site and the 100-N-76 is a "Rejected" waste site.

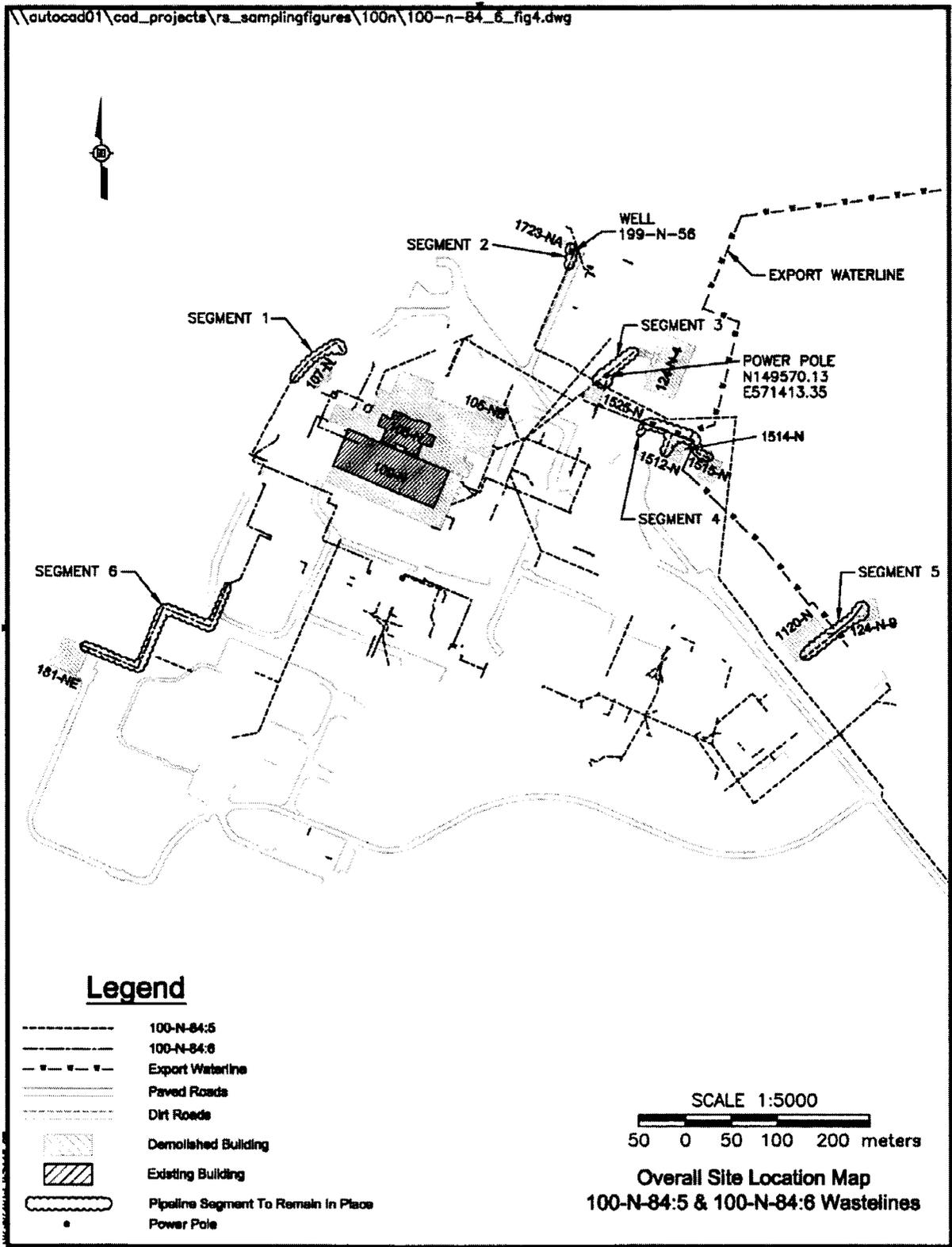
The segment of pipeline to be left in place is located on a steep embankment making the remediation a safety concern (Figure 2).

100-N-84:5 Segment 2

An approximate 15 m (50 ft) segment of the 100-N-84:5 pipeline subsite located near the active 199-N-56 groundwater monitoring well will be left in place with no further remediation. The pipeline segment originated at the 1723-NA change trailer which contained a change room, restrooms, lockers, and showers. A portion of the 100-N-84:5 pipeline located approximately 16 m (52.5 ft) south of the 199-N-56 well was removed during the remediation of the 100-N-63:2 pipeline subsite; no liquids were encountered during remediation. The pipeline is a gravity drain system.

One test pit (5TP-6) was excavated along the same segment of the 100-N-84:5 pipeline during the confirmatory sampling campaign. The test pit location is shown on Figure 3, and the sample results are provided in Appendix A. The results support leaving the pipeline in place. An additional test pit (TP #5) was excavated near the active 199-N-56 monitoring well. One sample was collected of the soil from beneath the pipeline. The sample results (Appendix A) support leaving the pipeline in place.

Figure 1. 100-N-84:5 and 100-N-84:6 Overall Site Location Map.



100-N-84:5 Segment 3

An approximate 77 m (253 ft) segment of the 100-N-84:5 pipeline located near an active power pole (N8) will be left in place with no further remediation. The N8 power pole supports a 13.8 kV line that feeds electrical power from the Bonneville Power Administration Hanford Substation to the 100-D, 100-H, and 100-F Areas.

The sanitary sewer pipeline originated from the 109-N locker room and restroom and drained into the 124-N-4 septic tank and drain field. The 124-N-4 septic tank and drain field, as well as the pipeline segment between the septic tank and drain field, has been remediated. No radiological contamination was detected during the remediation.

Two test pits (TP #1 and TP #2) were excavated to support leaving the segment of pipeline in place. One sample was collected of the soil from beneath the pipeline at each of the test pit locations. The test pit locations are shown on Figure 3. The sample results (Appendix A) support leaving the pipeline in place.

100-N-84:5 Segment 4

An approximate 137 m (450 ft) segment of the 100-N-84:5 pipeline that runs parallel to the active 100-N export water line will be left in place with no further remediation. The export water line supports two required fire hydrants in the 100-N Area. Excavation of the 100-N-84:5 pipeline segment in this area would result in the shutdown and possible relocation of the 100-N export water line and fire hydrant 32.

The pipeline segments originated at the 1512-N (MO-549 mobile office lunchroom), 1513-N (Filter Storage), 1514-N (mobile office), 1515-N (multi-craft shop), and 1525-N (laydown storage area). The floor drain in the 1513-N building was most likely used for the ice machine. No other floor drains were identified in the other buildings that entered this segment of pipeline.

Two test pits (TP #3 and TP #4) were excavated to support leaving the segment of pipeline in place. One sample was collected of the soil from beneath the pipeline at each of the test pit locations. Additionally, one sample was collected of the pipe contents at TP #4. The test pit locations are shown on Figure 3. The sample results (Appendix A) support leaving the pipeline in place.

The manhole located along the pipeline segment is in good condition with little residual material present (Figure 4).

Figure 4. Manhole Along the 100-N-84:5 Pipeline Segment.



100-N-84:5 and 100-N-84:6 Segment 5

An approximate 75 m (248 ft) segment of the 100-N-84:5 pipeline and a 30 m (99 ft) segment of the 100-N-84:6 pipeline that intersects the fire protection/export water line will be left in place with no further remediation. Excavation of the 100-N-84:5 and 100-N-84:6 pipeline segments in this area would impact the fire protection/export water line.

The pipeline segments originated at the 1120-N Building and drained to the 124-N-9 sanitary sewer system. The 1120-N Building was constructed in 1984 and housed training facilities, offices, and also served as a warehouse.

Floor drains in the 1120-N building emptied into the 100-N-84:6 pipeline and drained directly into the 124-N-9 drain field. Effluent from the 1120-N restrooms drained through the 100-N-84:5 pipeline to the 124-N-9 septic tank and into the drain field.

Both pipeline segments are constructed of modern polyvinyl chloride (PVC) and were gravity drained to the 124-N-9. Releases are not expected from this type of drainage system; therefore, contamination to the soil below the pipelines is not expected.

The 124-N-9 has been remediated, verification samples have been collected, and the waste site has been Interim Closed Out.

100-N-84:6 Segment 6

An approximate 240 m (787 ft) segment of the 100-N-84:6 pipeline located east/northeast of the former location of the 181-NE River Pumphouse will be left in place with no further remediation. Excavation of this segment of the 100-N-84:6 pipeline would impact the previously closed out 100-N-1 and 100-N-4 waste sites that have been backfilled and have established vegetation cover. The segment is located on the bank above the river.

The 100-N-84:6 pipeline segment is a 15 cm (6 in) chlorine pipeline that was a gravity fed pipe (see drawings H-1-42118 Sheet 1, Rev.6 and H-6-2185, Sheet 1, Rev. 2); therefore, no residual liquid is expected to be contained in the pipe. The pipeline was abandoned years ago and any remaining chlorine in the pipeline would have volatilized away.

A portion of the 100-N-84:6 chlorine pipeline segment was removed as part of the 100-N-61:4 excavation. Chloride levels detected in the 100-N-61:4 verification sample data (6.9 mg/kg) are below the background level of 100 mg/kg and well below the lowest applicable RAG of 25,000 mg/kg.

Appendix A
Analytical Sample Results

100-N-84:5 Subsite In-process Sample Results (Radionuclides).

| Sample Area | HEIS Number | Sample Date | Americium-241 | | | Cesium-137 | | |
|-------------|-------------|-------------|---------------|---|--------|------------|---|--------|
| | | | pCi/g | Q | MDA | pCi/g | Q | MDA |
| TP-1, 1s | J1RWC6-A | 8/7/2013 | -0.00975 | U | 0.0183 | 0.00935 | U | 0.0268 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 0.0652 | U | 0.192 | 0.0263 | U | 0.0442 |

| Sample Area | HEIS Number | Sample Date | Cobalt-60 | | | Europium-152 | | |
|-------------|-------------|-------------|-----------|---|--------|--------------|---|--------|
| | | | pCi/g | Q | MDA | pCi/g | Q | MDA |
| TP-1, 1s | J1RWC6-A | 8/7/2013 | 0.0156 | U | 0.0329 | 0.00307 | U | 0.0494 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | -0.0131 | U | 0.0472 | 0.0162 | U | 0.101 |

| Sample Area | HEIS Number | Sample Date | Europium-154 | | | Europium-155 | | |
|-------------|-------------|-------------|--------------|---|--------|--------------|---|--------|
| | | | pCi/g | Q | MDA | pCi/g | Q | MDA |
| TP-1, 1s | J1RWC6-A | 8/7/2013 | 0.0247 | U | 0.0965 | 0.0566 | U | 0.0365 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 0.0200 | U | 0.150 | 0.0160 | U | 0.0889 |

| Sample Area | HEIS Number | Sample Date | Potassium-40 | | | Radium-226 | | |
|-------------|-------------|-------------|--------------|---|-------|------------|---|--------|
| | | | pCi/g | Q | MDA | pCi/g | Q | MDA |
| TP-1, 1s | J1RWC6-A | 8/7/2013 | 13.5 | | 0.247 | 0.423 | | 0.0438 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 16.2 | | 0.409 | 0.650 | | 0.0717 |

Grey cells indicate not applicable (data not collected).

Acronyms and notes apply to all of the tables in this attachment.

Note: Data qualified with B, C, D J, M, N, and/or X are considered acceptable values.

B = Estimated result. Result is less than the RL, but greater than the MDL.

HEIS = Hanford Environmental Information System

C = detected in both sample and QC blank, and the sample concentration was $\leq 5X$ the blank concentration.

D = obtained from dilution.

J = estimate

M = sample duplicate precision not met.

MDA = minimum detected activity

N = recovery exceeds upper or lower control limits

ND = nondetect

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

PQL = practical quantitation limit

Q = qualifier

RAG = remedial action goal

SVOA = semivolatile organic analyses

TP = test pit

U = undetected

X (metals) = Serial dilution in the analytical batch indicates that physical and chemical interferences are present.

100-N-84:5 Subsite In-Process Sample Results (Metals).

| Sample Area | HEIS Number | Sample Date | Aluminum | | Antimony | | Arsenic | | Barium | | Beryllium | |
|--------------------------|-------------|-------------|----------|--------|----------|----------|---------|-------|--------|---------|-----------|---------|
| | | | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL |
| TP-1, 1s | J1RWC0 | 8/7/2013 | 6010 | X 1.5 | 0.36 | U 0.36 | 3.2 | 0.62 | 54.4 | X 0.071 | 0.12 | B 0.031 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 9470 | X 1.6 | 0.39 | U 0.39 | 3.5 | 0.69 | 86.8 | X 0.079 | 0.26 | 0.034 |
| TP-3, 3s | J1RWC2 | 8/7/2013 | 6010 | X 1.6 | 0.38 | U 0.38 | 3.3 | 0.66 | 51.5 | X 0.076 | 0.14 | B 0.033 |
| TP-4, 4s | J1RWC3 | 8/7/2013 | 6540 | X 1.6 | 0.39 | U 0.39 | 3.2 | 0.68 | 51.2 | X 0.078 | 0.15 | B 0.034 |
| TP-4, Pipe Content, 4c | J1RWD5 | 8/7/2013 | 6510 | X 1.6 | 0.40 | U 0.40 | 2.8 | 0.70 | 61.5 | X 0.080 | 0.23 | 0.035 |
| TP-5, 5s | J1RWC4 | 8/7/2013 | 6770 | X 1.5 | 0.38 | U 0.38 | 4.0 | 0.65 | 58.5 | X 0.075 | 0.17 | B 0.033 |
| 5TP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 6610 | J 4.03 | 0.484 | UJ 0.484 | 3.74 | 0.81 | 54.7 | 0.403 | 0.229 | 0.161 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 7220 | J 4.96 | 0.595 | UJ 0.595 | 4.11 | 0.99 | 59.8 | 0.496 | 0.246 | 0.198 |

| Sample Area | HEIS Number | Sample Date | Boron | | Cadmium | | Calcium | | Chromium | | Cobalt | |
|--------------------------|-------------|-------------|-------|--------|---------|---------|---------|---------|----------|----------|--------|---------|
| | | | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL |
| TP-1, 1s | J1RWC0 | 8/7/2013 | 0.92 | U 0.92 | 0.21 | 0.038 | 7790 | XN 13.2 | 6.3 | X 0.054 | 7.6 | X 0.094 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 1.7 | B 1.0 | 0.27 | 0.043 | 5030 | X 14.6 | 14.9 | X 0.060 | 7.7 | X 0.10 |
| TP-3, 3s | J1RWC2 | 8/7/2013 | 0.98 | U 0.98 | 0.22 | 0.041 | 7180 | X 14.1 | 11.6 | X 0.058 | 5.5 | X 0.10 |
| TP-4, 4s | J1RWC3 | 8/7/2013 | 1.0 | U 1.0 | 0.22 | 0.042 | 5860 | X 14.5 | 11.9 | X 0.060 | 5.8 | X 0.10 |
| TP-4, Pipe Content, 4c | J1RWD5 | 8/7/2013 | 1.4 | B 1.0 | 0.34 | 0.043 | 5370 | X 14.9 | 9.1 | XM 0.061 | 13.1 | XM 0.11 |
| TP-5, 5s | J1RWC4 | 8/7/2013 | 0.97 | U 0.97 | 0.24 | 0.041 | 9230 | X 14.0 | 13.3 | X 0.058 | 5.6 | X 0.099 |
| 5TP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 0.787 | B 1.61 | 0.125 | B 0.161 | 7790 | J 80.6 | 13.2 | 0.161 | 5.35 | 1.61 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 0.901 | B 1.98 | 0.131 | B 0.198 | 8030 | J 99.1 | 13.5 | 0.198 | 5.33 | 1.98 |

| Sample Area | HEIS Number | Sample Date | Copper | | Hexavalent Chromium | | Iron | | Lead | | Magnesium | |
|--------------------------|-------------|-------------|--------|--------|---------------------|---------|-------|-------|-------|--------|-----------|--------|
| | | | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL |
| TP-1, 1s | J1RWC0 | 8/7/2013 | 17.3 | X 0.20 | 0.391 | 0.155 | 19100 | X 3.6 | 4.8 | 0.25 | 4250 | X 3.5 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 14.8 | X 0.23 | 0.537 | 0.155 | 20600 | X 3.9 | 5.2 | 0.28 | 4900 | X 3.8 |
| TP-3, 3s | J1RWC2 | 8/7/2013 | 11.4 | X 0.22 | 0.155 | U 0.155 | 15100 | X 3.8 | 3.5 | 0.27 | 4410 | X 3.7 |
| TP-4, 4s | J1RWC3 | 8/7/2013 | 13.6 | X 0.22 | 0.227 | 0.155 | 16700 | X 3.9 | 3.6 | 0.28 | 4500 | X 3.8 |
| TP-4, Pipe Content, 4c | J1RWD5 | 8/7/2013 | 17.4 | X 0.23 | 0.356 | 0.155 | 18400 | X 4.0 | 7.5 | M 0.28 | 2940 | XM 3.9 |
| TP-5, 5s | J1RWC4 | 8/7/2013 | 13.3 | X 0.22 | 0.202 | 0.155 | 15800 | X 3.8 | 3.8 | 0.27 | 4700 | X 3.7 |
| 5TP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 11.3 | 0.806 | 0.52 | U 0.52 | 16100 | 16.1 | 3.48 | 0.403 | 4660 | 60.4 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 12.6 | 0.991 | 0.53 | U 0.53 | 17100 | 19.8 | 3.73 | 0.496 | 5010 | 74.4 |

100-N-84:5 Subsite In-process Sample Results (Metals and Physicals).

| Sample Area | HEIS Number | Sample Date | Manganese | | Mercury | | Molybdenum | | Nickel | | Potassium | | | | | |
|--------------------------|-------------|-------------|-----------|-------|---------|--------|------------|--------|--------|-------|-----------|-------|---|------|------|------|
| | | | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | | | | |
| TP-1, 1s | J1RWC0 | 8/7/2013 | 253 | X | 0.0094 | 0.0077 | B | 0.0069 | 0.35 | BM | 0.24 | 8.8 | X | 0.12 | 914 | 38.4 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 351 | X | 0.10 | 0.0060 | U | 0.0060 | 0.30 | B | 0.27 | 13.8 | X | 0.13 | 2060 | 42.6 |
| TP-3, 3s | J1RWC2 | 8/7/2013 | 236 | X | 0.10 | 0.0049 | U | 0.0049 | 0.26 | U | 0.26 | 11.0 | X | 0.12 | 945 | 41.0 |
| TP-4, 4s | J1RWC3 | 8/7/2013 | 266 | X | 0.10 | 0.0056 | U | 0.0056 | 0.27 | U | 0.27 | 10.9 | X | 0.13 | 1020 | 42.1 |
| TP-4, Pipe Content, 4c | J1RWD5 | 8/7/2013 | 253 | X | 0.11 | 0.0067 | U | 0.0067 | 0.57 | B | 0.27 | 11.3 | X | 0.13 | 1240 | 43.2 |
| TP-5, 5s | J1RWC4 | 8/7/2013 | 269 | X | 0.099 | 0.0053 | U | 0.0053 | 0.26 | U | 0.26 | 11.4 | X | 0.12 | 1170 | 40.7 |
| 5TP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 262 | | 4.03 | 0.0277 | U | 0.0277 | 0.277 | B | 1.61 | 11.4 | | 3.22 | 1140 | 322 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 268 | | 4.96 | 0.0256 | U | 0.0256 | 0.330 | B | 1.98 | 12.9 | | 3.97 | 1200 | 397 |

| Sample Area | HEIS Number | Sample Date | Selenium | | Silicon | | Silver | | Sodium | | Vanadium | | | |
|--------------------------|-------------|-------------|----------|-------|---------|-------|--------|-------|--------|-------|----------|-------|--|-------|
| | | | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | mg/kg | Q PQL | | |
| TP-1, 1s | J1RWC0 | 8/7/2013 | 0.81 | U | 0.81 | 255 | N | 5.3 | U | 0.15 | 370 | 55.3 | | 0.088 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 0.89 | U | 0.89 | 435 | N | 5.9 | U | 0.17 | 306 | 61.3 | | 0.098 |
| TP-3, 3s | J1RWC2 | 8/7/2013 | 0.86 | U | 0.86 | 270 | N | 5.7 | U | 0.16 | 202 | 59.0 | | 0.094 |
| TP-4, 4s | J1RWC3 | 8/7/2013 | 0.88 | U | 0.88 | 312 | N | 5.8 | U | 0.16 | 220 | 60.6 | | 0.096 |
| TP-4, Pipe Content, 4c | J1RWD5 | 8/7/2013 | 0.91 | U | 0.91 | 326 | NX | 6.0 | U | 0.17 | 255 | 62.2 | | 0.099 |
| TP-5, 5s | J1RWC4 | 8/7/2013 | 0.85 | U | 0.85 | 225 | N | 5.6 | U | 0.16 | 186 | 58.5 | | 0.093 |
| 5TP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 0.263 | | 0.242 | 307 | J | 1.61 | U | 0.161 | 178 | 40.3 | | 2.01 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 0.297 | | 0.297 | 382 | J | 1.98 | U | 0.198 | 239 | 49.6 | | 2.48 |

| Sample Area | HEIS Number | Sample Date | Zinc | | Percent moisture (wet sample) | | |
|--------------------------|-------------|-------------|-------|-------|-------------------------------|-------|------|
| | | | mg/kg | Q PQL | % | Q PQL | |
| TP-1, 1s | J1RWC0 | 8/7/2013 | 40.7 | X | 0.37 | 7.1 | 0.10 |
| TP-2, 2s | J1RWC1 | 8/7/2013 | 43.9 | X | 0.41 | 9.2 | 0.10 |
| TP-3, 3s | J1RWC2 | 8/7/2013 | 32.0 | X | 0.40 | 1.0 | 0.10 |
| TP-4, 4s | J1RWC3 | 8/7/2013 | 55.6 | X | 0.41 | 3.5 | 0.10 |
| TP-4, Pipe Content, 4c | J1RWC4 | 8/7/2013 | 33.9 | X | 0.39 | 1.2 | 0.10 |
| TP-5, 5s | J1RWD5 | 8/7/2013 | 54.1 | X | 0.42 | | |
| 5TP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 34.0 | | 8.06 | 95.5 | 0.10 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 35.1 | | 9.91 | 95.2 | 0.10 |

100-N-84:5 Subsite In-process Sample Results (Metals-Wet).

| Sample Location | HEIS Number | Sample Date | Aluminum | | Antimony | | Arsenic | | Barium | | Beryllium | | | | |
|--------------------|-------------|-------------|----------|-------|----------|-------|---------|-------|--------|-------|-----------|-------|------|---|------|
| | | | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | | | |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 119 | 50.0 | 6.00 | U | 6.00 | 10.0 | U | 10.0 | 46.5 | 5.00 | 2.00 | U | 2.00 |

| Sample Location | HEIS Number | Sample Date | Boron | | Cadmium | | Calcium | | Chromium | | Hexavalent Chromium | | | |
|---|-------------|-------------|-------|-------|---------|-------|---------|-------|----------|-------|---------------------|-------|---|------|
| | | | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | | |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 27.8 | 10.0 | 1.00 | U | 22800 | 100 | 1.06 | B | 2.00 | | | |
| 5TP-6, Pipe Liquid for Cr ⁶⁺ | J1JF36 | 7/7/2011 | | | | | | | | | | 3.70 | U | 3.70 |

| Sample Location | HEIS Number | Sample Date | Cobalt | | Copper | | Iron | | Lead | | Magnesium | | | |
|--------------------|-------------|-------------|--------|-------|--------|-------|------|-------|------|-------|-----------|-------|------|-----|
| | | | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | | |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 2.00 | U | 2.00 | 11.3 | 10.0 | 250 | 50.0 | 5.00 | U | 5.00 | 4350 | 100 |

| Sample Location | HEIS Number | Sample Date | Manganese | | Mercury | | Molybdenum | | Nickel | | Potassium | | | | |
|--------------------|-------------|-------------|-----------|-------|---------|-------|------------|-------|--------|-------|-----------|-------|------|------|-----|
| | | | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | | | |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 6.60 | 2.00 | 0.200 | U | 0.200 | 1.80 | B | 2.00 | 5.00 | U | 5.00 | 1000 | 500 |

| Sample Location | HEIS Number | Sample Date | Selenium | | Silicon | | Silver | | Sodium | | Uranium | | | |
|--------------------|-------------|-------------|----------|-------|---------|-------|--------|-------|--------|-------|---------|-------|---|-----|
| | | | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | ug/L | Q PQL | | |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 10.0 | U | 10.0 | 2310 | 50.0 | 2.00 | U | 2.00 | 5230 | 100 | U | 100 |

| Sample Location | HEIS Number | Sample Date | Vanadium | | Zinc | | |
|--------------------|-------------|-------------|----------|-------|------|-------|------|
| | | | ug/L | Q PQL | ug/L | Q PQL | |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 2.69 | B | 5.00 | 68.9 | 10.0 |

100-N-84:5 Subsite In-process Sample Results (Anions).

| Sample Location | HEIS Number | Sample Date | Bromide | | | Chloride | | | Fluoride | | |
|--------------------------|-------------|-------------|---------|---|-----|----------|---|-----|----------|---|-----|
| | | | mg/kg | Q | PQL | mg/kg | Q | PQL | mg/kg | Q | PQL |
| STP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 5.2 | U | 5.2 | 10.4 | | 5.2 | 1.9 | B | 5.2 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 5.1 | U | 5.1 | 10.7 | | 5.1 | 1.4 | B | 5.1 |

| Sample Location | HEIS Number | Sample Date | Nitrate | | | Nitrite | | | Nitrogen in Nitrite and | | |
|--------------------------|-------------|-------------|---------|---|-----|---------|----|-----|-------------------------|---|------|
| | | | mg/kg | Q | PQL | mg/kg | Q | PQL | mg/kg | Q | PQL |
| STP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 15.7 | J | 5.2 | 5.2 | UR | 5.2 | 3.52 | | 0.52 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 15.5 | J | 5.1 | 5.1 | UR | 5.1 | 3.76 | | 0.51 |

| Sample Location | HEIS Number | Sample Date | Phosphate | | | Sulfate | | |
|--------------------------|-------------|-------------|-----------|----|------|---------|---|-----|
| | | | mg/kg | Q | PQL | mg/kg | Q | PQL |
| STP-6, Soil beneath pipe | J1JDD4 | 7/7/2011 | 10.4 | UR | 10.4 | 11.2 | | 5.2 |
| Duplicate of J1JDD4 | J1JDD5 | 7/7/2011 | 10.2 | UR | 10.2 | 11.1 | | 5.1 |

100-N-84:5 Subsite In-process Sample Results (Anions-Wet).

| Sample Location | HEIS Number | Sample Date | Bromide | | | Chloride | | | Fluoride | | |
|--------------------|-------------|-------------|---------|---|------|----------|---|------|----------|---|------|
| | | | mg/L | Q | PQL | mg/L | Q | PQL | mg/L | Q | PQL |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 0.50 | U | 0.50 | 5.19 | | 0.50 | 0.13 | B | 0.50 |

| Sample Location | HEIS Number | Sample Date | Nitrate | | | Nitrite | | | Phosphate | | |
|--------------------|-------------|-------------|---------|---|------|---------|---|------|-----------|---|------|
| | | | mg/L | Q | PQL | mg/L | Q | PQL | mg/L | Q | PQL |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 9.04 | D | 1.00 | 0.50 | U | 0.50 | 1.36 | | 1.00 |

| Sample Location | HEIS Number | Sample Date | Sulfate | | |
|--------------------|-------------|-------------|---------|---|------|
| | | | mg/L | Q | PQL |
| 5TP-6, Pipe Liquid | J1JF18 | 7/7/2011 | 9.96 | D | 1.00 |

100-N-84:5 Subsite In-process Sample Results - Asbestos ^a.

| Sample Area | HEIS Number | Sample Date | Chrysotile | Amosite | Crocidolite | Tremolite | Actinolite | Anthophyllite |
|-------------|-------------|-------------|------------|---------|-------------|-----------|------------|---------------|
| | | | % | % | % | % | % | % |
| TP-1, 1s | J1RWC6 | 8/7/2013 | ND | ND | ND | ND | ND | ND |
| TP-2, 2s | J1RWC7 | 8/7/2013 | ND | ND | ND | ND | ND | ND |
| TP-3, 3s | J1RWC8 | 8/7/2013 | ND | ND | ND | ND | ND | ND |
| TP-4, 4s | J1RWC9 | 8/7/2013 | ND | ND | ND | ND | ND | ND |
| TP-5, 5s | J1RWD0 | 8/7/2013 | ND | ND | ND | ND | ND | ND |

^a The required detection limit for asbestos is 1 %.

100-N-84:5 Subsite In-process Sample Results (Organics).

| Constituent | Class | J1JDD4, 5TP-6 | | | J1JDD5 | | |
|--|-------|-------------------|-----|------|---------------------|-----|------|
| | | Soil beneath pipe | | | Duplicate of J1JDD4 | | |
| | | 7/7/2011 | | | 7/7/2011 | | |
| | | ug/kg | Q | PQL | ug/kg | Q | PQL |
| Aroclor-1016 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1221 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1232 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1242 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1248 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1254 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1260 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1262 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aroclor-1268 | PCB | 13.8 | U | 13.8 | 13.8 | U | 13.8 |
| Aldrin | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Alpha-BHC | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| alpha-Chlordane | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| beta-1,2,3,4,5,6-Hexachlorocyclohexane | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Delta-BHC | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Dichlorodiphenyldichloroethane | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Dichlorodiphenyldichloroethylene | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Dichlorodiphenyltrichloroethane | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Dieldrin | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Endosulfan I | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Endosulfan II | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Endosulfan sulfate | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Endrin | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Endrin aldehyde | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Endrin ketone | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Gamma-BHC (Lindane) | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| gamma-Chlordane | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Heptachlor | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Heptachlor epoxide | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Methoxychlor | PEST | 1.38 | UD | 1.38 | 1.38 | UD | 1.38 |
| Toxaphene | PEST | 20.7 | UDJ | 20.7 | 20.7 | UDJ | 20.7 |
| 1,2,4-Trichlorobenzene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 1,2-Dichlorobenzene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 1,3-Dichlorobenzene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 1,4-Dichlorobenzene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2,4,5-Trichlorophenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2,4,6-Trichlorophenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2,4-Dichlorophenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2,4-Dimethylphenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2,4-Dinitrophenol | SVOA | 1640 | U | 1640 | 1720 | U | 1720 |
| 2,4-Dinitrotoluene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2,6-Dinitrotoluene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2-Chloronaphthalene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2-Chlorophenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2-Methylnaphthalene | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2-Methylphenol (cresol, o-) | SVOA | 328 | U | 328 | 344 | U | 344 |
| 2-Nitroaniline | SVOA | 1640 | U | 1640 | 1720 | U | 1720 |
| 2-Nitrophenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 3,3'-Dichlorobenzidine | SVOA | 655 | U | 655 | 688 | U | 688 |
| 3+4 Methylphenol (cresol, m+p) | SVOA | 328 | U | 328 | 344 | U | 344 |
| 3-Nitroaniline | SVOA | 1640 | U | 1640 | 1720 | U | 1720 |

100-N-84:5 Subsite In-process Sample Results (Organics).

| Constituent | Class | J1JDD4, 5TP-6 | | | J1JDDS | | |
|-----------------------------------|-------|-------------------|----|------|---------------------|----|------|
| | | Soil beneath pipe | | | Duplicate of J1JDD4 | | |
| | | 7/7/2011 | | | 7/7/2011 | | |
| | | ug/kg | Q | PQL | ug/kg | Q | PQL |
| 4,6-Dinitro-2-methylphenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 4-Bromophenylphenyl ether | SVOA | 328 | U | 328 | 344 | U | 344 |
| 4-Chloro-3-methylphenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| 4-Chloroaniline | SVOA | 328 | U | 328 | 344 | U | 344 |
| 4-Chlorophenylphenyl ether | SVOA | 328 | U | 328 | 344 | U | 344 |
| 4-Nitroaniline | SVOA | 1640 | U | 1640 | 1720 | U | 1720 |
| 4-Nitrophenol | SVOA | 1640 | U | 1640 | 1720 | U | 1720 |
| Acenaphthene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Acenaphthylene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Anthracene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Benzo(a)anthracene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Benzo(a)pyrene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Benzo(b)fluoranthene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Benzo(ghi)perylene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Benzo(k)fluoranthene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Bis(2-chloro-1-methylethyl) ether | SVOA | 328 | U | 328 | 344 | U | 344 |
| Bis(2-Chloroethoxy)methane | SVOA | 328 | U | 328 | 344 | U | 344 |
| Bis(2-chloroethyl) ether | SVOA | 328 | U | 328 | 344 | U | 344 |
| Bis(2-ethylhexyl) phthalate | SVOA | 328 | U | 328 | 344 | U | 344 |
| Butylbenzylphthalate | SVOA | 328 | U | 328 | 344 | U | 344 |
| Carbazole | SVOA | 328 | U | 328 | 344 | U | 344 |
| Chrysene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Dibenz[a,h]anthracene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Dibenzofuran | SVOA | 328 | U | 328 | 344 | U | 344 |
| Diethyl phthalate | SVOA | 328 | U | 328 | 344 | U | 344 |
| Dimethyl phthalate | SVOA | 328 | U | 328 | 344 | U | 344 |
| Di-n-butylphthalate | SVOA | 328 | U | 328 | 344 | U | 344 |
| Di-n-octylphthalate | SVOA | 328 | U | 328 | 344 | U | 344 |
| Fluoranthene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Fluorene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Hexachlorobenzene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Hexachlorobutadiene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Hexachlorocyclopentadiene | SVOA | 328 | UJ | 328 | 344 | UJ | 344 |
| Hexachloroethane | SVOA | 328 | U | 328 | 344 | U | 344 |
| Indeno(1,2,3-cd)pyrene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Isophorone | SVOA | 328 | U | 328 | 344 | U | 344 |
| Naphthalene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Nitrobenzene | SVOA | 328 | U | 328 | 344 | U | 344 |
| N-Nitroso-di-n-diethylamine | SVOA | 328 | U | 328 | 344 | U | 344 |
| N-Nitrosodiphenylamine | SVOA | 328 | U | 328 | 344 | U | 344 |
| Pentachlorophenol | SVOA | 1640 | U | 1640 | 1720 | U | 1720 |
| Phenanthrene | SVOA | 328 | U | 328 | 344 | U | 344 |
| Phenol | SVOA | 328 | U | 328 | 344 | U | 344 |
| Pyrene | SVOA | 328 | U | 328 | 344 | U | 344 |

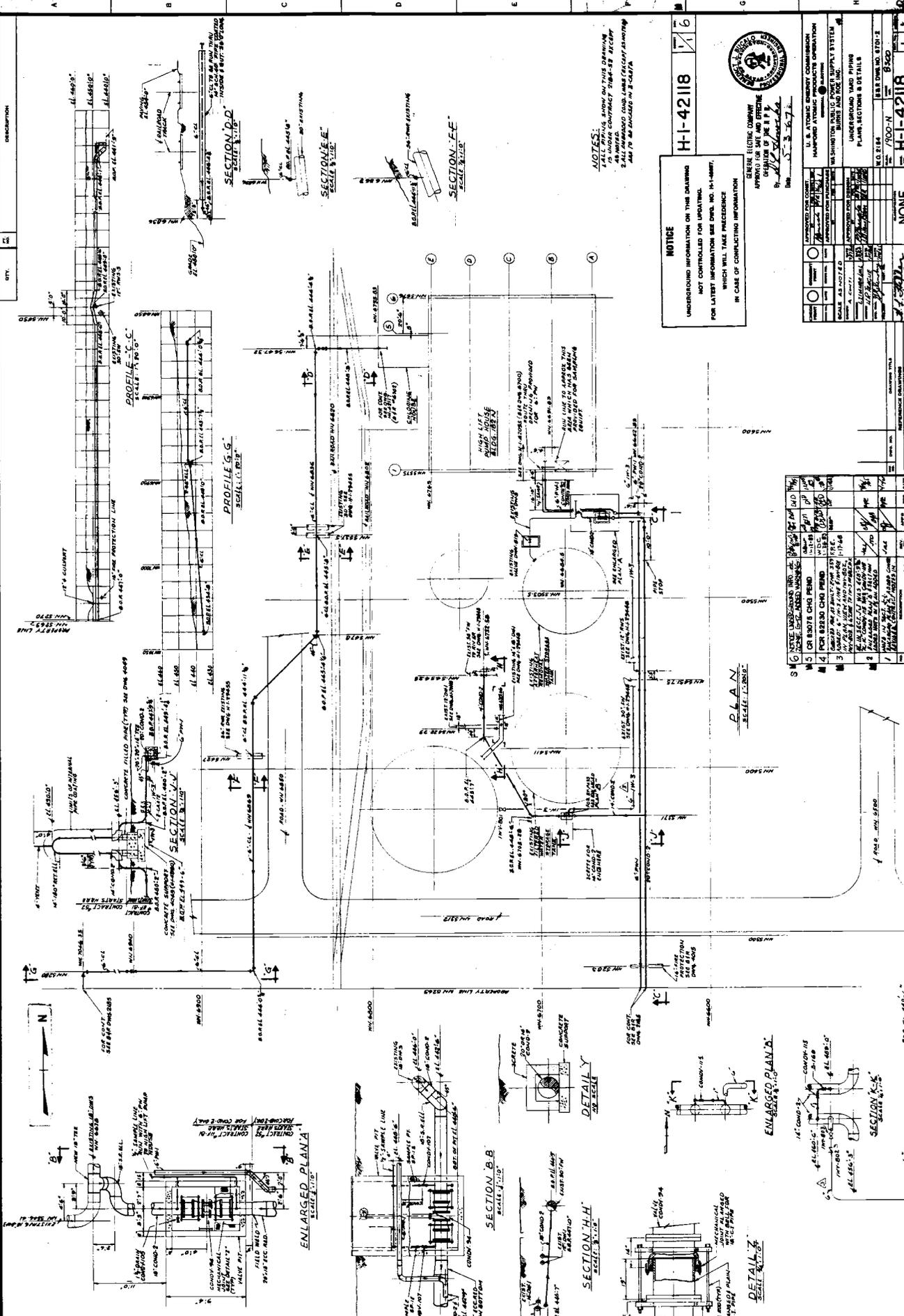
100-N-84:5 Subsite In-process Sample Results (Organics-Wet).

| Constituent | Class | J1JF18, STP-6, Pipe Liquid | | |
|--|-------|----------------------------|---|--------|
| | | 7/7/2011 | | |
| | | ug/L | Q | PQL |
| Aroclor-1016 | PCB | 0.400 | U | 0.400 |
| Aroclor-1221 | PCB | 0.400 | U | 0.400 |
| Aroclor-1232 | PCB | 0.400 | U | 0.400 |
| Aroclor-1242 | PCB | 0.400 | U | 0.400 |
| Aroclor-1248 | PCB | 0.400 | U | 0.400 |
| Aroclor-1254 | PCB | 0.400 | U | 0.400 |
| Aroclor-1260 | PCB | 0.400 | U | 0.400 |
| Aroclor-1262 | PCB | 0.400 | U | 0.400 |
| Aroclor-1268 | PCB | 0.400 | U | 0.400 |
| Aldrin | PEST | 0.0500 | U | 0.0500 |
| Alpha-BHC | PEST | 0.0500 | U | 0.0500 |
| alpha-Chlordane | PEST | 0.0500 | U | 0.0500 |
| beta-1,2,3,4,5,6-Hexachlorocyclohexane | PEST | 0.0500 | U | 0.0500 |
| Chlordane | PEST | 0.100 | U | 0.100 |
| Delta-BHC | PEST | 0.0500 | U | 0.0500 |
| Dichlorodiphenyldichloroethane | PEST | 0.0500 | U | 0.0500 |
| Dichlorodiphenyldichloroethylene | PEST | 0.0500 | U | 0.0500 |
| Dichlorodiphenyltrichloroethane | PEST | 0.0500 | U | 0.0500 |
| Dieldrin | PEST | 0.0500 | U | 0.0500 |
| Endosulfan I | PEST | 0.0500 | U | 0.0500 |
| Endosulfan II | PEST | 0.0500 | U | 0.0500 |
| Endosulfan sulfate | PEST | 0.0500 | U | 0.0500 |
| Endrin | PEST | 0.0500 | U | 0.0500 |
| Endrin aldehyde | PEST | 0.0500 | U | 0.0500 |
| Endrin ketone | PEST | 0.0500 | U | 0.0500 |
| Gamma-BHC (Lindane) | PEST | 0.0500 | U | 0.0500 |
| gamma-Chlordane | PEST | 0.0500 | U | 0.0500 |
| Heptachlor | PEST | 0.0500 | U | 0.0500 |
| Heptachlor epoxide | PEST | 0.0500 | U | 0.0500 |
| Methoxychlor | PEST | 0.0500 | U | 0.0500 |
| Toxaphene | PEST | 0.500 | U | 0.500 |
| 1,2,4-Trichlorobenzene | SVOA | 10.5 | U | 10.5 |
| 1,2-Dichlorobenzene | SVOA | 10.5 | U | 10.5 |
| 1,3-Dichlorobenzene | SVOA | 10.5 | U | 10.5 |
| 1,4-Dichlorobenzene | SVOA | 10.5 | U | 10.5 |
| 2,4,5-Trichlorophenol | SVOA | 10.5 | U | 10.5 |
| 2,4,6-Trichlorophenol | SVOA | 10.5 | U | 10.5 |
| 2,4-Dichlorophenol | SVOA | 10.5 | U | 10.5 |
| 2,4-Dimethylphenol | SVOA | 10.5 | U | 10.5 |
| 2,4-Dinitrophenol | SVOA | 52.6 | U | 52.6 |
| 2,4-Dinitrotoluene | SVOA | 10.5 | U | 10.5 |
| 2,6-Dinitrotoluene | SVOA | 10.5 | U | 10.5 |
| 2-Chloronaphthalene | SVOA | 10.5 | U | 10.5 |
| 2-Chlorophenol | SVOA | 10.5 | U | 10.5 |
| 2-Methylnaphthalene | SVOA | 10.5 | U | 10.5 |
| 2-Methylphenol (cresol, o-) | SVOA | 10.5 | U | 10.5 |
| 2-Nitroaniline | SVOA | 26.3 | U | 26.3 |
| 2-Nitrophenol | SVOA | 10.5 | U | 10.5 |
| 3,3'-Dichlorobenzidine | SVOA | 52.6 | U | 52.6 |
| 3+4 Methylphenol (cresol, m+p) | SVOA | 10.5 | U | 10.5 |
| 3-Nitroaniline | SVOA | 26.3 | U | 26.3 |
| 4,6-Dinitro-2-methylphenol | SVOA | 26.3 | U | 26.3 |
| 4-Bromophenylphenyl ether | SVOA | 10.5 | U | 10.5 |

100-N-84:5 Subsite In-process Sample Results (Organics-Wet).

| Constituent | Class | J1JF18, 5TP-6, Pipe Liquid | | |
|----------------------------------|-------|----------------------------|---|------|
| | | 7/7/2011 | | |
| | | ug/L | Q | PQL |
| 4-Chloro-3-methylphenol | SVOA | 10.5 | U | 10.5 |
| 4-Chloroaniline | SVOA | 26.3 | U | 26.3 |
| 4-Chlorophenylphenyl ether | SVOA | 10.5 | U | 10.5 |
| 4-Nitroaniline | SVOA | 26.3 | U | 26.3 |
| 4-Nitrophenol | SVOA | 26.3 | U | 26.3 |
| Acenaphthene | SVOA | 10.5 | U | 10.5 |
| Acenaphthylene | SVOA | 10.5 | U | 10.5 |
| Anthracene | SVOA | 10.5 | U | 10.5 |
| Benzo(a)anthracene | SVOA | 10.5 | U | 10.5 |
| Benzo(a)pyrene | SVOA | 10.5 | U | 10.5 |
| Benzo(b)fluoranthene | SVOA | 10.5 | U | 10.5 |
| Benzo(ghi)perylene | SVOA | 10.5 | U | 10.5 |
| Benzo(k)fluoranthene | SVOA | 10.5 | U | 10.5 |
| Bis(2-chloro-1-methylethyl)ether | SVOA | 10.5 | U | 10.5 |
| Bis(2-Chloroethoxy)methane | SVOA | 10.5 | U | 10.5 |
| Bis(2-chloroethyl) ether | SVOA | 10.5 | U | 10.5 |
| Bis(2-ethylhexyl) phthalate | SVOA | 10.5 | U | 10.5 |
| Butylbenzylphthalate | SVOA | 10.5 | U | 10.5 |
| Carbazole | SVOA | 10.5 | U | 10.5 |
| Chrysene | SVOA | 10.5 | U | 10.5 |
| Dibenz[a,h]anthracene | SVOA | 10.5 | U | 10.5 |
| Dibenzofuran | SVOA | 10.5 | U | 10.5 |
| Diethyl phthalate | SVOA | 10.5 | U | 10.5 |
| Dimethyl phthalate | SVOA | 10.5 | U | 10.5 |
| Di-n-butylphthalate | SVOA | 10.5 | U | 10.5 |
| Di-n-octylphthalate | SVOA | 10.5 | U | 10.5 |
| Fluoranthene | SVOA | 10.5 | U | 10.5 |
| Fluorene | SVOA | 10.5 | U | 10.5 |
| Hexachlorobenzene | SVOA | 10.5 | U | 10.5 |
| Hexachlorobutadiene | SVOA | 10.5 | U | 10.5 |
| Hexachlorocyclopentadiene | SVOA | 10.5 | U | 10.5 |
| Hexachloroethane | SVOA | 10.5 | U | 10.5 |
| Indeno(1,2,3-cd)pyrene | SVOA | 10.5 | U | 10.5 |
| Isophorone | SVOA | 10.5 | U | 10.5 |
| Naphthalene | SVOA | 10.5 | U | 10.5 |
| Nitrobenzene | SVOA | 10.5 | U | 10.5 |
| N-Nitroso-di-n-dipropylamine | SVOA | 10.5 | U | 10.5 |
| N-Nitrosodiphenylamine | SVOA | 10.5 | U | 10.5 |
| Pentachlorophenol | SVOA | 26.3 | U | 26.3 |
| Phenanthrene | SVOA | 10.5 | U | 10.5 |
| Phenol | SVOA | 10.5 | U | 10.5 |
| Pyrene | SVOA | 10.5 | U | 10.5 |

| CONSTITUENT | CLASS | J1RWC2, TP-3, 3s | | | J1RWC3, TP-4, 4s | | |
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| Aroclor-1016 | PCB | 2.7 | U | 2.7 | 2.8 | U | 2.8 |
| Aroclor-1221 | PCB | 7.9 | U | 7.9 | 8.2 | U | 8.2 |
| Aroclor-1232 | PCB | 2.0 | U | 2.0 | 2.1 | U | 2.1 |
| Aroclor-1242 | PCB | 4.6 | U | 4.6 | 4.8 | U | 4.8 |
| Aroclor-1248 | PCB | 4.6 | U | 4.6 | 4.8 | U | 4.8 |
| Aroclor-1254 | PCB | 2.6 | U | 2.6 | 2.7 | U | 2.7 |
| Aroclor-1260 | PCB | 2.6 | U | 2.6 | 2.7 | U | 2.7 |



NOTICE

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GENERAL ELECTRIC COMPANY
 APPROVED FOR SITE AND DESIGN
 DIVISION OF THE R.F.P.
 By: *[Signature]*
 Date: 3-25-71

H-1-42118



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| DESIGNER | DATE | BY | CHKD. |
| PROJECT ENGINEER | DATE | BY | CHKD. |
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NOTES:

1. ALL PIPING SHOWN ON THIS DRAWING IS UNDER CONTRACT UNDER 88-89.

2. ALL MATERIALS AND WORKMANSHIP SHALL BE AS SHOWN IN THESE NOTES.

GENERAL ELECTRIC COMPANY
 APPROVED FOR SITE AND DESIGN
 DIVISION OF THE R.F.P.
 By: *[Signature]*
 Date: 3-25-71

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GENERAL ELECTRIC COMPANY
 APPROVED FOR SITE AND DESIGN
 DIVISION OF THE R.F.P.
 By: *[Signature]*
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Attachment 11

173798

^WCH Document Control

From: Saueressig, Daniel G
Sent: Monday, November 18, 2013 11:52 AM
To: ^WCH Document Control
Subject: FW: CERCLA WARNING SIGNS

Please provide a chron number. This email documents a regulatory agreement.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Chance, Joanne C [mailto:joanne.chance@rl.doe.gov]
Sent: Monday, November 18, 2013 11:24 AM
To: Saueressig, Daniel G
Cc: Elliott, Wanda
Subject: RE: CERCLA WARNING SIGNS

I concur also. Thanks.

Joanne C. Chance
U.S. Department of Energy
Office of Assistant Manager for River and Plateau
825 Jadwin Ave / MSIN A3-04
Richland, WA 99352
(509) 376-0811

From: Elliott, Wanda (ECY) [mailto:well461@ecy.wa.gov]
Sent: Monday, November 18, 2013 9:52 AM
To: Saueressig, Daniel G; Chance, Joanne C
Subject: RE: CERCLA WARNING SIGNS

I concur.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology



From: Saueressig, Daniel G [<mailto:dqsauere@wch-rcc.com>]
Sent: Monday, November 18, 2013 9:25 AM
To: Elliott, Wanda (ECY); Chance, Joanne C
Subject: CERCLA WARNING SIGNS

Wanda/Joanne, we've got a couple additional sites (100-N-94 and 100-N-99) that we would like to utilize smaller CERCLA warning signs at the entrances (11x17) consistent with what was done at 600-340/628-2 as approved below.

Let me know if you concur.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

Wanda Elliott (ECY) [<mailto:well461@ECY.WA.GOV>]
April 30, 2013 7:20 AM
Daniel G; Chance, Joanne C
CERCLA WARNING SIGNS

I concur.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology

<< OLE Object: Picture (Device Independent Bitmap) >>

From: Saueressig, Daniel G [<mailto:dqsauere@wch-rcc.com>]
Sent: Tuesday, April 30, 2013 7:14 AM
To: Elliott, Wanda (ECY); Chance, Joanne C
Subject: CERCLA WARNING SIGNS

Wanda/Joanne, we're planning to start work on 600-340 and 628-2 soon and I would like to request your approval

11/18/2013

to place smaller CERCLA warning signs at the entrance to the sites, consistent with the agreement by EPA (see attached). These sites are near the 100 Area fire station and we believe the smaller signs at the entrance to these sites will still meet the intent of the requirement in the RDR and ensure personnel entering the site are aware of the potential hazards.

Let me know if you concur.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

<< File: CERCLA SIGN AGREEMENT.pdf >>

Attachment 12

^WCH Document Control

From: Saueressig, Daniel G
Sent: Tuesday, November 19, 2013 6:18 AM
To: ^WCH Document Control
Subject: FW: REQUEST FOR CERCLA CONTAINER STORAGE AREA AT 100-N

Attachments: Picture (Device Independent Bitmap)

Please provide a chron number. This email documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Elliott, Wanda (ECY) [<mailto:wel461@ECY.WA.GOV>]
Sent: Tuesday, November 19, 2013 6:15 AM
To: Saueressig, Daniel G
Cc: Chance, Joanne C
Subject: RE: REQUEST FOR CERCLA CONTAINER STORAGE AREA AT 100-N

I approve with the understanding that before FR demobs that the area is closed.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology



From: Saueressig, Daniel G [<mailto:dgsauere@wch-rcc.com>]
Sent: Tuesday, November 19, 2013 6:13 AM
To: Elliott, Wanda (ECY)
Cc: Chance, Joanne C
Subject: RE: REQUEST FOR CERCLA CONTAINER STORAGE AREA AT 100-N

Wanda, we established the CERCLA container storage area you approved below on 11/30/12 and the need for centralized container storage area remains at least through the winter. I'd like to request your approval for a one year extension to allow continued storage of containerized waste at this location.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Elliott, Wanda (ECY) [mailto:wel461@ECY.WA.GOV]
Sent: Monday, September 24, 2012 8:33 AM
To: Saueressig, Daniel G
Cc: Chance, Joanne C; Winterhalder, John A
Subject: RE: REQUEST FOR CERCLA CONTAINER STORAGE AREA AT 100-N

I concur.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology

From: Saueressig, Daniel G [mailto:dgsauere@wch-rcc.com]
Sent: Thursday, September 20, 2012 1:40 PM
To: Elliott, Wanda (ECY)
Cc: Chance, Joanne C; Winterhalder, John A
Subject: REQUEST FOR CERCLA CONTAINER STORAGE AREA AT 100-N

Wanda, I'd like to request your approval to set up a CERCLA container storage area at 100-N. The attached aerial photo shows the proposed location of the storage area, which will be set up in the southwest corner of the 100-N equipment storage area near the survey tent. This area could operate for up to 1 year and I estimate up to 10 55 gallons of waste could be stored there at any one time. Examples of types of waste that we expect to store there include spill cleanup material (hydraulic fluids and fuels combined with soil), personal protective clothing from confirmatory and verification sampling, oils and/or water drained from pipelines and potentially lead or other anomalous material encountered during remediation of various waste sites. The container storage area will be managed in compliance with the substantive Washington Administrative Code container management requirements, including WAC 173-303-630 and -646(7).

Let me know if you concur and give me a call if you have any questions.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

<< File: Waste Container storage area 100N.JPG >>

Attachment 13

^WCH Document Control

From: Saueressig, Daniel G
Sent: Tuesday, November 19, 2013 9:04 AM
To: ^WCH Document Control
Subject: FW: PARTIAL BACKFILL REQUEST FOR 100-N-79

Attachments: Re PARTIAL BACKFILL REQUEST FOR 100-N-79.htm; Picture (Device Independent Bitmap)

Please provide a chron number (and include the attachment). This email documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326



Re PARTIAL
CKFILL REQUEST FC

From: Elliott, Wanda (ECY) [<mailto:well461@ECY.WA.GOV>]
Sent: Monday, November 18, 2013 9:52 AM
To: Saueressig, Daniel G; Chance, Joanne C
Cc: Biebrich, Ernest J; Jakubek, Joshua E
Subject: RE: PARTIAL BACKFILL REQUEST FOR 100-N-79

I approve.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology



From: Saueressig, Daniel G [<mailto:dgsauere@wch-rcc.com>]
Sent: Monday, November 18, 2013 9:36 AM
To: Elliott, Wanda (ECY); Chance, Joanne C
Cc: Biebrich, Ernest J; Jakubek, Joshua E
Subject: PARTIAL BACKFILL REQUEST FOR 100-N-79

Wanda/Joanne, I'd like to request your approval to partially backfill a couple small portions of 100-N-79 prior to approval of the RSVP. The areas we would like to backfill are shown on the attached drawing. The areas need to have some fill placed to prevent a potential fish stranding scenario during high river flows and to allow D4 to gain access to the downstream 181-N cable barrier anchor block that they will be removing in the near future. The RSVP is currently in internal WCH review and further remediation at the site is not anticipated. In addition, we have civil surveys of the area and should additional remediation at the site be required, we would remove any of the fill to conduct additional remediation.

Let me know if you concur.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

<< File: 100-N-79 - Fill Request Areas.pdf >>

From: Chance, Joanne C [joanne.chance@rl.doe.gov]
Sent: Tuesday, November 19, 2013 8:19 AM
To: Saueressig, Daniel G
Cc: Biebrich, Ernest J; Jakubek, Joshua E; Elliott, Wanda
Subject: Re: PARTIAL BACKFILL REQUEST FOR 100-N-79
I concur also. Thanks.

Sent from my iPad

On Nov 18, 2013, at 9:51 AM, "Elliott, Wanda (ECY)" <well461@ecy.wa.gov> wrote:

I approve.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology

<Picture (Device Independent Bitmap) 1.jpg>

From: Saueressig, Daniel G [<mailto:dqsauere@wch-rcc.com>]
Sent: Monday, November 18, 2013 9:36 AM
To: Elliott, Wanda (ECY); Chance, Joanne C
Cc: Biebrich, Ernest J; Jakubek, Joshua E
Subject: PARTIAL BACKFILL REQUEST FOR 100-N-79

Wanda/Joanne, I'd like to request your approval to partially backfill a couple small portions of 100-N-79 prior to approval of the RSVP. The areas we would like to backfill are shown on the attached drawing. The areas need to have some fill placed to prevent a potential fish stranding scenario during high river flows and to allow D4 to gain access to the downstream 181-N cable barrier anchor block that they will be removing in the near future. The RSVP is currently in internal WCH review and further remediation at the site is not anticipated. In addition, we have civil surveys of the area and should additional remediation at the site be required, we would remove any of the fill to conduct additional remediation.

Let me know if you concur.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

<< File: 100-N-79 - Fill Request Areas.pdf >>

Attachment 14

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| 173894 |
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^WCH Document Control

From: Saueressig, Daniel G
Sent: Tuesday, November 26, 2013 3:46 PM
To: ^WCH Document Control
Subject: FW: 100-N Land Bridge Proposal:
Attachments: 100-N Replacement Land Bridge Map.pdf

Please provide a chron number (and include the attachment). This email documents a regulatory agreement.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Chance, Joanne C [mailto:joanne.chance@rl.doe.gov]
Sent: Monday, November 25, 2013 2:10 PM
To: Jakubek, Joshua E
Cc: Saueressig, Daniel G; Biebrich, Ernest J; Thompson, Wendy S; Elliott, Wanda
Subject: RE: 100-N Land Bridge Proposal:

Hi Josh,

It is acceptable to me, too. Thanks for the good aerial.

Joanne C. Chance
U.S. Department of Energy
Office of Assistant Manager for River and Plateau
825 Jadwin Ave / MSIN A3-04
Richland, WA 99352
(509) 376-0811

From: Elliott, Wanda (ECY) [mailto:well461@ecy.wa.gov]
Sent: Thursday, November 21, 2013 8:01 AM
To: Jakubek, Joshua E; Chance, Joanne C; Chance, Joanne C
Cc: Saueressig, Daniel G; Biebrich, Ernest J; Thompson, Wendy S
Subject: RE: 100-N Land Bridge Proposal:

The proposal is acceptable to me.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology

11/26/2013



From: Jakubek, Joshua E [<mailto:jejakube@wch-rcc.com>]
Sent: Thursday, November 21, 2013 5:59 AM
To: Elliott, Wanda (ECY); Elliott, Wanda (ECY); Chance, Joanne C; Chance, Joanne C
Cc: Saueressig, Daniel G; Biebrich, Ernest J; Thompson, Wendy S
Subject: 100-N Land Bridge Proposal:

Wanda / Joanne,

WCH would like to propose approval for installing an alternate land bridge for access at the east side of the 105-N reactor. This will enable us to remove the current land bridge at 100-N-84:2 (see attached map). Most of this replacement land bridge will cross the previously closed out UPR-100-N-19 (waste site group) and the 100-N-61:2 (waste site group) areas. A small portion will cover the edge of UPR-100-N-42, which is not closed out yet but is deep zone anyway.

Please advise if this approach is acceptable. We hope to install this land bridge on December 6th.

<< File: 100-N Replacement Land Bridge Map.pdf >>

Thanks,

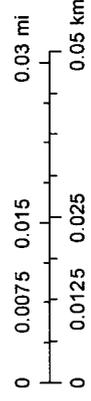
Josh Jakubek
Washington Closure Hanford
Resident Engineer
509-942-4703



November 15, 2013

- 104.3300018 - 139.3317258
- 139.3317259 - 168.8068617
- 168.8068618 - 208.4140757
- 208.4140758 - 257.2322696
- 257.2322697 - 339.2099915
- Red: Band_1
- Green: Band_2
- Blue: Band_3

1:1,100



Attachment 15

174039

^WCH Document Control

From: Saueressig, Daniel G
Sent: Wednesday, December 18, 2013 8:41 AM
To: ^WCH Document Control
Subject: FW: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

Please provide a chron number. This email documents a regulatory approval.

Thanks,

Dan Saueressig
 FR Environmental Project Lead
 Washington Closure Hanford
 521-5326

From: Elliott, Wanda (ECY) [mailto:well461@ECY.WA.GOV]
Sent: Wednesday, December 18, 2013 8:38 AM
To: Saueressig, Daniel G
Cc: Guercia, Rudolph F; Chance, Joanne C
Subject: RE: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

I concur.

Wanda Elliott
 (509) 372-7904
 Environmental Scientist
 Nuclear Waste Program
 Washington State Department of Ecology



From: Saueressig, Daniel G [mailto:dgsauere@wch-rcc.com]
Sent: Wednesday, December 18, 2013 8:38 AM
To: Elliott, Wanda (ECY)
Cc: Guercia, Rudolph F; Chance, Joanne C
Subject: RE: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

Wanda, based on the approval below, we plan to place approximately 32 pieces of concrete debris (Ecology blocks, concrete dividers, etc.) into the 182-N along with the 100-N anchor blocks. In addition, various concrete parking bumpers, miscellaneous bollards, 4 concrete electrical vaults and one large (~4 feet in diameter by 4 feet tall) concrete filled pipe used to mock up the fission product trap removal action are also planned to be placed into the 182-N. We will comply with all the stipulations identified by you below and provide the estimated volume of material when placed.

Let me know if you concur.

12/18/2013

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Guercia, Rudolph F (Rudy) [mailto:rudolph.guercia@rl.doe.gov]
Sent: Monday, September 16, 2013 11:58 AM
To: Chance, Joanne C; Elliott, Wanda; Saueressig, Daniel G
Cc: Boyd, Alicia; Menard, Nina; Douglas, L M (Michael); Allen, Mark E; Winterhalder, John A
Subject: RE: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

I concur also; Mike/Mark, FYI and planning purposes

RF Guercia

From: Chance, Joanne C
Sent: Monday, September 16, 2013 11:33 AM
To: 'Elliott, Wanda (ECY)'; Saueressig, Daniel G
Cc: Boyd, Alicia (ECY); Menard, Nina (ECY); Guercia, Rudolph F (Rudy)
Subject: RE: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

Hi Wanda and Dan,

I concur with the requested debris disposal plan, with the stipulations noted by Ecology.

(Rudy is in training, so it may take a few days for his response. I know he is supportive of the concept and wants the metal recycled, too). Thanks.

Joanne C. Chance
U.S. Department of Energy
Office of Assistant Manager for River and Plateau
825 Jadwin Ave / MSIN A3-04
Richland, WA 99352
(509) 376-0811

From: Elliott, Wanda (ECY) [mailto:well461@ecy.wa.gov]
Sent: Thursday, September 12, 2013 7:33 AM
To: Saueressig, Daniel G; Chance, Joanne C; Guercia, Rudolph F (Rudy)
Cc: Boyd, Alicia (ECY); Menard, Nina (ECY)
Subject: RE: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

All,

12/18/2013

I approve the placement of clean inert debris (e.g., 100-N anchor blocks, miscellaneous ecology blocks, and parking bumpers) from various 100-N locations into the 182-N subgrade foundation prior to backfill of the area "on a case-by-case" basis only. Note that this agreement does not include the fencing, fence posts, and fence fabrics. Those items should be sent for recycling whenever possible.

Please ensure the following:

The debris does not contain visual indications of staining. Any debris with visual stains will be disposed of at ERDF.

The material to be placed will not have been in an area controlled for radiological purposes and if the material was in a radiologically controlled area, surveys would be performed to ensure no radiological contamination is present prior to placement. Any debris with radiological contamination will be disposed of at ERDF.

The void spaces are filled.

Ecology is notified prior to placement and provided with approximate mass/volumes and type of debris.

This agreement is not a blanket agreement. Each sub-grouping of inert debris that is proposed will be approved by Ecology prior to being placed.

Thanks,

Wanda Elliott
 (509) 372-7904
 Environmental Scientist
 Nuclear Waste Program
 Washington State Department of Ecology



From: Saueressig, Daniel G [<mailto:dgsauere@wch-rcc.com>]
Sent: Thursday, September 12, 2013 6:00 AM
To: Elliott, Wanda (ECY); Chance, Joanne C; Guercia, Rudolph F
Subject: REQUEST TO USE DEBRIS FOR BACKFILL AT 100-N

Wanda/Joanne/Rudy, I'd like to request your approval to place clean inert debris that would otherwise get disposed at ERDF from various 100-N locations into the 182-N subgrade foundation prior to backfill of the area. Section 4.1.1 of the 100-N Area Remedial Design Report/Remedial Action Work Plan (DOE/RL-2005-93, Rev. 0) allows "on a case-by-case basis, and as allowed by the Lead Regulatory Agency, inert waste forms may be used as waste site backfill provided that general size and/or placement requirements are met."

WCH would like to use the subgrade of the 182-N for placement of various inert debris (e.g., 100-N anchor blocks, miscellaneous ecology blocks, parking bumpers, fencing and fence posts, fence fabric in addition to other clean debris encountered that would qualify for placement). Determination of clean concrete and steel debris will be based on visual observation. If the debris does not contain visual indications of staining, the debris will be used

12/18/2013

as backfill. Concrete and steel with visual indications of staining will be disposed of at ERDF. In addition, the material to be placed will not have been in an area controlled for radiological purposes and if the material was in a radiologically controlled area, surveys would be performed to ensure no radiological contamination is present prior to placement.

Let me know if you concur and I'll document this agreement at the next UMM.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

Attachment 16

| |
|--------|
| 173812 |
|--------|

^WCH Document Control

From: Saueressig, Daniel G
Sent: Tuesday, November 19, 2013 8:43 AM
To: ^WCH Document Control
Subject: FW: 100-N OFFSITE APPROVAL REQUEST

Please provide a chron number. This email documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Einan, Dave [mailto:Einan.David@epa.gov]
Sent: Tuesday, November 19, 2013 8:02 AM
To: Saueressig, Daniel G
Cc: Guzzetti, Christopher; Kapell, Arthur; Glossbrenner, Ellwood T
Subject: RE: 100-N OFFSITE APPROVAL REQUEST

As long as those wastes meet Burlington's acceptance criteria, the shipment is OK as well.

Dave Einan
509-376-3883

From: Saueressig, Daniel G [mailto:dgsauere@wch-rcc.com]
Sent: Tuesday, November 19, 2013 7:32 AM
To: Einan, Dave
Cc: Guzzetti, Christopher; Kapell, Arthur; Glossbrenner, Ellwood T
Subject: RE: 100-N OFFSITE APPROVAL REQUEST

Thanks Dave. We also have 2 55-gallon drums of cadmium contaminated soil from 600-383:4 that will also be going to Burlington, currently scheduled for shipment on December 17. Can you confirm that this approval covers this waste also?

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

11/19/2013

From: Einan, Dave [mailto:Einan.David@epa.gov]
Sent: Friday, November 15, 2013 8:01 AM
To: Saueressig, Daniel G
Subject: RE: 100-N OFFSITE APPROVAL REQUEST

Dan—

Sorry for the delay, I had missed your original email. Burlington is OK for shipments until January 14, 2014.

Dave Einan
509-376-3883

From: Saueressig, Daniel G [mailto:dgsauere@wch-rcc.com]
Sent: Tuesday, November 12, 2013 1:51 PM
To: Einan, Dave
Subject: RE: 100-N OFFSITE APPROVAL REQUEST

Dave, I don't mean to bug you, but have you heard back from Burlington yet? We may still be able to get this waste on the 11/19 milk run shipment.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

. Daniel G
October 31, 2013 2:29 PM
R
stopher; Elliott, Wanda; Chance, Joanne C
I OFFSITE APPROVAL REQUEST

Dave, I'd like to request your approval to send some waste from 100-N offsite for treatment and disposal.

We have 7 55-gallon drums of bunker oil (approximately 285 gallons) and one 3.5 gallon poly container that holds an "Eppley Standard Cell" that we'd like to ship offsite for treatment and disposal.

Plans are to ship the material to

Burlington Environmental, LLC
20245 77th Avenue South
Kent, WA 98032

RCRA ID No.: WAD991281767

We've tentatively scheduled a shipment date of November 19, 2013.

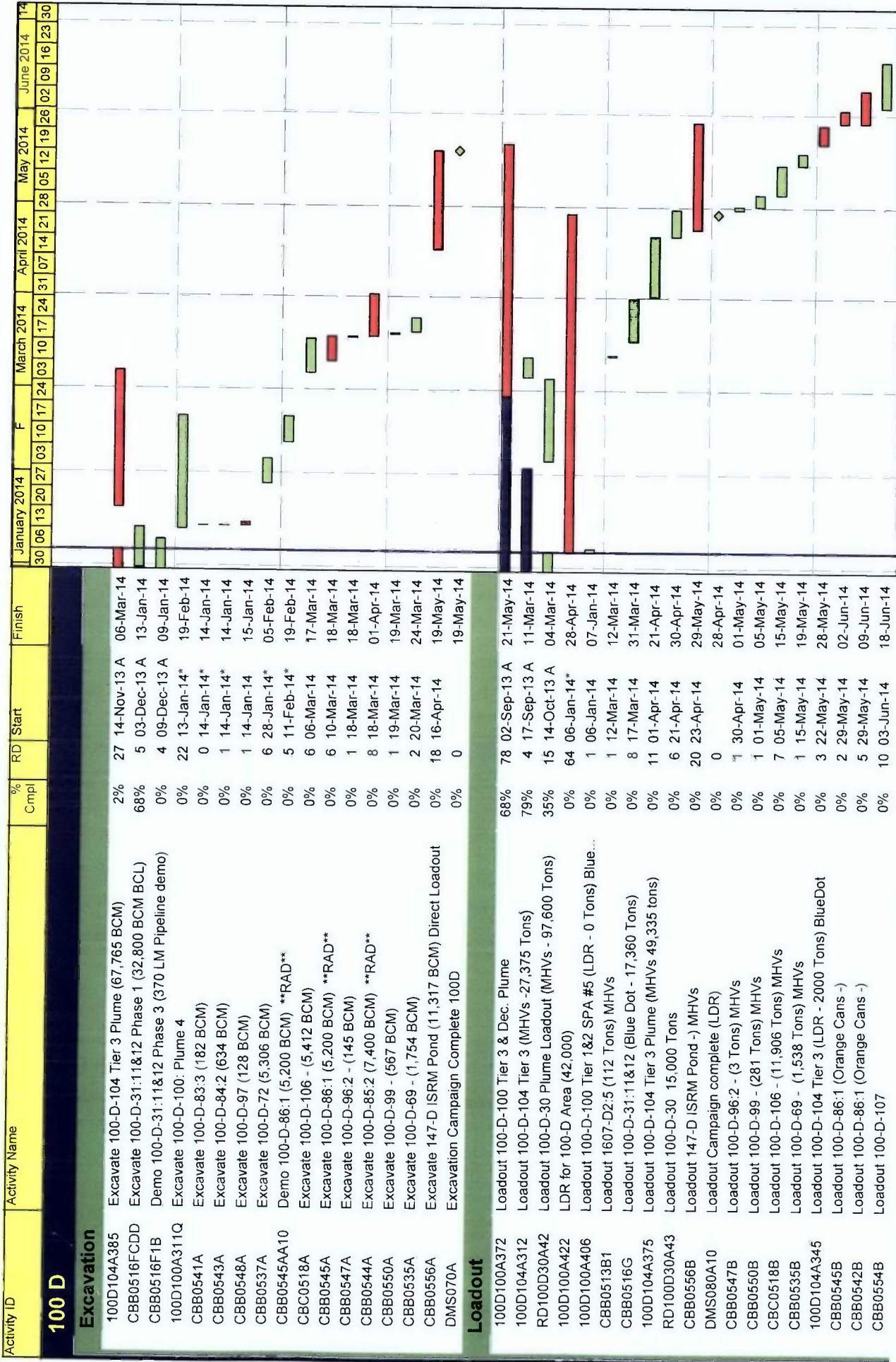
Let me know if you concur or if you have any questions.

11/19/2013

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

Attachment 17



| Activity ID | Activity Name | % Cmpl | RD Start | Finish | 2014 | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|--------|----------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | | | Jan 30 | Jan 06 | Jan 13 | Jan 20 | Jan 27 | Feb 03 | Feb 10 | Feb 17 | Feb 24 | Mar 03 | Mar 10 | Mar 17 | Mar 24 | Mar 31 | Apr 07 | Apr 14 | Apr 21 | Apr 28 | May 05 | May 12 | May 19 | May 26 | Jun 02 | Jun 09 | Jun 16 | Jun 23 |
| CBB0541B | Loadout 100-D-83:3 (Blue Dot Containers - 174 Tons) | 0% | 0 | 09-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CBB0548B | Loadout 100-D-97 (Blue Dot Containers - 45 Tons) | 0% | 0 | 09-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CBB0543B | Loadout 100-D-84:2 (Blue Dot Cans - 280 Tons) | 0% | 0 | 09-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CBB0534B | Loadout 100-D-81 5,318 Tons | 0% | 4 | 10-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CBB0544B | Loadout 100-D-85:2 (RAD) OrangeCans | 0% | 1 | 17-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CBB0546B | Loadout 100-D-86:3 506 Tons | 0% | 1 | 18-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100D104A313 | Loadout 100-D-104 Tier 3 10,950 Tons | 0% | 10 | 18-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DMS090A | Loadout Campaign Complete (ERDF Containers) 100D | 0% | 0 | 18-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DMS090B | Loadout Campaign Complete (ERDF Containers) 100H | 0% | 0 | 19-Jun-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Backfill | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100D501A030 | Backfill - 100-D-50:1 | 100% | 0 | 03-Jan-14 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DMSR13 | 2013 100-D Reveg Campaign | 100% | 0 | 30-Dec-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB512A6 | Excavate 100-H-28:3 Section C - All Else (41,394 BCM) | 99% | 4 | 17-Jul-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB511A023 | Demo 100-H-28:2-3 Concrete Demolition and Size Reduc... | 30% | 4 | 30-Jul-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB514A | Excavate 100-H-28:5 Section B - All else (11,900 BCM) | 84% | 20 | 06-Aug-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB511A04 | Excavate 100-H-28:2 Phase 2 - (55,355 BCMs) | 36.7% | 11 | 23-Sep-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB515A2 | Excavate 100-H-42 (15,000 BCM) non-RAD | 50% | 21 | 08-Oct-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB515A10 | Demo 100-H-42 **RAD** & Shear Demo | 0% | 29 | 06-Nov-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB513A02 | Excavate 100-H-28:4 Phase 2 (3,644 BCMs) | 18% | 36 | 13-Nov-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB515A | Excavate 100-H-42 (33,197 BCM) **RAD** | 0% | 4 | 11-Feb-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB516A | Excavate 100-H-43 - Power line Interference (819 BCM) | 0% | 3 | 03-Mar-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DMS070B | Excavation Campaign Complete 100H | 0% | 0 | 20-Mar-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Loadout | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB518B1 | Loadout 100-H-46 (Blue Dot - 103,505 Tons) | 75% | 2 | 17-Jul-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB512B | Loadout 100-H-28:3 (Blue Dot - 11,518 Tons) | 99% | 2 | 17-Jul-13 A | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB520B | Loadout 100-H-51:2 (Direct Load - 336 Tons) BlueDot | 0% | 1 | 06-Jan-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB524B | Loadout 100-H-49:1 (135 Tons) MHVs | 0% | 1 | 24-Mar-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB517B | Loadout 100-H-44 (Blue Dot - 20,000 Tons) | 0% | 9 | 25-Mar-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB521B | Loadout 100-H-52 (Blue Dot - 156 Tons) | 0% | 1 | 09-Apr-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB519B | Loadout 100-H-48 (Blue Dot - 951 Tons) | 0% | 1 | 10-Apr-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB513B4 | Loadout 100-H-28:4 (Blue Dot - 2,202 Tons) | 0% | 2 | 14-Apr-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB514B | Loadout 100-H-28:5 (Blue Dot - 4,096 Tons) | 0% | 3 | 16-Apr-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB516B | Loadout 100-H-43 (Blue Dot - 1,803 Tons) | 0% | 2 | 21-Apr-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB528B | Loadout 100-H-59 (16,903 Tons) | 0% | 7 | 23-Apr-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB526B10 | Loadout 100-H-51:6 (1,676 Tons) | 0% | 1 | 06-May-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HB525B | Loadout 100-H-51:1 (686 Tons) | 0% | 1 | 07-May-14 | | | | | | | | | | | | | | | | | | | | | | | | | | |

Attachment 18

Boyd, Alicia (ECY)

From: Boyd, Alicia (ECY)
Sent: Thursday, January 09, 2014 11:14 AM
To: 'Hanson, James P'
Cc: Crumpler, Dwayne (ECY); Kapell, Arthur (ECY); Neath, John P
Subject: RE: 100-D-100 --- Assessment of Groundwater Impacts From Residual Contamination in Geologic Media - Water Balancing at DX

Jim

Ecology concurs with the proposal outlined below. Decreasing the DX Groundwater P&T flow rates by up to 200 gpm through approximately the March 2014 timeframe is acceptable.

Alicia L. Boyd
Acting Environmental Restoration Project Manager
Washington State Department of Ecology
3100 Port of Benton Blvd
Richland, WA 99352
509-372-7934

From: Hanson, James P [mailto:james.hanson@ri.doe.gov]
Sent: Wednesday, January 08, 2014 12:38 PM
To: Boyd, Alicia (ECY)
Cc: Crumpler, Dwayne (ECY); Goswami, Dib (ECY); Charboneau, Briant L; Cline, Michael; Hansen, James A
Subject: 100-D-100 --- Assessment of Groundwater Impacts From Residual Contamination in Geologic Media - Water Balancing at DX

Alicia,

This request is a follow-up to our December 18, 2013 discussion regarding residual contamination within the bottom of the 100-D-100 Excavation near the D Reactor Area. DOE is currently assessing groundwater impacts of residual high concentration contamination in the bottom of the excavation. To more fully assess impacts and potential mitigation options, DOE is proposing to decrease the DX Groundwater P&T flow rates by up to 200 gpm. This is necessary to determine the impacts of nearby injection wells on current groundwater levels in proximity to the 100-D-100 excavation. Standing water is currently present on top of the current 100-D-100 excavation floor. Once the injection to these wells cease, groundwater levels are expected to subside eliminating the current ponding on the bottom of the excavation. The timeframe to realize maximum water table subsidence may be up to two weeks. DOE will monitor the subsidence.

Due to this activity taking place during cold weather conditions, extraction and injection lines would have residual water remaining in conveyance lines. These lines are subject to freezing conditions and may be out of service during these cold weather conditions. To alleviate this concern, DOE is currently evaluating other options for the discharge of treated effluent to fully utilize system capabilities which would require Ecology agreement. DOE and Ecology staff are currently evaluating these other options.

Below are the specific wells impacted by this agreement. DOE has maintained a focus of River Protection to address the current concern associated with the 100-D-100 activities.

Please indicate your agreement with the proposed request by response to this email directly or through placement of the agreement within the 100/300 Area UMM scheduled for Thursday, January 9, 2013 (tomorrow). I am available for further discussion.

Thank and appreciated,

Jim Hanson
100 D/H Area (100-HR-3) Groundwater Lead
373-9068

From: Ivarson, Kristine A
Sent: Wednesday, January 08, 2014 9:44 AM
To: Hanson, James P
Cc: Day, Roberta E
Subject: RE: water balancing at DX

Jim – The injection well list as requested –

199-D5-42
199-D5-128
199-D5-129

If we include all 3 wells, it brings the total flow to 195 gpm.
If we turn off 199-D5-128 and 199-D5-129, then it is 170 gpm. It is the 170 gpm that I did the water balancing evaluation on, as outlined below.

Thanks – Kris

From: Ivarson, Kristine A
Sent: Friday, December 13, 2013 12:57 PM
To: Hanson, James P
Cc: Day, Roberta E (Roberta.E.Day@rl.gov)
Subject: water balancing at DX
Importance: High

Jim –
Per our discussion, I took a look at the extraction/ injection rates and possible ways to adjust the flows to allow us to turn off those 2 injection wells. I focused on keeping river protection, and selecting wells to turn off that have lower concentrations and/ or pose no direct risk to the river when off (like those in the Horn).

Here is what I came up with:

OPTION1:

Five Horn area wells would all need to be off – getting 88 gpm
Four Selected Wells in the D north plume, inland areas – gets 70 gpm
Two additional selected wells in the D south area, upgradient of the ISRM – gets 17 gpm.

That gives us the 170 gpm, plus an additional 4gpm of wiggle room.

OPTION 2:

Five Horn area wells would all need to be off – getting 88 gpm
All 6 operating (2 are frozen)Wells in the D north plume, inland areas plus D8-91 along the northern edge – gets 130 gpm

Five additional selected wells in the D south area, upgradient of the ISRM – gets 70 gpm

That gives us the 170 gpm, plus room to pump an additional 117 gpm through extraction at the source.

If you need a map, I can get one made up on Monday probably but I can't guarantee one in time for Briant's meeting. I am hoping the description of locations with the list of wells will work for you. Let me know.

Thanks – Kris

| WELL | pump rates | |
|------------|------------|------------------------------------|
| | 12/13/13 | location |
| 199-D8-97 | 21 | D north inland |
| 199-D8-95 | 0 | D north inland |
| 199-D5-130 | 8.5 | D north inland |
| 199-D7-3 | 20 | D north inland |
| 199-D5-131 | 18 | D north inland |
| 199-D8-98 | 20 | D north inland |
| 199-D8-96 | 20 | D north inland |
| 199-D8-6 | 0 | D north inland |
| 199-D5-32 | 18 | D north inland edge – key location |
| 199-D8-53 | 22 | D north river |
| 199-D8-69 | 21 | D north river |
| 199-D8-68 | 35 | D north river |
| 199-D8-90 | 20 | D north river |
| 199-D5-20 | 5 | D north river |
| 199-D5-92 | 8 | D north river |
| 199-D8-88 | 5 | D north river |
| 199-D8-73 | 0 | D north river |
| 199-D8-89 | 9 | D north river |
| 199-D5-104 | 25 | D south hot spot |
| 199-D5-39 | 25 | D south hot spot |
| 199-D4-95 | 13 | D south near ISRM |
| 199-D4-96 | 8 | D south near ISRM |
| 199-D4-97 | 9 | D south near ISRM |
| 199-D4-101 | 11 | D south near ISRM |
| 199-D5-101 | 26 | D south near ISRM |
| 199-D5-127 | 8 | D south near ISRM |
| 199-D7-6 | 17 | Horn |
| 199-H1-5 | 19 | Horn |
| 199-H4-82 | 20 | Horn |
| 199-H4-81 | 15 | Horn |
| 199-H4-80 | 17 | Horn |
| 199-D4-38 | 8 | ISRM |
| 199-D4-39 | 9.6 | ISRM |
| 199-D4-83 | 15 | ISRM |
| 199-D4-84 | 4.6 | ISRM |
| 199-D4-85 | 18 | ISRM |
| 199-D4-98 | 13 | ISRM |

| | | |
|-----------|----|------------|
| 199-D4-99 | 17 | ISRM |
| 199-D4-14 | 12 | ISRM |
| 199-D4-34 | 10 | ISRM |
| 199-D8-91 | 22 | North edge |

Kris Ivarson
100-HR-3 Project Scientist, CHPRC
Office 509-376-1941
Cell 509-302-3472

Attachment 19

FACILITY STATUS CHANGE FORM (for DOE/RL-2010-34 Facilities)

| | | |
|--|--|----------------------------------|
| Date Submitted: 12/18/2013 Originator: Clay McCurley Phone: 942-8928 | Area: 100-D Facility ID: 183D Water Treatment Plant Action Memorandum: General Hanford Site Decommissioning Activities | Control #: D4-100D-004 |
|--|--|----------------------------------|

This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.

Section 1: Facility Status

- All removal actions require by action memo complete.
- Removal actions required by actions memo partially complete, remaining operations deferred.

Description of Completed Activities and Current Conditions:

Deactivation: Utility isolations were completed on the facility prior to demolition.

Decontamination and Decommissioning: The following hazardous materials were removed prior to facility demolition: batteries, light bulbs, oils, grease, mercury, refrigerant, and polychlorinated biphenyl (PCB) containing equipment. Hazardous material removal and waste disposition was performed in accordance with the *Removal Action Work Plan for River Corridor General Decommissioning Activities*, DOE/RL-2010-034. Regulated Asbestos-Containing Material (RACM) was removed from areas of the facility that were safe to access.

Demolition: Demolition of the facility (above and below grade) began in early 2013 and was completed on November 8, 2013. The debris was removed and disposed of at the ERDF. Presumed Asbestos-Containing Material (PACM) in areas unsafe to access could not be abated and was demolished with the facility.

Description of Deferral (as applicable):

Backfill is being deferred to FR to facilitate the remediation of WIDS Sites 100-D-31:11, 100-D-31:12, and 100-D-72 at the facility's western edge and to provide an area where clean backfill material from nearby WIDS site remediation activities can be directly placed, in lieu of intermediate stockpiling, and verified clean.

Section 2: Underlying Soil Status

- No waste site(s) present. No additional actions anticipated.
- Documented waste site(s) present. Cleanup and closeout to be addressed under Record of Decision.
- Potential waste site discovered during removal action. Waste site identification number <to be> assigned.
Cleanup and closeout to be addressed under Record of Decision.

Description of Current/As-Left Conditions:

All parts of the facility were demolished to 3-ft below grade with the exception of the north clearwell which was left intact to provide habitat for bats. The below-grade flumes forming the western length of the clearwells were also left intact to provide habitat for bats. The floor of the south clearwell was perforated to ensure drainage and left in place with the side slopes at >3-ft below grade.

Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):

WIDS Sites 100-D-31:11, 100-D-31:12, and 100-D-72 at the facility's western edge.

Section 3: List of Attachments

1. Facility Information
2. Photographs of the 183-D Water Treatment Plant
3. Ecological and Cultural Resources Review for Demolition of 183-D Facility in the 100-D Area

FACILITY STATUS CHANGE FORM (for DOE/RL-2010-34 Facilities)

| | |
|--|------------|
| 4. 183-D Water Filter Plant - Filter Building and Pump Room Structural Inspection | |
| 5. EPA Concurrence that work is in compliance with NESHAP requirements | |
| 6. 183-D GPS Surveys | |
| Rudy Guercia  | 12/18/2013 |
| DOE-RL (Lead Agency) | Date |

DISTRIBUTION:

DOE: Rudy Guercia, A3-04

Document Control, H0-30

Administrative Record, H6-08 (100-DR-1 OU)

SIS Coordinator: Benjamin Cowin, H4-22

D4 EPL: Clay McCurley, L4-45

Sample Design/Cleanup Verification: Theresa Howell, H4-23

FR Engineering: Rich Carlson, H4-22

FR EPL: Dan Saueressig, N3-30

D4 Project Facility Completion Form

Attachment 1

Facility Information (5 pages)

D4 Project Facility Completion Form

Facility Information

Introduction

This document provides information regarding the history, characterization, and final status at the completion of deactivation, decontamination, decommissioning, and demolition (D4) activities of the 183D Water Treatment Plant located in the 100-D Area as shown in Attachment 2, Figure 1.

Facility History

The 183D Water Treatment Plant, shown in Attachment 2, Figure 2, was constructed in the mid 1940s and chemically treated, filtered, and stored water for use within the 100-D Area, 100-F Area, and 100-H Area. The 181-D River Pump House provided raw Columbia River water to the 182-D reservoir and pump house. Approximately 100,000 gallons of this raw river water was pumped daily to the 183D facility. The water arrived at a reinforced-concrete distribution flume located between the head house and the flocculation chambers. In the flume, chlorine gas and aluminum sulfate were added to kill micro-organisms and facilitate the flocculation of suspended solids. The water was then processed in the flocculation chambers and subsidence basins before being piped to the filter house. Once in the filter house, the water received additional flocculating agents containing sodium carbonate, polyacrylamide, sodium sulfite, and sodium sulfate; and was then passed through the filters. After filtration, the water was transferred to the clearwells where it was treated with chlorine and stored for distribution. The water was used in reactor cooling and fire protection systems in the 100-D Area, 100-F Area, and 100-H Area until the plant was deactivated 1994 and permanently isolated in 2003.

Plans for the demolition of the 183D Water Treatment Plant began in 2009 and included a request for a bat study in support of the *Hanford Site Biological Resources Management Plan* (DOE/RL-96-32, Rev. 1) which specifies that roost locations are essential to the life cycle of bats and, protection from destruction and disturbance is necessary. Studies conducted in 2009 and 2010 led to publishing the *Evaluation of the 183D Water Filtration Facility for Bat Roosts and Development of a Mitigation Strategy* (WCH-438, Rev. 0) which, in March 2011, documented that various types of bats, including pallid bats which are listed by the state of Washington as a Priority Species, are roosting in the 183D head house, clearwells and flumes. To mitigate, the report recommended leaving a clearwell and constructing an alternative roost (Building 114-D) near the head house so that demolition activities would result in no net loss of habitat.

In August 2012, a significant colony of bats was discovered in the 183D flume. In light of the success realized with leaving the flume and clearwell at 183-F, the *Ecological and Cultural Resources Review for Demolition of 183-D Facility in the 100-D Area* (CCN 173687), provided in Attachment 3, was updated and included leaving the flume open with the north clearwell to provide no net loss of habitat.

Building Description

The 183D Water Treatment Plant was located approximately 1,510 feet west of the 105-D Reactor Building as shown in Attachment 2, Figure 1. It consisted of a head house, sixteen flocculation basins, sixteen subsidence basins, sixteen filters housed in the filter house, two clearwells, a pump house, and four small valve structures located immediately east of the clearwells. Each type of facility is described separately below, and the spatial relationship of the structures is depicted in Attachment 2, Figure 2.

D4 Project Facility Completion Form

Head House

The 183D head house was a three-story steel-framed reinforced concrete and concrete block enclosed building that contained an elevator, conveyors, and chemical storage and transfer bins. It was approximately 36-ft wide by 140-ft long. The roof consisted of concrete panels covered by a built-up roofing system.

The ground floor of the head house consisted of a series of small, concrete block enclosed rooms including a chlorination room, a laboratory, restrooms, janitor rooms, an electrical switchgear room, and a locker room. Underneath the ground floor at the south end of the building was a conveyor that traveled from the railcar dump to an elevator that ran vertically up to a conveyor above the third floor. The second floor was a chemical mixing/makeup room containing eight solid chemical feeders. The balance of this floor was used to store wood pallets containing packaged chemicals. The third floor was primarily a storage room that contained eight steel storage bins for solid chemicals. These bins emptied into steel hoppers which extended down through the floor into a point directly above each of the solid chemical feeders. Above the hoppers was a belt that operated the length of the building taking chemicals from the elevator and emptying them into the various bins.

A 70-ft by 12-ft chlorine storage platform and a railcar receiving bay were attached to the exterior of the building. The chlorine storage platform contained a 23.5-ft by 9.25-ft by 4-ft concrete block structure and a 42-ft by 7.9-ft by 6.5-ft steel frame structure. The concrete block structure contained space for six chlorine tanks supported on wooden cradles. The railcar receiving bay was open at both ends and could handle one railroad car at a time. A concrete dock was used for unloading packaged material directly from railroad box cars, while bulk shipments could be unloaded by bottom dump cars or by scooping to the side into a bulk conveyor hopper under the track.

Water pumped from the Columbia River first entered the head house, where it was mixed with various reagents to promote the flocculation and precipitation of various undesired chemical constituents that could possibly foul piping in the "D" reactors. Water from the head house was then discharged to the flocculation basins via a flume.

Flocculation/Subsidence Basins

Sixteen open-topped reinforced-concrete flocculation basins parallel to one another received raw water mixed with reagents from the head house. Each had a 55,000 gallon capacity and contained an electrically-operated slow-turning steel paddle agitator, or flocculator. Each was connected to a 500,000-gallon open-topped reinforced-concrete subsidence basin. Water from the downstream (east) end of each subsidence basin discharged via an overflow trough into gravity filters located in the adjacent filter house.

Filter House

The filter house measured approximately 45-ft by 850-ft and consisted of concrete and cinderblock walls. The roof consisted of concrete panels covered by a built-up roofing system. The filter house contained sixteen two-section filter beds that had a total capacity of 48,000 gpm. The filter beds were supported on Wheeler bottoms consisting of pyramidal depressions formed in concrete, with a porcelain thimble outlet at the bottom of each depression. The depressions were filled with porcelain and earthenware spheres.

D4 Project Facility Completion Form

Above these spheres was a 12-inch layer of gravel, then a 10-inch layer of sand, and finally a 20-inch layer of anthracite coal. Above the filter beds was a reinforced concrete frame and concrete block enclosure. Along one side of the row of filter beds was a concrete slab on which were located various metering devices, valves, and controls for the filter beds. Underneath this slab was a pipe gallery and underneath the pipe gallery were two parallel flumes. One flume was for effluent process water and the other for waste water. The flumes were not demolished. They were left in place to provide habitat for bats.

The filter house had not been used or maintained for many years and various sections of its roof had collapsed internally the structure rendering it unsafe to enter. A structural analysis, *183-D Water Filter Plant – Filter Building and Pump Room Structural Inspection* (CCN 166959), performed in mid 2013, determined the filter house was not safe to perform intrusive work scope. A copy of the structural analysis is provided as Attachment 4.

Pump House

The 183D pump house, located between the north and south clearwells, measured approximately 45-ft by 135-ft. It consisted primarily of below-grade reinforced concrete walls and floor, and a concrete roof covered with tar and gravel. Several small cinderblock structures on the roof comprised the battery house and the chlorine room.

The pump house originally contained ten electric pumps and six steam turbine pumps. Two pumps were used for backwashing the filter beds, four pumps were connected to the combined sanitary and fire protection system, and the remaining ten pumps handled the distribution of filtered water.

Overflow trenches of 20,000 gpm capacity ran along both walls of the pump room, below floor level, paralleling the two clearwells. An electrical switchgear room containing various electric meters and controls was located at the level of the pump house roof in the filter house. The electrical switchgear room was a steel-frame, reinforced concrete and concrete block structure with a precast concrete roof covered with tar and gravel surface.

A structural analysis, *183-D Water Filter Plant – Filter Building and Pump Room Structural Inspection* (CCN 166959), performed in mid 2013, determined the pump house was not safe to perform intrusive work scope however, non-intrusive entries for sampling were allowed in the electrical switchgear room provided qualified engineering personnel were consulted to ensure a safe pathway is used to access the area. A copy of the structural analysis is provided as Attachment 4.

Clearwells and Valve Houses

The 183D clearwells were two (north and south) 5,000,000-gal reinforced-concrete reservoirs, completely enclosed, and separated by the pump house. Each reservoir had a concrete slab roof supported by concrete pillars and covered with a tar and gravel surface. The north clearwell was not demolished. It was left in place to provide habitat for bats.

Water flowed from the clearwells to suction wells on either side of the pump house. The suction wells were approximately 5-ft lower than the clearwell bottoms. The water was then pumped to the "D" reactors by pumps housed in the pump house.

Four small valve houses were located east of the clearwells. The three northern-most valve houses were wood structures with dirt floors and the southern-most valve house had concrete walls and a wood roof.

D4 Project Facility Completion Form

Radiological Scoping and Industrial Hygiene Baseline Surveys

Table 1 summarizes the industrial hygiene, radiological control, and asbestos samples collected in the 183D Water Treatment Plant.

Table 1: Summary of Characterization Surveys at 183D

| Type | Date | Documented In | Results Summary |
|---|--|--|--|
| Asbestos | November 15, 2012 | CCN# 167668 | ACM indentified in: floor tile, roofing materials, mastic, TSI, mud, CAB, and caulking |
| IH Surveys and Beryllium Characterization | November 12, 2012 | BFA-183D-12-001-Rev 1 | Assessment documents the building is Be free. |
| Radiological Surveys | June 7, 2010 July 25, 2012 July 26, 2012 July 27, 2012 December 5, 2012 December 10, 2012 | RSR-100N-10-1107 RSR-100N-12-1671 RSR-100N-12-1677 RSR-100N-12-1684 RSR-100N-12-2505 RSR-100N-12-2520 | No contamination identified. |

Radiological Contamination

The 183D facility was never posted for radiological conditions. Based on research of past facility operations, radiological contamination was not expected and various pre-demolition radiological scoping surveys identified no radiological contamination. As a result, it was determined that the facility did not have a radiological inventory sufficient to justify the calculation of a potential to emit (PTE) and the lead agency's (DOE) concurrence was requested and received in December 2012 (CCN 169109) that an emissions estimate is not required prior to performing removal actions. Since the 183D facility had no radiological contamination, there was no need to perform a post-demolition using the Global Positioning Environmental Radiological Surveyor (GPERS).

Asbestos

Inspections and sampling conducted in the 183D facility from July through November, 2012 identified various areas that contained ACM. The report, *Asbestos Inspection and Sampling Report for the 183-D Water Treatment Plant* (CCN 167668) documented that almost half of the 72 samples collected throughout the facility contained asbestos at greater than one percent. In the filter building and pump house, samples could not be collected and pre-demolition abatement could not be performed due to danger from significant structural degradation. This is documented in the *183D Water Filter Plant – Filter Building and Pump Room Structural Inspection* (CCN 166959), provided as Attachment 4. A close inspection of Attachment 2, Figure 3 shows where rectangular concrete roof panels have, over time, collapsed from the roof to the interior floor of the filter building. EPA inspected the facility in August 2012 and concurred that these areas were structurally unsound and that plans to demolish these buildings without asbestos abatement are in compliance with asbestos NESHAP requirements (CCN 169028). A copy of this correspondence with EPA (CCN 169028) is provided as Attachment 5. Asbestos abatement, however, was performed in all areas where the ACM could be safely accessed.

D4 Project Facility Completion Form

Beryllium

The 183D facility was listed on the Hanford Site Beryllium Controlled Facilities List however, the facility was sampled prior to demolition and down-posted as a beryllium-clean facility.

Associated WIDS Sites

The only Accepted WIDS sites associated with the 183D facility include the 100-D-31 (183D process sewer pipelines) and 100-D-72 (183D acid facility). Portions of these WIDS sites were removed by D4 to the extent of the 183D excavation. Remaining portions of the sites will be addressed with the remediation of the WIDS sites. Two Underground Injection Control (UIC) wells, UU1 and UU231, located on the west side of the 183D facility were also removed by D4 to the extent of the 183D excavation. These UICs will also be addressed with the remediation of the WIDS sites.

Civil Survey Information

A pre-demolition Global Positioning System (GPS) survey of the 183D Water Treatment Plant was performed in October 2011 and a corresponding post-demolition GPS survey was completed in November 2013. Copies of these surveys are provided in Attachment 6.

Anomalies Discovered During Demolition

No anomalies were discovered during D4 of the 183D Water Treatment Plant.

Final Building Status and Underlying Soil

All D4 activities were performed in accordance with applicable environmental documentation, including the *Removal Action Work Plan for River Corridor General Decommissioning Activities* (DOE/RL-2010-34). Demolition of the above-grade and below-grade structure to 3-ft below-grade was completed on November 8, 2013. The north clearwell and below-grade flume that runs along the west side of the clearwells were left in place as bat habitat. Openings for bats were left as specified in the *Ecological and Cultural Resources Review for Demolition of the 183-D Facility in the 100-D Area –Update- (11-ER-067b, HCRC #2011-100-056)*, provided as Attachment 3, in the south end of the flume and near the south end of the north clearwell. The floor of the south clearwell was punched with several holes to ensure drainage and left in place with the side slopes at >3-ft below grade.

Size reduction of demolition debris and loadout activities spanned the entire time period. The demolition debris was loaded into roll-off containers and sent to the Environmental Restoration Disposal Facility. No post-demolition GPERS surveys were performed because the facility was radiologically clean. A post-demolition Global Positioning System (GPS) survey was taken to document below-grade structures remaining (Attachment 6). The area was visually examined on November 20, 2013 and no unusual stains or anomalies were observed. Backfill of the excavation was deferred to facilitate the remediation of nearby WIDS sites and backfill activities.

Table 2 summarizes the contaminants of concern for facility demolition and the Management Practices implemented to minimize the spread of those contaminants.

D4 Project Facility Completion Form

Table 2: Contaminants of Concern for Facility Demolition

| Contaminant of Concern | Management Practice |
|--|---|
| Friable and Non-friable Asbestos Containing Material (ACM) | Asbestos Containing Material (ACM) was the only contaminant of concern for demolition of the 183D Water Treatment Plant. The ACM was in the form of friable and non-friable category I and category II materials. Facility demolition was performed under asbestos controls as defined in work package 100 11 01 05 003. Abatement activities were performed at the direction of an asbestos competent person. ACM was abated where it could be safely accessed. Presumed Asbestos Containing Material (PACM) identified in the filter house and pump house was unsafe to access and could not be abated prior to demolition. |

D4 Project Facility Completion Form

Attachment 2

Photographs of the 183D Water Treatment Plant (4 pages)

D4 Project Facility Completion Form

Figure 1. Aerial View of 100-D in October 2012 (facing north).

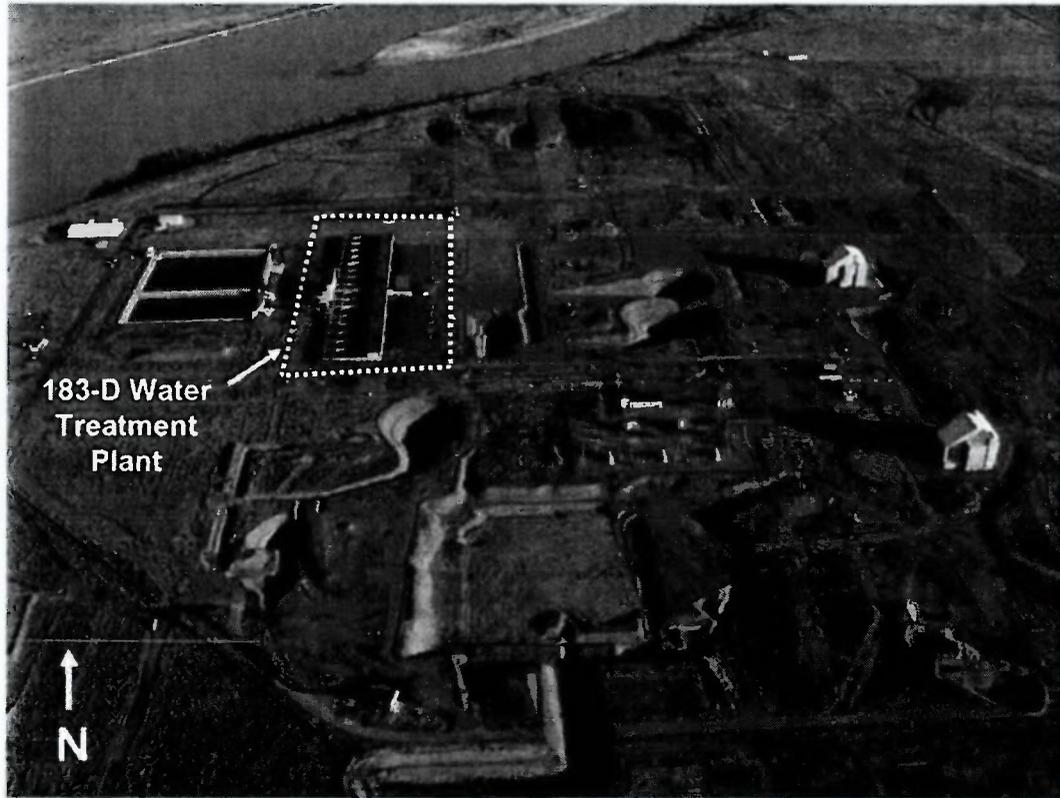
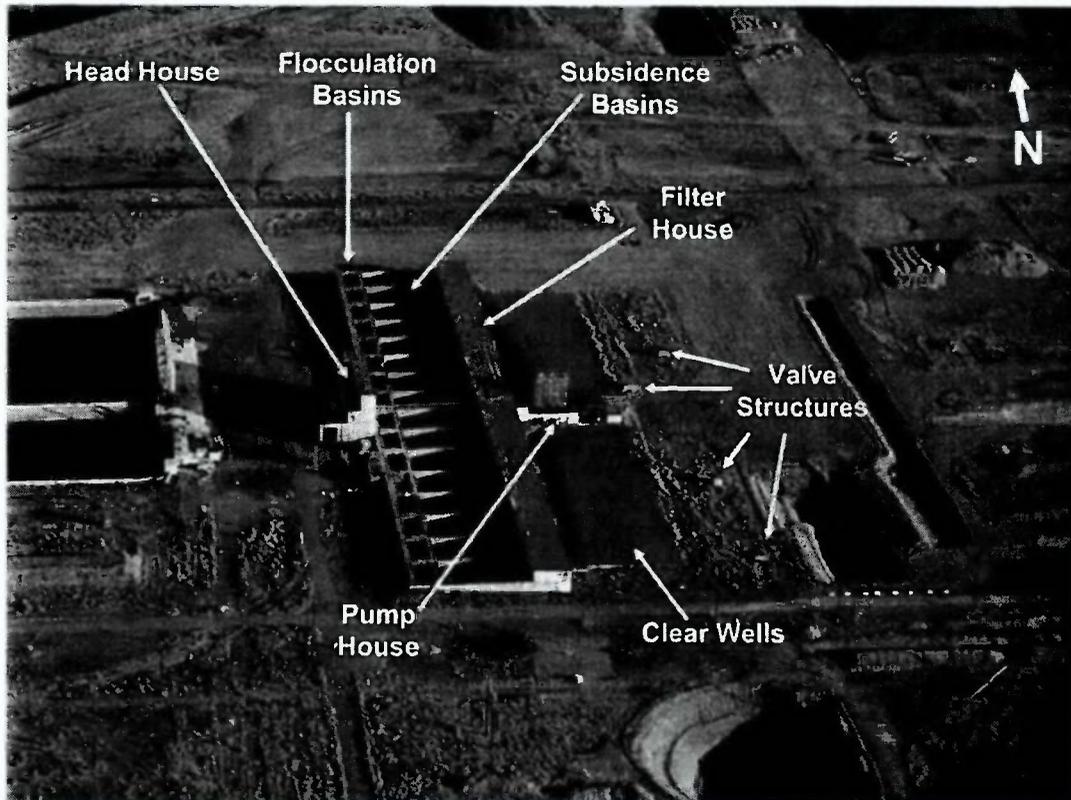
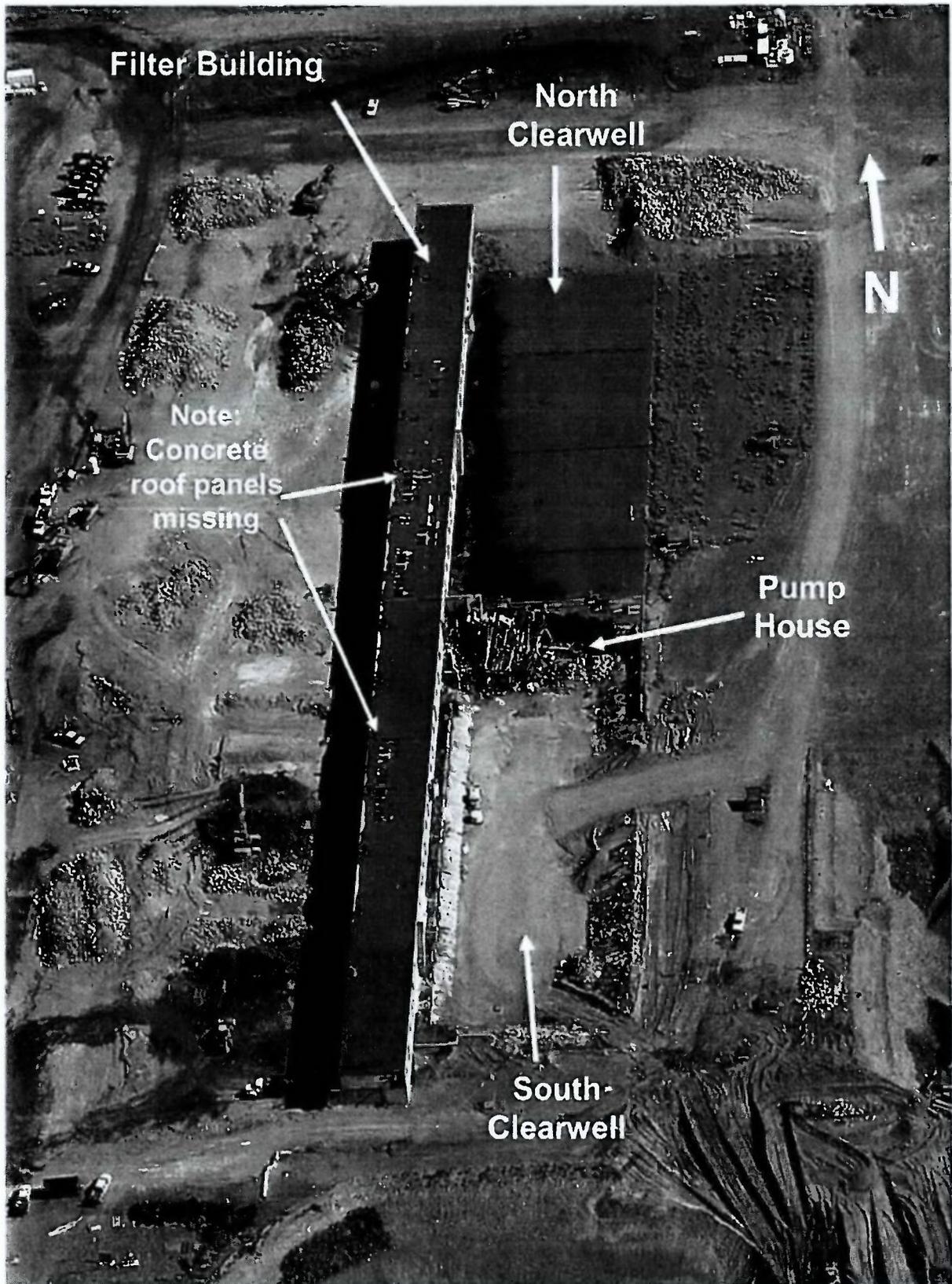


Figure 2. Aerial View of the 183D in October 2012 (facing north).



D4 Project Facility Completion Form

Figure 3. Aerial View of 183D During Demolition in July 2013 (facing north)

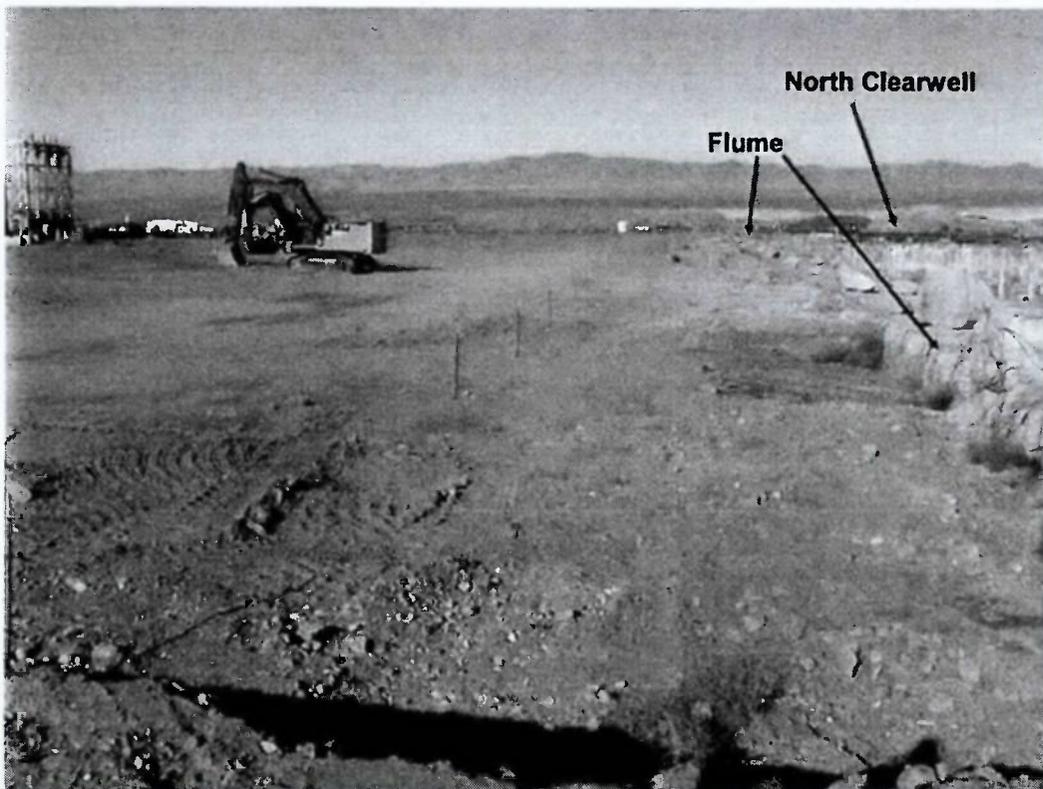


D4 Project Facility Completion Form

Figure 4. Aerial View of 183D on November 20, 2013 (facing south)

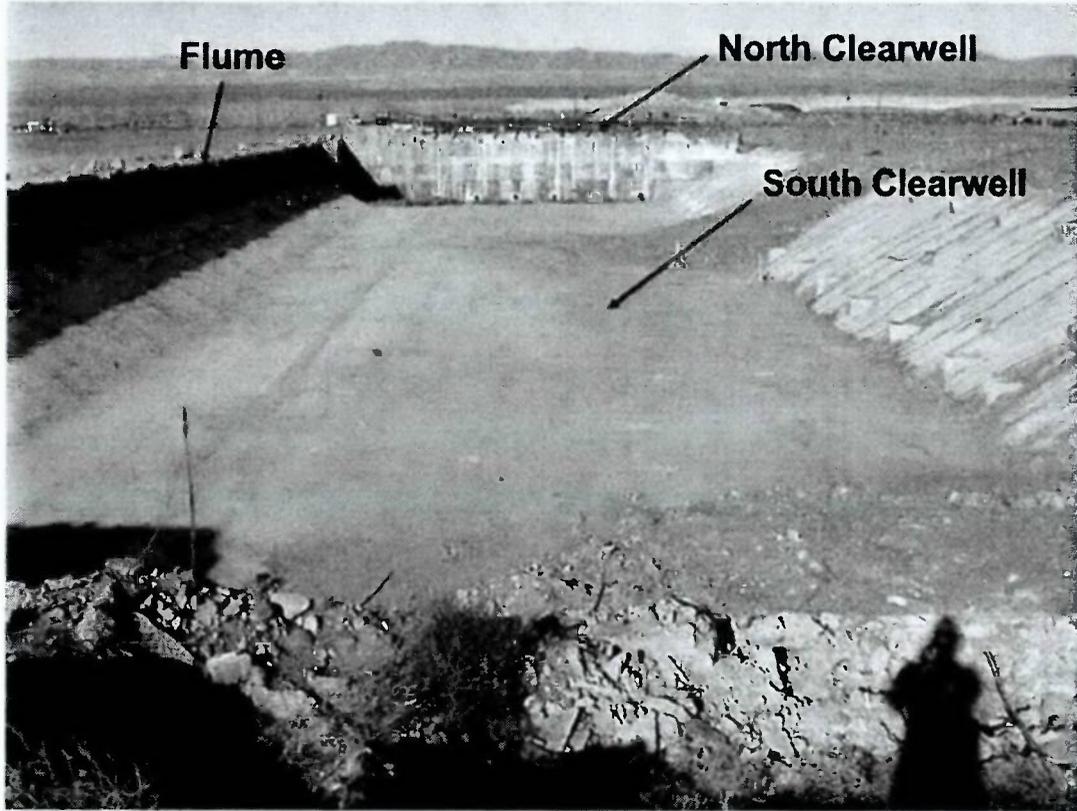


Figure 5. Ground Level View of 183D on October 20, 2013 (facing north)



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Figure 6. View of 183D Clearwells and Flume on November 20, 2013 (facing north).



D4 Project Facility Completion Form

Attachment 3

Ecological and Cultural Resources Review For Demolition of the 183-D Facility in the 100-D Area (6 pages)

D4 Project Facility Completion Form

173687

WCH Washington
Closure
Hanford

Interoffice Memorandum

TO: M. E. Allen, X9-08

DATE: November 5, 2013

COPIES: M. E. Allen, X9-08
J. E. Bernhard, H4-21
S. M. Darrow, X9-08
S. N. Harrison, H4-21
J. G. Lucas, H4-21
L. C. Purtzer, H4-21
D. G. Saucressig, N3-30
S. J. Sexton, H4-21
D. C. Shaw, H4-21
J. E. Thomson, H4-21
E. M. Weiss, H4-21
Records and Document Control H4-11

FROM: J. E. Thomson
Environmental Services
H4-21/509-372-9029

J. E. Thomson
11/5/13

SUBJECT: **ECOLOGICAL AND CULTURAL RESOURCES REVIEW FOR DEMOLITION OF THE 183-D FACILITY IN THE 100-D AREA -UPDATE- (11-ER-067b; HCRC #2011-100-056)**

This memo is in response to your October 24, 2013, request for an updated Ecological and Cultural Resources Review for the project to demolish the 183-D Facility in the 100-D Area. This activity will include hazardous material removal, demolition, stockpiling, backfilling, recontouring/revegetation; and load out of the 183-D filter building, flocculation basins, sedimentation basins, head house, south clearwell, associated systems, structures and components. The footprint of the 183-D facility is approximately 24,300 m² (6 acres). See attached map for project location and boundaries.

Bat habitat mitigation scope includes the following:

- Identifies leaving the north clearwell (with hatch open closest to pump room on east side of clearwell) and the entire waste/effluent flumes (runs north/south along entire length of existing clearwells) as mitigation for bats. Leave an opening into the waste flume at the south end.
- Install bat habitat signage and fencing around retained bat mitigation structures at 183-D.

This review is valid for one year from the publication date above.

Ecological Review 11-ER-067b

WCH Natural Resources staff performed an evaluation of the project area to record site specific biological resources. No adverse impacts to ecological resources are anticipated during this work scope if the following recommendations provided are followed.

The 183-D Water Filtration Facility was formerly used to supply cooling water for the reactor, drinking water and fire protection water to 100-D facilities.

D4 Project Facility Completion Form

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M. E. Allen

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Due to the long term inactive status of the facility, evaluations were conducted from 2009 to 2011 to determine if any part of the facility is being used as roosting habitat by bats. Evaluations concluded that several species of bats are using the facility, primarily the head house, including Yuma myotis (*Myotis yumanensis*) and pallid bats (*Antrozous pallidus*). Pallid bats and roosting concentrations of Myotis bats are listed by the state of Washington as Priority Species; therefore mitigation is required according to DOE/RL-96-32 to maintain the viability of the colonies. During August of 2012, a Myotis bat (likely Yuma myotis) maternity colony was discovered in the north half of the filter building's pipe gallery, numbering at an estimated 1,000 or more bats. These had not been discovered during previous investigations due to building access restrictions.

To mitigate for lost habitat from the demolition of the facility, the north clearwell will be preserved along with previously identified structures, in addition to the construction of an alternate roost site near the head house. The alternate roost (114-D) construction was completed in September 2011, and is expected to provide suitable habitat for the pallid bat maternity colony. Leaving the north clearwell in place will be critical, as Yuma myotis bats are known to roost in clearwells (see WCH-438).

Demolition of the head house shall not be initiated between March through October, while bats are using the facility. Provided that the head house can be demolished by the end of February, there will be no other restrictions regarding the timing of demolition of the rest of the facility. Please contact WCH Natural Resources staff James Bernhard (509-521-7920) for project schedule changes to ensure the timing of demolition does not impact the bats. After the facilities have been demolished, a hatch on the remaining clearwell will need to be opened to provide access for the bats so that the clearwell may provide future habitat. At the completion of the project, construction of a single-strand wire fence around the southern clearwell will be required in addition to warning signs signifying the area is a sensitive habitat.

The ground surfaces surrounding the facility are comprised of compacted rocky substrate, and are sparsely vegetated in areas by an overstory of gray rabbitbrush (*Chrysothamnus nauseosus*) and Russian thistle (*Salsola kali*) with an understory of cheatgrass (*Bromus tectorum*).

All fine grain material from the stockpile area must be salvaged and stockpiled separately and will be used to top-dress the site prior to revegetation. All compacted soils must be ripped to a depth of no less than 0.3 m (1 ft). These actions will facilitate a successful revegetation process.

Migratory birds and their active nests are protected from disturbance by the Migratory Bird Treaty Act of 1918. Nesting migratory birds may be encountered within project boundaries anytime throughout the nesting season (mid-March through July). Personnel will need to be made aware of this potential, and instructed to watch for nesting behavior (e.g., birds refusing to leave a project area, entering and exiting equipment, feigning injury, carrying materials, etc.). A survey of these locations will be necessary for any activity conducted during the nesting season. Additional surveys will be required if project activities remain inactive for one week or longer during the nesting season. Please contact James Bernhard (509-521-7920) at least one week prior to schedule a survey. If any active nests or nesting behavior is observed, suspend work immediately and contact James Bernhard for mitigation actions.

D4 Project Facility Completion Form

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M. E. Allen
Page 3

WCH Natural Resources staff urges projects to perform daily inspections of equipment that are in use and bi-weekly (start and end of work week) inspections for stationary equipment during the nesting season. Disassembling nests before they become active is the best way to prevent project delays associated with active nests. Project personnel should be wary of any collection of materials (e.g., sticks, grass, plastic, twine, and paper), as these may become active nests within a couple days. Project personnel should contact WCH Natural Resources staff to conduct a preliminary survey at least 1 month before activities such as demobilization, to eliminate or isolate possible nesting locations that could delay project activities.

Project personnel are not authorized to handle or disturb an active nest once it has been established. If it is suspected that a nest is no longer active, please contact WCH Natural Resources staff to schedule an exit survey to clear equipment or project activities for continued use or operation. Project personnel are not authorized to deem a nest inactive.

If workers encounter wildlife on the job-site, it is important to contact WCH Natural Resources lead (James Bernhard) for appropriate resolution of any potential issues related to ecological resources. The WCH Natural Resources staff will evaluate whether a situation involving wildlife or plants could pose a potential concern for regulating agencies and/or DOE.

If there are any changes in the scope of activities that could result in disturbances outside of the description of this project, please submit a new WCH-EE-106 form to email address ^WCH Ecological and Cultural Review Requests and reference 11-ER-067b to schedule a follow-up Ecological Resources Review.

Cultural Review (HCRC #2011-100-056)

The project area has received previous ground disturbance from the initial construction and operations within the 100-D/DR Area of the Hanford Site. Based on the absence of historic properties, the project scope of work, previous ground disturbance, and the location of project activities within disturbed areas, a finding of "No Adverse Effect" was sent to the RL Cultural and Historic Resources Program Staff. On February 3, 2012, the DOE-RL Cultural and Historic Resources Program Staff responded and determined, per 36CFR800.3(a)(1), this project will have "No Adverse Effect" on historic properties. Project activities as described above will be conducted in areas that do not require cultural resources monitoring.

If there are changes in the scope of activities that could result in disturbances outside of the description of this project, please contact LeAnn Purtzer (509-823-0284) or Sydelle Harrison (541-969-8736) of Washington Closure Hanford's Cultural Resources Staff and submit a new WCH-EE-106 form to ^WCH Ecological and Cultural Review Request for a follow-up Cultural Resources Review.

Although no impacts to cultural resources are anticipated, all workers must be directed to watch for cultural materials (e.g., bones, stone tools, mussel shell, cans and bottles) during all work activities. If any cultural materials are encountered, work in the vicinity of the discovery must stop until a Cultural Resources Specialist has been notified, the significance of the find assessed, appropriate Tribes

D4 Project Facility Completion Form

173687

M. E. Allen

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notified, and if necessary, arrangements made for mitigation of the find. In the event of any discoveries, please contact Jill Thomson (509-372-9029).

Guidelines for the Unanticipated Discovery of Cultural Resources during Remediation Activities

The following guidelines are the actions to be performed in the event cultural resources are encountered during project activities. The guidelines contain information on recognizing cultural resources, and on- and off-site responsibilities in the event of a cultural resource discovery.

Recognizing Cultural Resources

A cultural resource is an item of historical, traditional, or cultural importance. The item could be prehistoric or historic. Examples include:

- A multi-species accumulation of shell (shell-midden) with associated bone, stone, burned rocks or charcoal.
- Bones that appear to be human or animal bones associated with a shell-midden (i.e. with associated artifacts or cooking features).
- An area of charcoal or very dark stained soil with associated artifacts.
- Artifacts made of chipped or ground stone (i.e. an arrowhead) or an accumulation (more than one) of cryptocrystalline stone flakes (lithic debitage).
- Clusters of tin cans or bottles, or agricultural equipment that appears to be older than 50 years.

ON-SITE RESPONSIBILITIES

STEP 1: STOP WORK IMMEDIATELY. If any employee, contractor or subcontractor believes that he or she has uncovered any cultural resource during remediation related activities, all work adjacent to the discovery must stop. The discovery location should not be left unsecured at any time.

STEP 2: NOTIFY MONITOR. If there is an archaeological monitor for the project, notify that person. If there is a monitoring plan in place, the monitor will follow its provisions. If an archaeological monitor is not available contact the WCH Environmental Services Manager.

STEP 3: NOTIFY PROJECT MANAGEMENT IMMEDIATELY. Contact the WCH Environmental Services Manager:

Jill Thomson

Office: 509-372-9029

Cell: 509-845-9455

STEP 4: WCH PROJECT MANAGEMENT WILL CONTACT THE DOE/RL CULTURAL RESOURCE MANAGER.

The WCH Environmental Services Manager or Cultural Resource Specialist will contact the DOE Cultural Resources Program Manager to inform them of the discovery:

D4 Project Facility Completion Form

173687

M. E. Allen
Page 5
Mona Wright
Office: 509-376-4069
Cell: 509-392-2923

If you can't reach the WCH Environmental Services Manager or the DOE Cultural Resources Program Manager, contact your project's assigned Cultural Resources Specialist: LeAnn Purtzer (509-823-0284 or Sydelle Harrison (541-969-8736).

The Cultural Resources Review was prepared by Jim Sharpe, who meets the Secretary of the Interior's Standards for Professional Archaeologists.

JGL: LCP
Attachment(s): Map

D4 Project Facility Completion Form

Attachment 4

183-D Water Filter Plant – Filter Building and Pump Room Structural Inspection (13 pages)

D4 Project Facility Completion Form

WCH Washington
Closure
Hanford

166959

Interoffice Memorandum

TO: M. E. Allen X5-51

DATE: August 16, 2012

COPIES: See Below
Document Control H4-11

FROM: P. P. Santos
Engineering Services
H4-20/372-9069

SUBJECT: **183-D WATER FILTER PLANT - FILTER BUILDING AND PUMP ROOM
STRUCTURAL INSPECTION**

Note: Supersedes previously released IOM, CCN 166299

REF: 1) Drawing No.: W-71748, "Hanford Engineer Works Filter Plant Bldg 183-D Key Plan Concrete."

A walk down was performed on May 03, 2012 to determine the structural adequacy of the 183-D Water Filter Plant – Filter Building and Pump Room. The primary purpose for the walk down was to determine worker safety for IH sampling. The area was assessed for the possibility of performing routine work to prepare the building for eventual Decontamination and Demolition. Attachment E details the results of the structural evaluation. Figure 1 shows the path taken to the electrical room during the walk down.

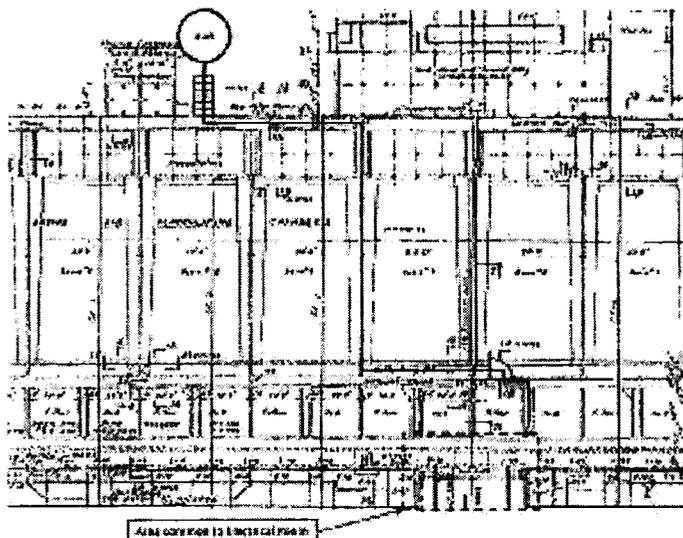


Figure 1 – 183-D Walk Down Path to Filter Building, and Pump Room and Electrical Switchgear

D4 Project Facility Completion Form

166959

M. E. Allen

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The Filter Building, and Pump Room and associated Electrical Switchgear Room were assessed. In conjunction with the attachments, below are comments from the evaluation.

- **EXTERIOR STRUCTURE, PATHS AND WALKWAYS** – The walkways exhibit concrete scaling due to the being exposed to a corrosive environment. Some of the walkways exhibit concrete spall with exposed rebar. The rebar common to these areas exhibited moderate corrosion. There are some wooden stairs that were NOT secured properly that are tripping hazards.

Based on my inspection, this area is safe to perform intrusive work scope with the approval of the Project Safety Representative (PSR).

- **FILTER BUILDING** – The masonry walls appear to be structurally adequate. These walls did NOT exhibit cracking in the grout NOR did they exhibit excessive deflection.

The pre-cast concrete roof panels exhibit severe degradation indicative of a structure that has been exposed to a corrosive environment. There is exposed rebar and significant deflections of the panels. In some cases, large pieces of the concrete panels have become detached and have fallen to the Filter Building floor. The panels also exhibited discoloration that is indicative of a potential chemical attack. These areas had "white stains" on their surfaces.

There were areas that had water pooled on the ground. The area common to these wet areas did NOT exhibit structural degradation.

There were also areas that exhibited biological waste. The area common to these hazard areas did NOT exhibit structural degradation.

Based on my inspection, this area is not safe to perform intrusive work scope.

- **PUMP ROOM** – The masonry walls appear NOT to have structurally detrimental issues. These walls did NOT exhibit cracking in the grout nor did they exhibit excessive deflection.

The pre-cast concrete roof panels exhibit severe degradation. The rebar of these panels were exposed to the environment. There were also panels which exhibited discoloration. These areas had "white stains" on its surface.

Based on my inspection, this area is not safe to perform intrusive work scope.

- **PUMP ROOM BASEMENT AND ELECTRICAL SWITCHGEAR ROOM** - The concrete walls and roof exhibited mild discoloration but did NOT exhibit significant structural degradation.

There were concrete and metal stairs that did not exhibit significant structural degradation.

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166959

M. E. Allen

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Note that picture E3 showed particulates in the air. The area should be assessed accordingly to ensure personnel safety.

Based on my inspection, this area is not safe to perform intrusive work scope due to degradation of the above-grade Pump Room.

A fall hazard exists associated with the wooden and metal hand rails at the exterior of the building. The metal handrails appear to meet the requirements of WCH procedure SH-1-3.5, *Fall Prevention/Fall Protection* (OSHA 1926.502) and appear to have NO significant degradation. The wooden hand rails need to be evaluated and repaired as required. Note that access was blocked to reach the hand rails for a proper evaluation. Safety personnel are needed for the evaluation.

Conclusion: Intrusive work scope, such as prepping for demolition, asbestos abatement, and hazardous material removal, are NOT allowed to be performed in the Filter Building, Pump Room and Electrical Switchgear Room because of the significant structural degradation. Non-intrusive entries for sampling are allowed in the Electrical Room area since it did NOT exhibit significant structural degradation; however, an alternate path needs to be taken. Consult qualified Engineering personnel for further evaluation of the alternate path.

Attachments: A) Building Exterior Pictures
 B) Filter Building Pictures
 C) Pump Room Pictures
 D) Pump Room Basement and Electrical Switchgear Room Pictures
 E) 183D Evaluation Checklist

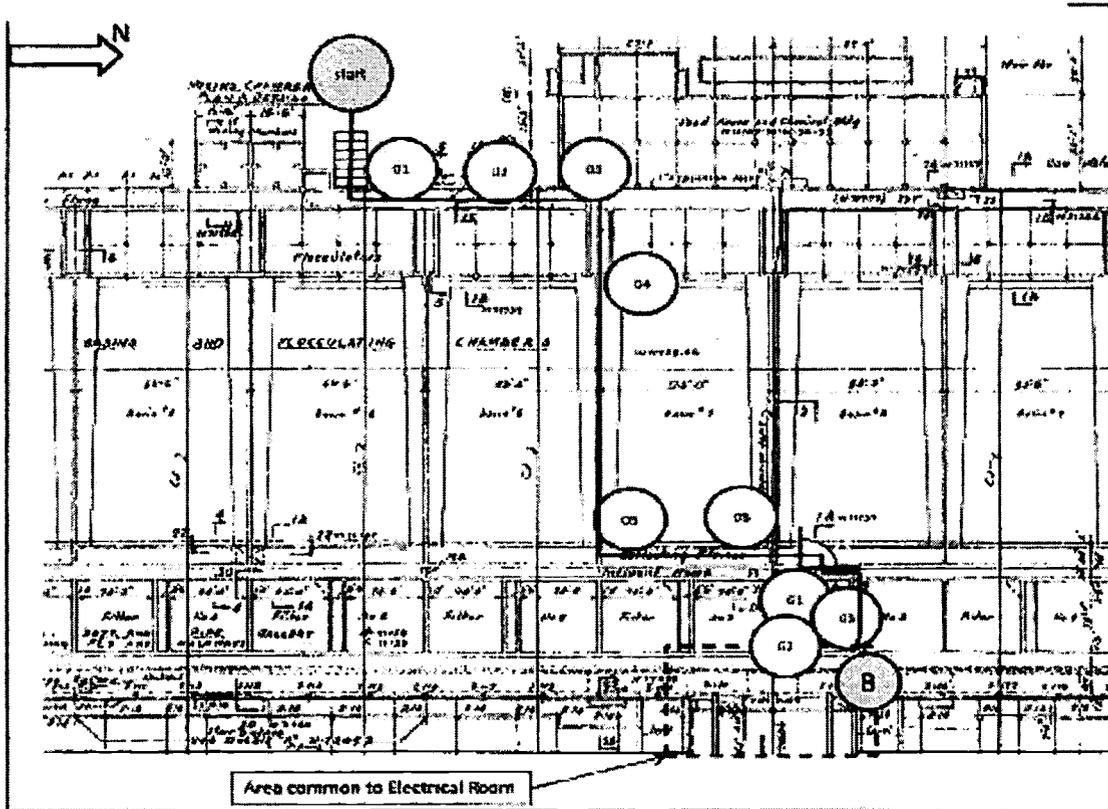
Copies (w/a)

M.E. Allen X5-51
J. C. Danley X5-51
R.G. Gothard X5-50
R.S. Hobson X5-50
M.S. Kobierowski X5-50
D. J. McBride L7-11
P. P. Santos H4-20
C.P. Strand L7-11
R. F. Trevino X5-50
D.J. Warren X5-51
J. N. Winters L7-11
Document Control H4-11

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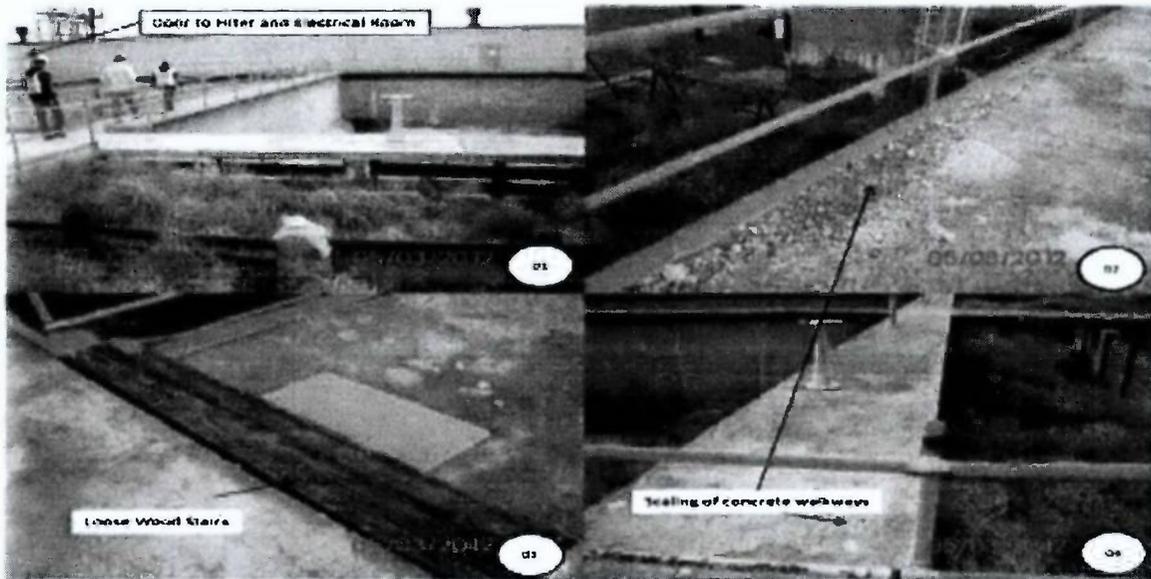
ATTACHMENT A – BUILDING EXTERIOR PICTURES

Figure 1 - Exterior Building and Filter Room Inspection Map



D4 Project Facility Completion Form

Reference Figure 1 for Locations

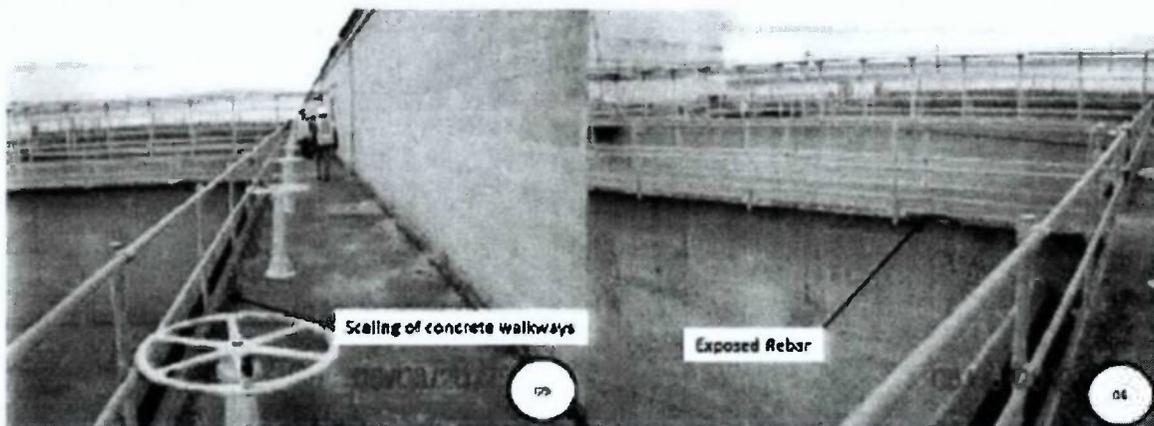


Item 01 – Filter Building Masonry Wall with NO significant Structural Degradation

Item 02 – Sealing of Concrete Walkway

Item 03 – Loose Wooden Stairs

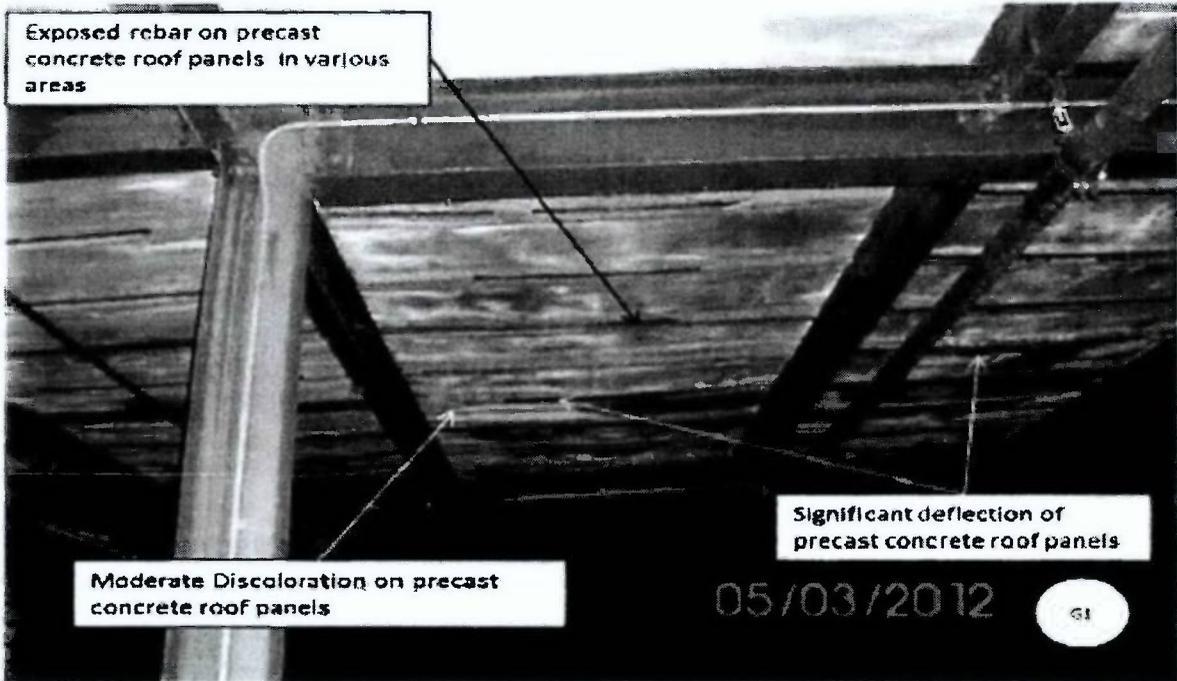
Item 04 – Sealing of Concrete Walkway



Item 05 – Sealing of concrete Walkways (Note that metal handrails do NOT exhibit structural degradation)

Item 06 – Concrete Spall on Walkway with exposed rebar

ATTACHMENT B – FILTER BUILDING PICTURES
Reference Attachment A - Figure 1 for Locations

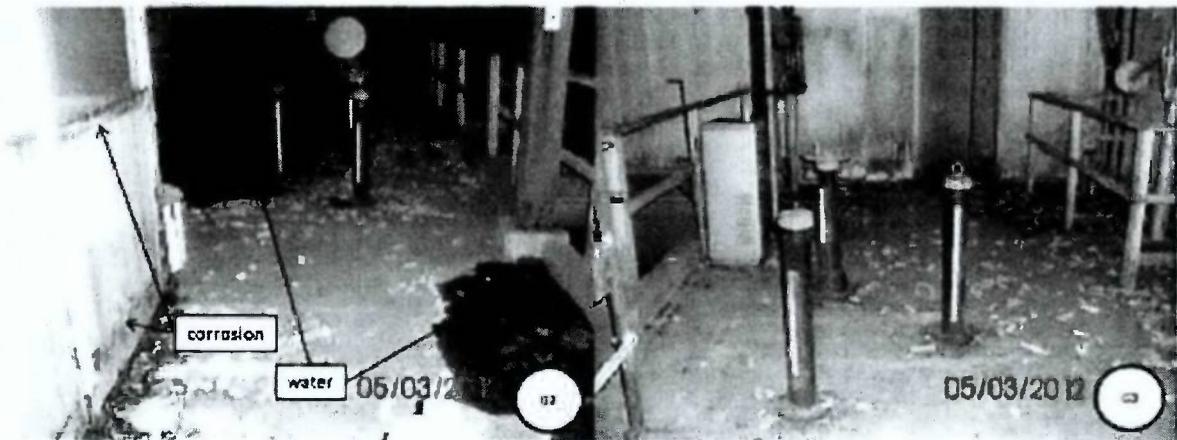


Exposed rebar on precast concrete roof panels in various areas

Significant deflection of precast concrete roof panels

Moderate Discoloration on precast concrete roof panels

Item G1 – Significant structural degradation of concrete precast roof panels



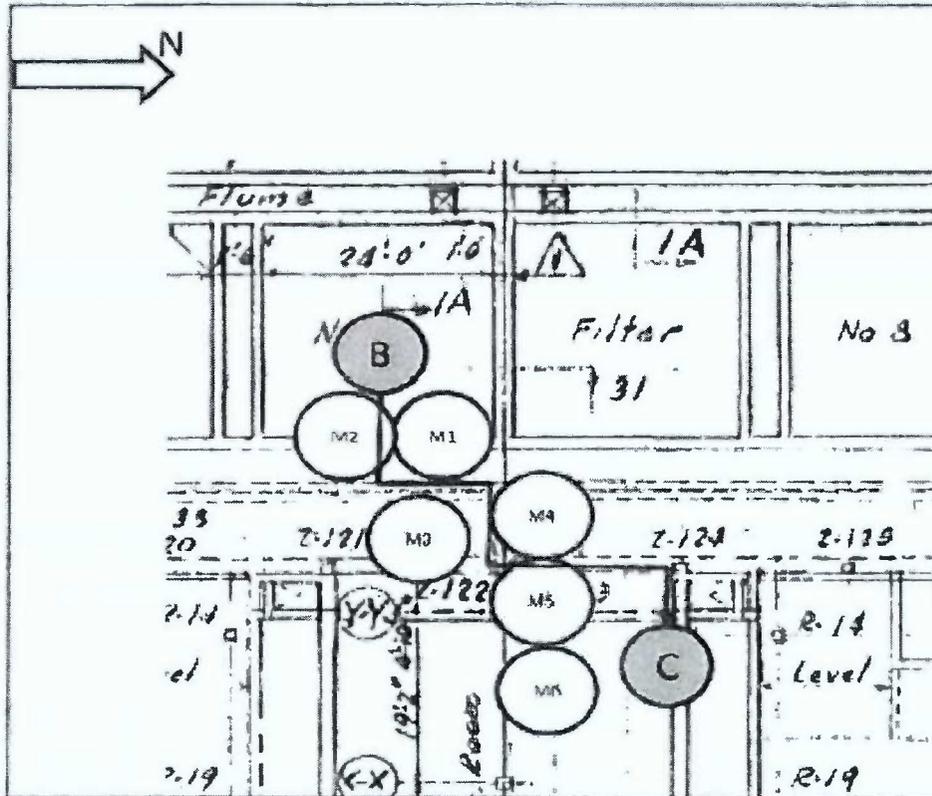
corrosion

water

Item G2 – Corrosion on metal wall panels and presence of water
Item G3 – Evidence of biological hazard

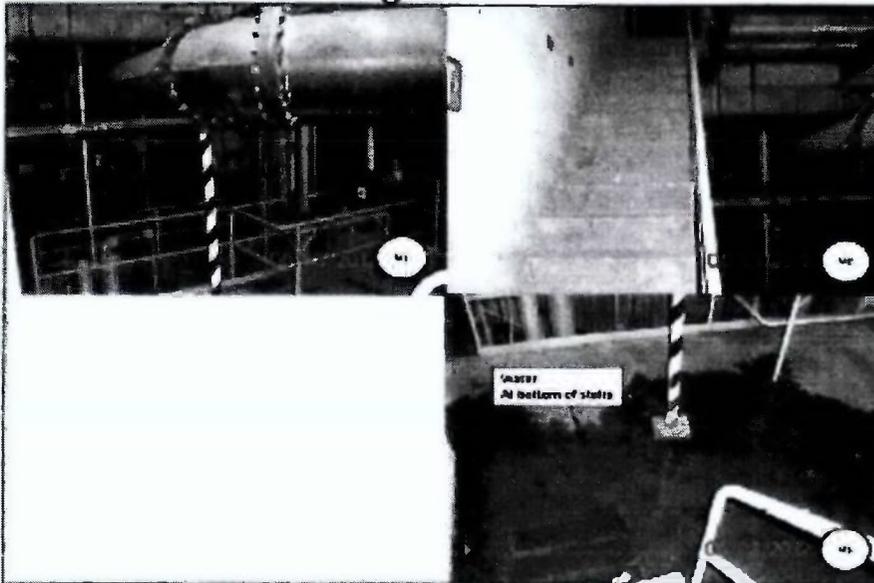
ATTACHMENT C - PUMP ROOM PICTURES

Figure 2 - Pump Room Inspection Map



D4 Project Facility Completion Form

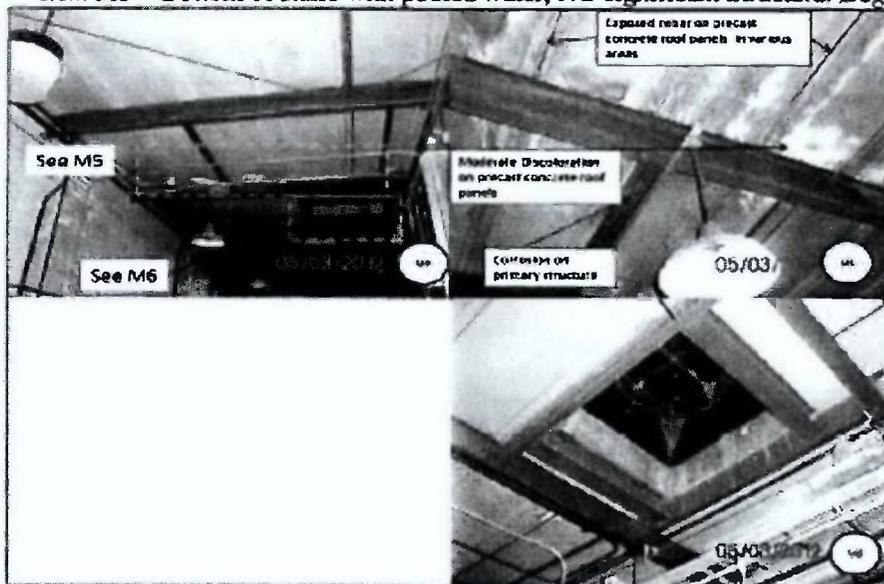
Reference Figure 2 for Locations



Item M1 – Structures and Components with NO significant Structural Degradation

Item M2 – Concrete Stair with NO significant Structural Degradation

Item M3 – Bottom of stairs with pooled water, NO significant Structural Degradation



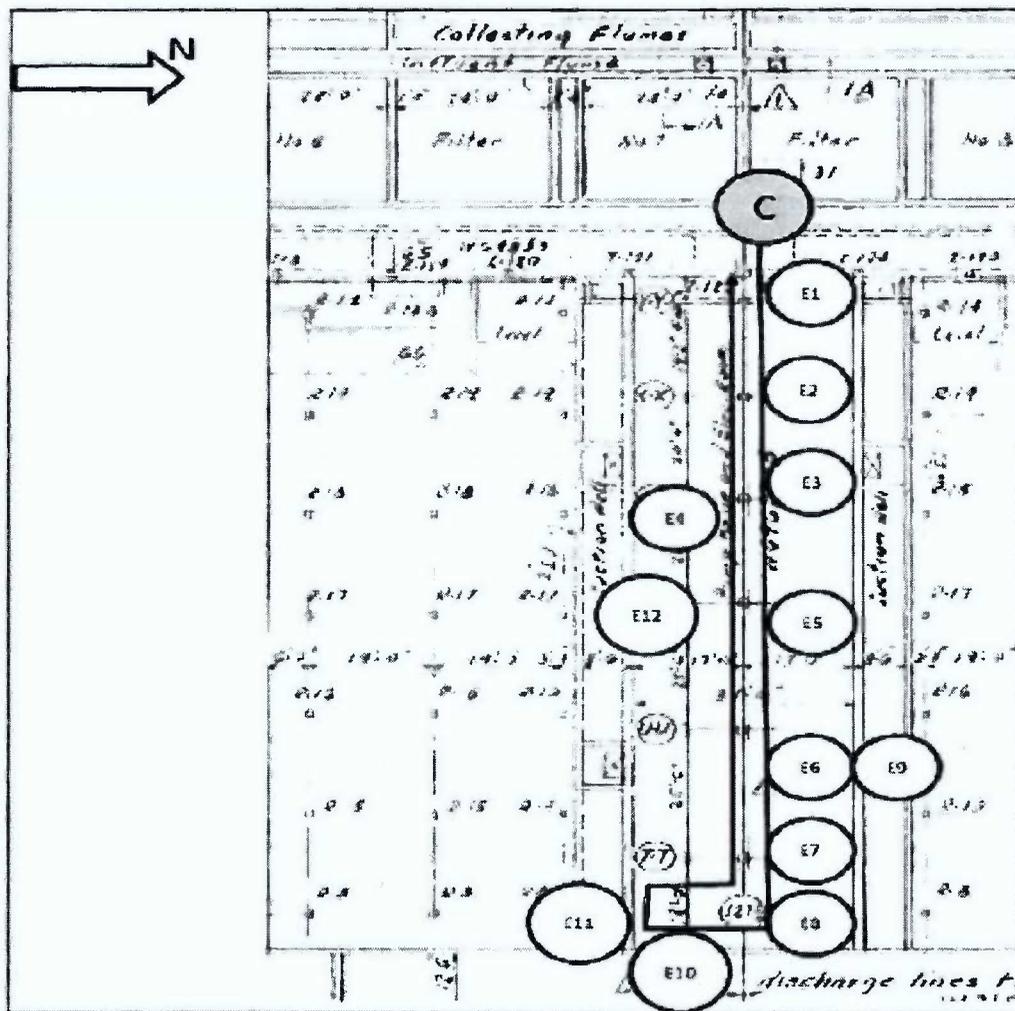
Item M4 – Roof area with minor discoloration, masonry walls have NO significant structural degradation

Item M5 – Metal Beams with moderate corrosion, exposed rebar, and discoloration

Item M6 – Penetration with NO significant structural degradation

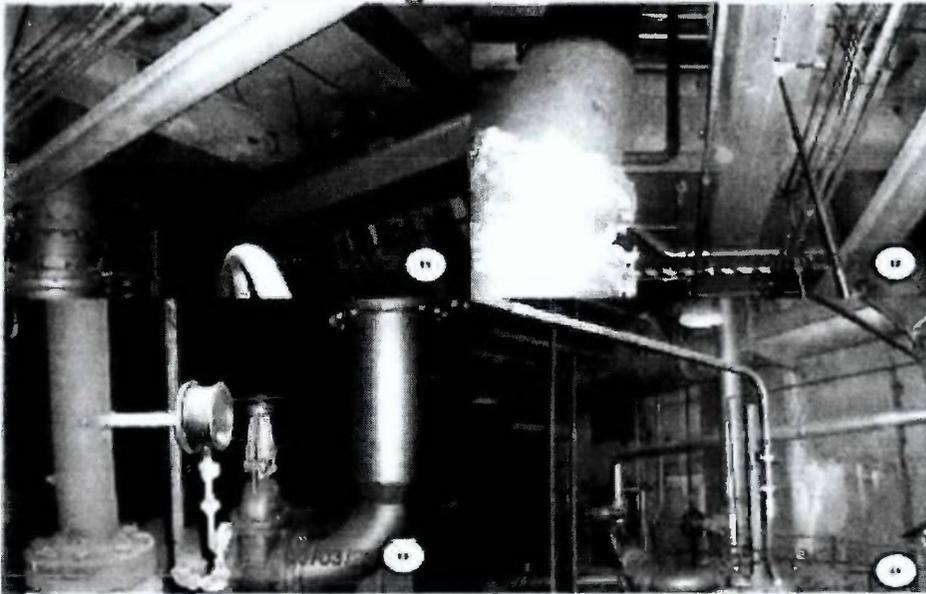
ATTACHMENT D – PUMP ROOM BASEMENT & ELECTRICAL SWITCHGEAR ROOM PICTURES

Figure 3 – Electrical Switchgear Room Inspection Map

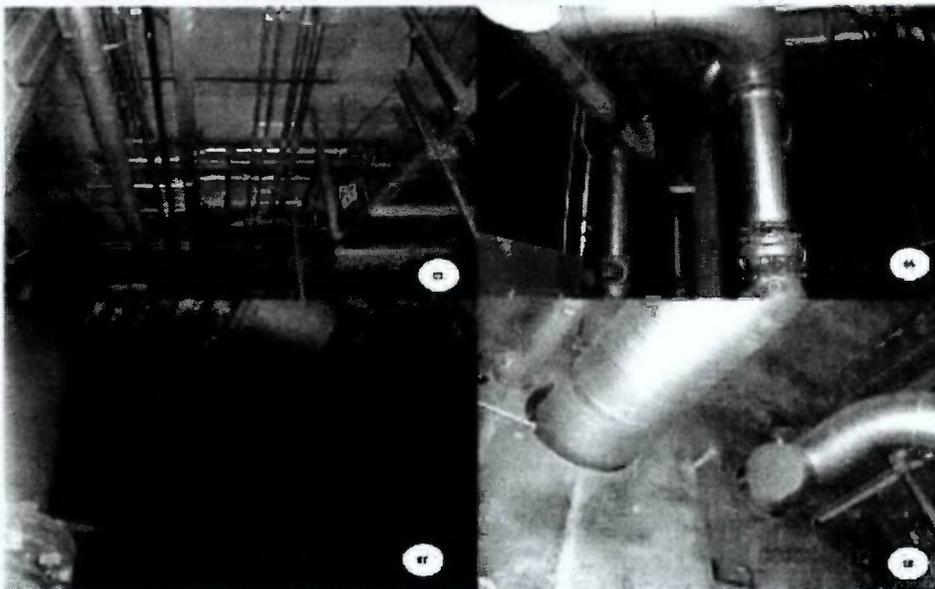


D4 Project Facility Completion Form

Reference Figure 3 for Locations



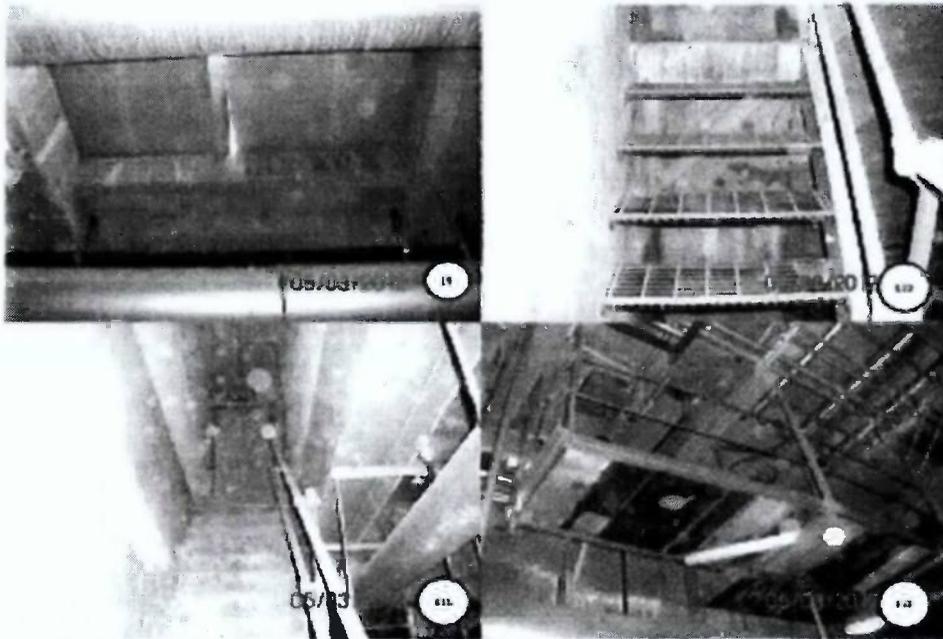
- Item E1* – Concrete Roof with NO significant Structural Degradation
- Item E2* – Concrete Beam with NO significant Structural Degradation
- Item E3* – Structures and Components with NO significant Structural Degradation
- Item E4* – Walls with minor Discoloration



- Item E5* - Concrete Roof with NO significant Structural Degradation
- Item E6* – Structures and Components with NO significant Structural Degradation
- Item E7* – Concrete Roof with NO significant Structural Degradation
- Item E8* – Wall with Pipe Penetrations with NO significant Structural Degradation

D4 Project Facility Completion Form

Reference Figure 3 for Locations



- Item E9 - Concrete Roof Penetration with NO significant Structural Degradation*
- Item E10 - Metal Stairs NO significant Structural Degradation*
- Item E11 - Concrete Stairs and Entry Way with NO significant Structural Degradation (Note: Particulates in room)*
- Item E12 - Balcony with NO significant Structural Degradation*

D4 Project Facility Completion Form

ATTACHMENT E – 183D Evaluation Checklist



Washington Closure Hanford

183D Evaluation Checklist

Practitioner: P. Santos, P.E.
Date Evaluated: 5/3/2013
Contact: WCH, Fernal Drive, A236
Info: 542-9050 Engineering Services

LEGEND:
 FE - Steel
 RC - concrete
 MA - Masonry
 WO - Wood
 CO - Cast
 CR - CR
 CW - Cast
 NA - No Visible Issues
 SP - Spall
 NI - No Visible Issues
 OF - Other
 P - Ponding
 DE - Deflection
 EX - Suspected Excess
 MI - moisture intrusion
 ST - Possible Settlement
 WI - Possible Wind Damage
 CH - Corrosion/Chlorides

| Surveillance & Maintenance Structural Inspection Sheet | | | | | | |
|--|--|--|--------------------------|------------------|--------------------------|--------------------------|
| Item No. | Description | Area Location | Evaluation? (Y/N) | Material (FE/RC) | Condition (CO/CR/SP) | Notes/Issues |
| 01 | Filter Room Masonry Wall | External Pathway | Intentionally left blank | RC | NA | Intentionally left blank |
| 02 | Concrete Walkway | External Pathway | Intentionally left blank | FE/RC | SP | CH |
| 03 | Wood Stairs | External Pathway | Intentionally left blank | WO | OF | DE |
| 04 | Concrete Walkway | External Pathway | Intentionally left blank | RC | CO, SP | CH |
| 05 | Concrete Walkway | External Pathway | Intentionally left blank | RC | CO, SP | CH |
| 06 | Concrete Walkway | External Pathway | Intentionally left blank | RC | CO, SP | CH |
| G1 | Filter Room Concrete P/A-Cast Panel | Filter Room | Intentionally left blank | RC | CO, SP | P, DE, MI, CH |
| G2 | Metal Wall Panels and Concrete Pathway | Filter Room | Intentionally left blank | FE, RC | CO | MI |
| G3 | Concrete Walkway | Filter Room | Intentionally left blank | | OF | Unfinished |
| M1 | Structures, Systems, and Components (SSCs) | Pump House Area | Intentionally left blank | FE | NA | Intentionally left blank |
| M2 | Concrete Slabs | Pump House Area | Intentionally left blank | RC | NA | Intentionally left blank |
| M3 | Concrete Slabs, Below Landing | Pump House Area | Intentionally left blank | RC | NA | MI |
| M4 | Filter Room Concrete P/A-Cast Panel and Steel Primary Structures | Pump House Area | Intentionally left blank | RC, FE | Intentionally left blank | Intentionally left blank |
| M5 | Filter Room Concrete P/A-Cast Panel and Steel Primary Structures | Pump House Area | Intentionally left blank | RC, FE | CO, SP | DE, MI, CH |
| M6 | Reel Penetration | Pump House Area | Intentionally left blank | RC, FE | NA | Intentionally left blank |
| E1 | Concrete Road | Pump House Basement & Electrical Room Area | Intentionally left blank | RC | NA | Intentionally left blank |
| E2 | Concrete Slab | Pump House Basement & Electrical Room Area | Intentionally left blank | RC | NA | Intentionally left blank |
| E3 | SSCs | Pump House Basement & Electrical Room Area | Intentionally left blank | FE | NA | Intentionally left blank |

05/03/2013

1

created by: P. Santos

1

D4 Project Facility Completion Form



Washington Closure Hartford

183D Evaluation Checklist

| | | | | | | |
|-----|-------------------------------|--|----------------------------|------------|----|----------------------------|
| E4 | Wall | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E5 | Concrete Roof | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E6 | SSCs | Pump House Basement & Electrical Room Area | (Intentionally left blank) | PE | NA | (Intentionally left blank) |
| E7 | Concrete Roof | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E8 | Work with Pipe Penetrations | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E9 | Roof Penetration | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E10 | Wood Stairs | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E11 | Concrete Slabs & Entry Paving | Pump House Basement & Electrical Room Area | (Intentionally left blank) | FC | NA | (Intentionally left blank) |
| E12 | Delivery | Pump House Basement & Electrical Room Area | (Intentionally left blank) | WH, PC, FC | NA | (Intentionally left blank) |

D4 Project Facility Completion Form

Attachment 5

EPA Concurrence that work is in compliance with NESHAP requirements (2 pages)

D4 Project Facility Completion Form

Page 1 of 2

169028

AWCH Document Control

From: Strand, Christopher P
Sent: Tuesday, December 18, 2012 8:37 AM
To: ^WCH Document Control
Subject: FW: 183-D Asbestos Work Review

Please chron and enter into project record as "EPA Approval of 183-D Asbestos Abatement and Demolition."

Thanks,

Chris
554-2720

From: Pavitt, John@epamail.epa.gov [mailto:Pavitt, John@epamail.epa.gov]
Sent: Thursday, December 13, 2012 1:54 PM
To: Strand, Christopher P
Cc: Faulk, Dennis@epamail.epa.gov; Gadbois, Larry@epamail.epa.gov; Guercia, Rudolph F; Guzzetti, Christopher@epamail.epa.gov
Subject: RE: 183-D Asbestos Work Review

Chris, I've reviewed the asbestos surveys and your workplan for demolition of Building 183-D which has been found to be structurally unsound.

Base on this information, plus my on site observations in August, I am satisfied that your approach is in compliance with asbestos NESHAP requirements.

Good luck with your project.

John Pavitt
US EPA, Region 10, Alaska Operations Office
(907) 271-3688
(907) 271-3424 (Fax)

"Strand, Christopher P" —12/13/2012 10:35:49 AM—John, With Dennis out of the office, I just wanted to check with you and see

From: "Strand, Christopher P" <cpstrand@wch.roc.com>
To: Dennis, Faulk, R10/USEPA/US@EPA, "Guercia, Rudolph F" <rudolph.guercia@it.doe.gov>, Larry Gadbois, R10/USEPA/US@EPA, John Pavitt, R10/USEPA/US@EPA
Date: 12/13/2012 10:35 AM
Subject: RE: 183-D Asbestos Work Review

John,

With Dennis out of the office, I just wanted to check with you and see if all of the 183-D information was received from your end. The files were large and had to be split up into several messages. Also, if there is anything else you need from our end to aid in your evaluation, do not hesitate to contact us.

Thank you,

Chris

12/18/2012

D4 Project Facility Completion Form

Page 2 of 2

554-2720

From: Stasnd, Christopher P

Sent: Tuesday, December 04, 2012 3:47 PM

To: Kault, Dennis A; Garcia, Rudolph F; Gadsbos, Larry E; 'paritt.john@epa.gov'

Subject: 183-D Asbestos Work Review

All,

I apologize in advance as I was made aware that one of the four messages (same subject) did not make it through last Wednesday, November 28th. You should have received three previous messages to date that transmitted the structural evaluation, and two portions (first and third) of the asbestos inspection report. Attached to this message is the second third of the asbestos inspection report. If this remains confusing, please let me know and I can have hard copies of the report mailed to each of you.

Thanks,

Chris

554-2720

<< File: 2038551_Part2.pdf >>

12/18/2012

183D Water Treatment Plant Completion

D4 Project Facility Completion Form

Attachment 6

183D GPS Surveys (9 pages)

D4 Project Facility Completion Form

0631585

Pre Demo GPS Survey For the 183D Building

Project : 183Dpredemo

Job 1171

| | | | |
|-------------------|---------------------|-------------|-----------------------|
| User name | maaye | Date & Time | 4:35:52 PM 10/31/2011 |
| Coordinate System | US State Plane 1983 | Zone | Washington South 4602 |
| Project Datum | NAD 1983 (Conus) | | |
| Vertical Datum | NAVD88 | Geoid Model | GEOID99 (Conus) |
| Coordinate Units | Meters | | |
| Distance Units | Meters | | |
| Height Units | Meters | | |

Survey Project Name: Pre-Demolition Survey for 183D Building
 Date: 10/27/2011
 Equipment: 5800
 Survey Purpose: Map the building corners
 Requested By: Jack Danley
 Location: 100D
 Charge Code: 01.01.0183D01000
 Field Surveyor: Margo Aye
 Survey Software Used: Trimble Survey Controller, and Geomatics Office V.11
 Survey Equipment Used: 5800
 Control Monuments Used: D-2
 Survey Method: RTK
 Horizontal Precision: .020m
 Vertical Precision: .050m
 Fieldwork Start Date: 10/27/11
 Fieldwork Completion Date: 10/27/11

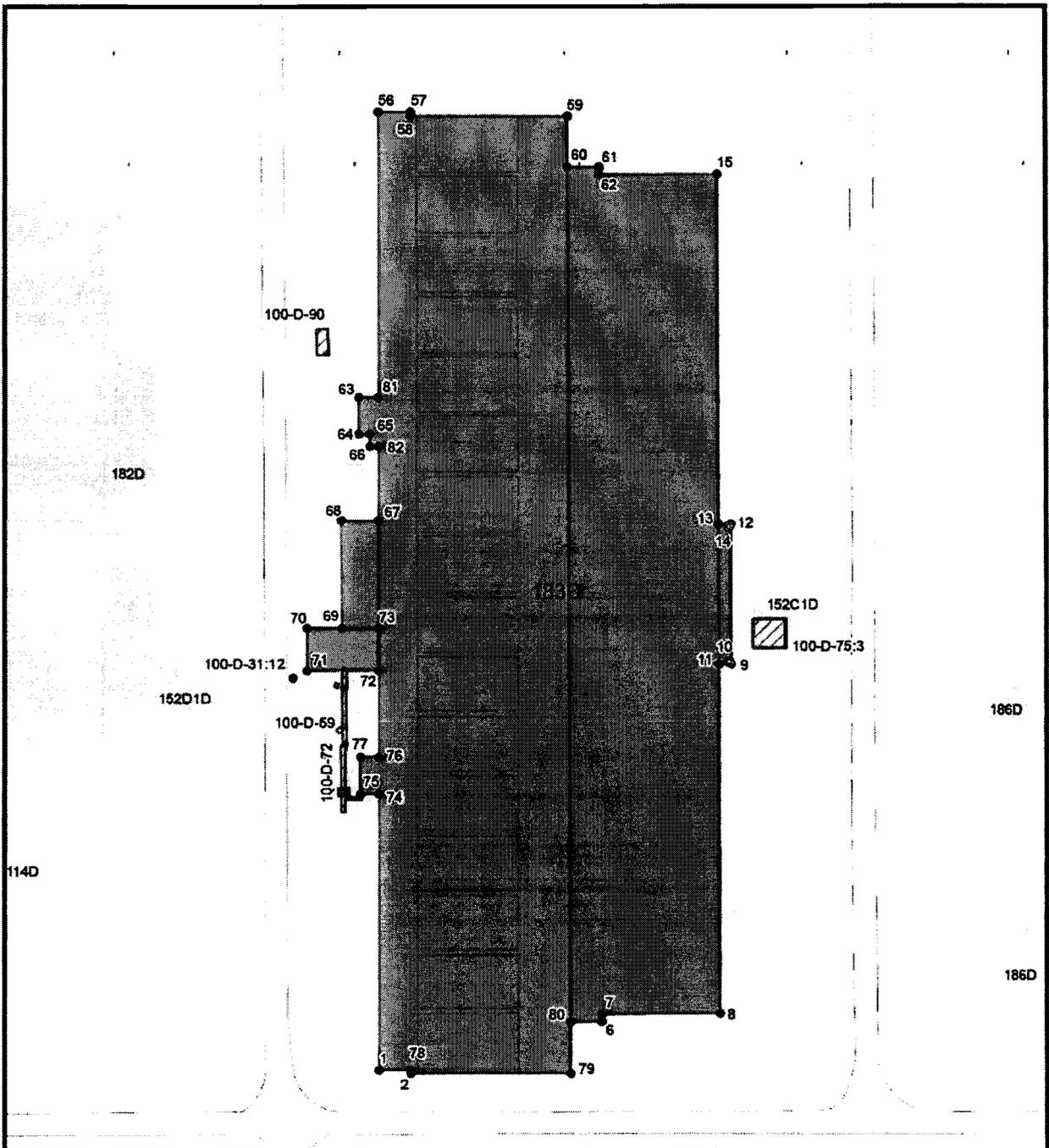
Notes: Some corner coordinates were generated by mapping offsets of the corners then using COGO coordinate geometry to calculate corner location (point names start with "A"). Points 58,59,60,61 were created using aerial photography, as that end of the building was inaccessible

| Name | Northing | Easting | Elevation | Feature Code | Notes: |
|------|-------------|-------------|-----------|----------------|--------|
| 1 | 151459.156m | 573261.286m | 167.682m | at corner | |
| 2 | 151458.334m | 573269.877m | 167.703m | at corner | |
| 3 | 151456.304m | 573313.091m | 165.087m | corner-offset | |
| 4 | 151458.294m | 573315.026m | 165.179m | corner-offset | |
| 5 | 151472.297m | 573314.790m | 165.150m | roof-offset6ft | |
| 6 | 151472.404m | 573321.539m | 164.994m | roof-corner | |
| 7 | 151474.478m | 573321.556m | 165.048m | roof-corner | |
| 8 | 151474.560m | 573354.091m | 164.741m | roof-corner | |
| 9 | 151570.214m | 573357.199m | 164.727m | corn-conc-pad | |
| 10 | 151570.724m | 573356.618m | 164.854m | mh | |
| 11 | 151570.099m | 573353.891m | 164.762m | corn-conc | |
| 12 | 151608.314m | 573357.163m | 164.707m | corn-conc | |
| 13 | 151608.267m | 573353.735m | 164.711m | corn-conc | |
| 14 | 151607.613m | 573356.549m | 164.834m | mh | |
| 15 | 151703.716m | 573353.536m | 164.740m | corner-roof | |
| 16 | 151456.957m | 573328.082m | 165.616m | monument | |
| 17 | 151534.758m | 573250.188m | 165.784m | corner-offset | |
| 18 | 151529.546m | 573256.319m | 166.111m | corner-offset | |
| 19 | 151544.855m | 573248.157m | 166.028m | corner-offset | |
| 21 | 151567.099m | 573241.803m | 165.895m | corner-offset | |
| 22 | 151568.470m | 573239.083m | 165.872m | corner-offset | |
| 23 | 151566.081m | 573247.256m | 165.922m | corner-offset | |
| 24 | 151579.998m | 573237.126m | 165.728m | corner-offset | |
| 25 | 151562.524m | 573251.477m | 165.948m | corner-offset1 | |
| 26 | 151616.227m | 573251.197m | 165.921m | corner-offset1 | |
| 27 | 151609.339m | 573248.065m | 165.884m | corner-offset1 | |
| 28 | 151632.966m | 573253.640m | 166.201m | corner-offset | |
| 29 | 151630.210m | 573255.980m | 166.193m | corner-offset | |
| 30 | 151629.644m | 573256.095m | 166.173m | corner-offset | |
| 31 | 151628.777m | 573259.143m | 166.541m | corner-offset | |
| 32 | 151647.972m | 573256.012m | 165.582m | corner-offset | |

D4 Project Facility Completion Form

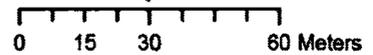
| | | | | |
|-----|-------------|-------------|----------|---------------|
| 33 | 151642.961m | 573252.714m | 165.789m | corner-offset |
| 34 | 151720.662m | 573253.940m | 165.110m | corner-offset |
| 56 | 151720.656m | 573261.286m | 0.000m | calc-corner |
| 57 | 151720.662m | 573269.981m | 0.000m | used aerial |
| 58 | 151719.656m | 573269.981m | 0.000m | used aerial |
| 59 | 151719.528m | 573312.414m | 0.000m | used aerial |
| 60 | 151705.659m | 573312.450m | 0.000m | used aerial |
| 61 | 151705.659m | 573321.054m | 0.000m | used aerial |
| 62 | 151703.634m | 573321.054m | 0.000m | used aerial |
| 63 | 151642.961m | 573256.003m | 0.000m | calc-corner |
| 64 | 151632.966m | 573255.985m | 0.000m | calc-corner |
| 65 | 151632.966m | 573259.143m | 0.000m | calc-corner |
| 66 | 151629.644m | 573259.143m | 0.000m | calc-corner |
| 67 | 151609.339m | 573261.286m | 0.000m | calc-corner |
| 68 | 151609.339m | 573251.233m | 0.000m | calc-corner |
| 69 | 151579.998m | 573251.386m | 0.000m | calc-corner |
| 70 | 151579.998m | 573241.803m | 0.000m | calc-corner |
| 71 | 151568.470m | 573241.803m | 0.000m | calc-corner |
| 72 | 151568.470m | 573261.286m | 0.000m | calc-corner |
| 73 | 151579.998m | 573261.286m | 0.000m | calc-corner |
| 74 | 151534.758m | 573261.286m | 0.000m | calc-corner |
| 75 | 151534.758m | 573256.319m | 0.000m | calc-corner |
| 76 | 151544.855m | 573261.286m | 0.000m | calc-corner |
| 77 | 151544.855m | 573256.319m | 0.000m | calc-corner |
| 78 | 151459.156m | 573269.877m | 0.000m | calc-corner |
| 79 | 151458.296m | 573313.091m | 0.000m | calc-corner |
| 80 | 151472.312m | 573313.091m | 0.000m | calc-corner |
| 81 | 151642.961m | 573261.286m | 0.000m | calc-corner |
| 82 | 151629.644m | 573261.286m | 0.000m | calc-corner |
| A10 | 151459.156m | 573270.285m | ? | COGO offset |
| A11 | 151460.334m | 573269.877m | ? | COGO offset |
| A12 | 151579.998m | 573247.125m | ? | COGO offset |
| A13 | 151633.777m | 573259.143m | ? | COGO offset |
| A14 | 151629.644m | 573261.594m | ? | COGO offset |
| A15 | 151632.966m | 573261.339m | ? | COGO offset |
| A16 | 151642.961m | 573261.713m | ? | COGO offset |
| A17 | 151544.855m | 573261.656m | ? | COGO offset |
| A18 | 151534.758m | 573262.687m | ? | COGO offset |
| A20 | 151544.845m | 573256.319m | ? | COGO offset |
| A22 | 151568.470m | 573252.082m | ? | COGO offset |
| A23 | 151579.998m | 573252.124m | ? | COGO offset |
| A25 | 151582.098m | 573241.803m | ? | COGO offset |
| A26 | 151568.470m | 573262.081m | ? | COGO offset |
| A27 | 151579.998m | 573267.123m | ? | COGO offset |
| A28 | 151609.339m | 573263.064m | ? | COGO offset |
| A3 | 151720.609m | 573313.935m | ? | COGO offset |
| A5 | 151729.134m | 573261.286m | ? | COGO offset |
| A6 | 151726.281m | 573313.091m | ? | COGO offset |
| A7 | 151472.287m | 573310.790m | ? | COGO offset |
| A8 | 151703.603m | 573308.540m | ? | COGO offset |

[Back to top](#)



- GPS Corner Locations (See Survey Report for Point Details)
- ⊙ GPS Manhole Locations (See Survey Report for Point Details)
-  Surrounding Waste Site Locations
-  183D Building Location - Pre Demolition
- Historic Buildings and Surrounding Feature Locations

**Pre-Demo Survey for
the 183D Building**



WCH:10/31/11:V:\msayle\Arch\Map\100D\183DPre-demo.mxd, 4:16:47 PM

D4 Project Facility Completion Form

Post Demo Survey Report for 183D

Project : 183_post

Job 1263

| | | | |
|-------------------|---------------------|-------------|-----------------------|
| User name | maaye | Date & Time | 10:14:52 AM 12/2/2013 |
| Coordinate System | US State Plane 1983 | Zone | Washington South 4602 |
| Project Datum | NAD 1983 (Conus) | | |
| Vertical Datum | | Geoid Model | Not selected |
| Coordinate Units | Meters | | |
| Distance Units | Meters | | |
| Height Units | Meters | | |

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Survey Project Name: Post Demo Survey for 183D
Date: 11/25/2013
Equipment: S800
Survey Purpose: Map the post demo excavation for 183D
Requested By: Mark Allen
Location: 100D
Charge Code:
Field Surveyor: Margo Aye
Survey Software Used: Trimble Survey Controller, and Geomatics Office V.11
Survey Equipment Used: S800
Control Monuments Used: B-2
Survey Method: RTK
Horizontal Precision: .020m
Vertical Precision: .050m
Fieldwork Start Date: 11/20/13
Fieldwork Completion Date: 11/21/13
Notes:
    
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| Name | Northing | Eastng | Elevation | Feature Code | Description |
|------|-------------|-------------|-----------|---------------|-------------|
| 1 | 151623.786m | 573236.923m | 143.866m | daylight | |
| 2 | 151612.651m | 573238.864m | 143.832m | daylight | |
| 3 | 151598.745m | 573239.815m | 143.891m | daylight | |
| 4 | 151585.178m | 573241.619m | 142.969m | daylight | |
| 5 | 151573.126m | 573240.878m | 142.979m | daylight-topo | |
| 6 | 151571.694m | 573242.179m | 142.886m | daylight-topo | |
| 7 | 151572.698m | 573247.339m | 142.679m | topo | |
| 8 | 151567.006m | 573251.221m | 143.247m | daylight-topo | |
| 9 | 151566.997m | 573242.696m | 144.327m | daylight-topo | |
| 10 | 151551.333m | 573243.455m | 144.406m | daylight-topo | |
| 11 | 151536.307m | 573243.601m | 144.222m | daylight-topo | |
| 12 | 151511.993m | 573237.926m | 144.163m | daylight-topo | |
| 13 | 151489.375m | 573246.136m | 143.933m | daylight-topo | |
| 14 | 151479.988m | 573255.452m | 143.712m | daylight-topo | |
| 15 | 151466.072m | 573256.756m | 143.716m | daylight-topo | |
| 16 | 151452.468m | 573260.455m | 144.029m | daylight-topo | |
| 17 | 151452.162m | 573272.927m | 144.016m | daylight-topo | |
| 18 | 151453.227m | 573286.028m | 144.253m | daylight-topo | |
| 19 | 151453.173m | 573301.630m | 143.915m | daylight-topo | |
| 20 | 151453.831m | 573309.043m | 143.665m | daylight-topo | |
| 21 | 151465.285m | 573316.740m | 143.810m | daylight-topo | |
| 22 | 151467.282m | 573328.975m | 143.574m | daylight-topo | |
| 23 | 151469.563m | 573338.985m | 143.354m | daylight-topo | |
| 24 | 151472.711m | 573352.615m | 142.540m | daylight-topo | |
| 25 | 151478.752m | 573364.318m | 143.058m | daylight-topo | |
| 26 | 151490.821m | 573366.642m | 143.060m | daylight-topo | |
| 27 | 151504.376m | 573367.308m | 143.319m | daylight-topo | |
| 28 | 151523.378m | 573367.493m | 143.291m | daylight-topo | |
| 29 | 151535.680m | 573368.443m | 143.377m | daylight-topo | |
| 30 | 151543.941m | 573377.777m | 143.425m | daylight-topo | |
| 31 | 151552.675m | 573369.006m | 143.079m | daylight-topo | |
| 32 | 151577.863m | 573372.930m | 143.072m | daylight-topo | |
| 33 | 151594.230m | 573372.269m | 143.001m | daylight-topo | |

D4 Project Facility Completion Form

| | | | | |
|-----|-------------|-------------|----------|---------------|
| 34 | 151606.954m | 573370.820m | 143.157m | daylight-topo |
| 35 | 151610.176m | 573378.739m | 143.297m | daylight-topo |
| 36 | 151619.556m | 573381.834m | 143.483m | daylight-topo |
| 37 | 151621.481m | 573366.334m | 143.384m | daylight-topo |
| 38 | 151619.666m | 573363.246m | 143.420m | daylight-topo |
| 39 | 151618.614m | 573356.363m | 143.333m | daylight-topo |
| 40 | 151637.222m | 573371.614m | 143.497m | daylight-topo |
| 41 | 151641.799m | 573370.618m | 143.392m | daylight-topo |
| 42 | 151645.635m | 573371.502m | 143.294m | daylight-topo |
| 43 | 151648.502m | 573374.757m | 143.419m | daylight-topo |
| 44 | 151648.120m | 573381.257m | 143.576m | daylight-topo |
| 45 | 151645.451m | 573384.315m | 143.581m | daylight-topo |
| 46 | 151640.091m | 573384.977m | 143.478m | daylight-topo |
| 47 | 151635.885m | 573382.844m | 143.574m | daylight-topo |
| 48 | 151634.767m | 573378.556m | 143.550m | daylight-topo |
| 49 | 151635.669m | 573374.628m | 143.508m | daylight-topo |
| 50 | 151707.135m | 573314.873m | 143.729m | daylight-topo |
| 51 | 151714.340m | 573314.277m | 143.631m | daylight-topo |
| 52 | 151722.318m | 573312.224m | 143.344m | daylight-topo |
| 53 | 151723.661m | 573305.253m | 143.141m | daylight-topo |
| 54 | 151725.309m | 573300.495m | 142.993m | daylight-topo |
| 55 | 151734.598m | 573302.818m | 143.226m | daylight-topo |
| 56 | 151742.303m | 573298.855m | 143.343m | daylight-topo |
| 57 | 151745.188m | 573287.027m | 143.259m | daylight-topo |
| 58 | 151748.845m | 573276.166m | 143.185m | daylight-topo |
| 59 | 151746.930m | 573264.054m | 143.046m | daylight-topo |
| 60 | 151747.119m | 573243.660m | 143.051m | daylight-topo |
| 61 | 151732.082m | 573242.080m | 143.070m | daylight-topo |
| 62 | 151731.821m | 573254.369m | 142.851m | daylight-topo |
| 63 | 151731.478m | 573266.787m | 142.783m | daylight-topo |
| 64 | 151729.789m | 573278.812m | 142.705m | daylight-topo |
| 65 | 151727.918m | 573289.245m | 142.940m | daylight-topo |
| 66 | 151717.067m | 573294.432m | 142.663m | daylight-topo |
| 67 | 151704.333m | 573300.738m | 142.188m | daylight-topo |
| 68 | 151703.125m | 573290.643m | 142.270m | daylight-topo |
| 69 | 151702.927m | 573280.482m | 142.106m | daylight-topo |
| 70 | 151704.649m | 573267.715m | 142.162m | daylight-topo |
| 71 | 151706.602m | 573256.349m | 142.761m | daylight-topo |
| 72 | 151707.506m | 573240.287m | 143.266m | daylight-topo |
| 73 | 151691.736m | 573239.053m | 143.181m | daylight-topo |
| 74 | 151690.170m | 573251.397m | 142.709m | daylight-topo |
| 75 | 151690.821m | 573262.647m | 142.036m | daylight-topo |
| 76 | 151691.470m | 573276.569m | 142.001m | daylight-topo |
| 77 | 151692.614m | 573289.586m | 142.155m | daylight-topo |
| 78 | 151692.278m | 573299.792m | 141.739m | daylight-topo |
| 79 | 151680.244m | 573298.664m | 141.589m | daylight-topo |
| 80 | 151680.340m | 573287.969m | 142.070m | daylight-topo |
| 81 | 151679.380m | 573276.193m | 141.952m | daylight-topo |
| 82 | 151680.702m | 573263.161m | 142.150m | daylight-topo |
| 83 | 151681.891m | 573252.086m | 142.981m | daylight-topo |
| 84 | 151680.439m | 573237.700m | 143.491m | daylight-topo |
| 85 | 151668.033m | 573236.270m | 143.667m | daylight-topo |
| 86 | 151659.498m | 573238.150m | 143.819m | daylight-topo |
| 87 | 151659.454m | 573244.964m | 143.733m | daylight-topo |
| 88 | 151667.975m | 573249.574m | 143.479m | daylight-topo |
| 89 | 151668.337m | 573259.032m | 142.601m | daylight-topo |
| 90 | 151671.515m | 573267.917m | 141.648m | daylight-topo |
| 91 | 151672.528m | 573279.257m | 141.925m | daylight-topo |
| 92 | 151672.680m | 573292.265m | 142.048m | daylight-topo |
| 93 | 151672.018m | 573299.023m | 141.615m | daylight-topo |
| 94 | 151663.560m | 573298.597m | 141.778m | daylight-topo |
| 95 | 151663.497m | 573289.092m | 141.948m | daylight-topo |
| 96 | 151661.473m | 573278.593m | 141.834m | daylight-topo |
| 97 | 151660.936m | 573269.525m | 141.691m | daylight-topo |
| 98 | 151659.938m | 573260.916m | 142.470m | daylight-topo |
| 99 | 151657.891m | 573250.604m | 143.828m | daylight-topo |
| 100 | 151650.969m | 573242.998m | 143.804m | daylight-topo |
| 101 | 151649.360m | 573252.388m | 143.647m | daylight-topo |
| 102 | 151649.073m | 573259.929m | 142.527m | daylight-topo |
| 103 | 151648.955m | 573270.830m | 141.650m | daylight-topo |
| 104 | 151649.722m | 573282.435m | 141.797m | daylight-topo |

D4 Project Facility Completion Form

| | | | | |
|-----|-------------|-------------|----------|---------------|
| 105 | 151650.346m | 573298.200m | 141.705m | daylight-topo |
| 106 | 151639.894m | 573298.471m | 141.717m | daylight-topo |
| 107 | 151629.909m | 573298.672m | 142.055m | daylight-topo |
| 108 | 151630.621m | 573290.144m | 141.968m | daylight-topo |
| 109 | 151640.263m | 573289.252m | 141.858m | daylight-topo |
| 110 | 151640.925m | 573279.429m | 141.718m | daylight-topo |
| 111 | 151641.995m | 573268.177m | 141.706m | daylight-topo |
| 112 | 151641.156m | 573255.772m | 143.086m | daylight-topo |
| 113 | 151641.253m | 573243.515m | 143.877m | daylight-topo |
| 114 | 151640.033m | 573234.996m | 144.020m | daylight-topo |
| 115 | 151632.580m | 573237.291m | 143.879m | daylight-topo |
| 116 | 151636.543m | 573245.615m | 143.674m | daylight-topo |
| 117 | 151637.595m | 573255.816m | 142.967m | daylight-topo |
| 118 | 151637.971m | 573266.252m | 141.935m | daylight-topo |
| 119 | 151634.499m | 573274.978m | 141.545m | daylight-topo |
| 120 | 151631.074m | 573282.895m | 141.798m | daylight-topo |
| 121 | 151623.730m | 573298.882m | 142.019m | daylight-topo |
| 122 | 151625.453m | 573285.798m | 141.898m | daylight-topo |
| 123 | 151626.468m | 573275.541m | 141.723m | daylight-topo |
| 124 | 151625.460m | 573262.912m | 141.980m | daylight-topo |
| 125 | 151625.334m | 573249.759m | 143.034m | daylight-topo |
| 126 | 151616.884m | 573247.671m | 143.003m | daylight-topo |
| 127 | 151617.788m | 573256.177m | 142.424m | daylight-topo |
| 128 | 151615.922m | 573264.900m | 142.098m | daylight-topo |
| 129 | 151615.610m | 573278.422m | 141.868m | daylight-topo |
| 130 | 151614.847m | 573288.622m | 141.964m | daylight-topo |
| 131 | 151612.070m | 573298.967m | 141.602m | daylight-topo |
| 132 | 151603.148m | 573297.905m | 141.585m | daylight-topo |
| 133 | 151604.021m | 573288.547m | 142.017m | daylight-topo |
| 134 | 151604.396m | 573278.005m | 141.908m | daylight-topo |
| 135 | 151605.952m | 573263.569m | 142.444m | daylight-topo |
| 136 | 151607.124m | 573252.037m | 142.882m | daylight-topo |
| 137 | 151597.781m | 573247.740m | 143.251m | daylight-topo |
| 138 | 151597.096m | 573258.038m | 142.546m | daylight-topo |
| 139 | 151595.463m | 573267.486m | 142.514m | daylight-topo |
| 140 | 151594.904m | 573275.154m | 142.004m | daylight-topo |
| 141 | 151595.046m | 573284.513m | 142.189m | daylight-topo |
| 142 | 151594.408m | 573297.751m | 141.963m | daylight-topo |
| 143 | 151585.711m | 573297.137m | 142.302m | daylight-topo |
| 144 | 151585.656m | 573286.496m | 142.386m | daylight-topo |
| 145 | 151586.123m | 573276.356m | 142.112m | daylight-topo |
| 146 | 151586.634m | 573267.343m | 142.364m | daylight-topo |
| 147 | 151584.498m | 573259.645m | 142.574m | daylight-topo |
| 148 | 151585.049m | 573249.065m | 142.898m | daylight-topo |
| 149 | 151576.275m | 573260.079m | 142.673m | daylight-topo |
| 150 | 151576.760m | 573267.817m | 142.201m | daylight-topo |
| 151 | 151576.508m | 573280.154m | 142.272m | daylight-topo |
| 152 | 151575.975m | 573290.482m | 142.492m | daylight-topo |
| 153 | 151573.849m | 573297.226m | 142.454m | daylight-topo |
| 154 | 151564.967m | 573296.642m | 142.330m | daylight-topo |
| 155 | 151564.841m | 573287.032m | 142.256m | daylight-topo |
| 156 | 151564.975m | 573279.294m | 142.032m | daylight-topo |
| 157 | 151564.422m | 573269.943m | 141.970m | daylight-topo |
| 158 | 151563.446m | 573259.123m | 142.870m | daylight-topo |
| 159 | 151553.818m | 573259.640m | 142.988m | daylight-topo |
| 160 | 151553.194m | 573267.786m | 142.188m | daylight-topo |
| 161 | 151552.084m | 573276.126m | 141.898m | daylight-topo |
| 162 | 151550.983m | 573286.243m | 142.114m | daylight-topo |
| 163 | 151550.892m | 573296.867m | 142.103m | daylight-topo |
| 164 | 151549.021m | 573290.131m | 142.267m | daylight-topo |
| 165 | 151548.225m | 573284.148m | 142.077m | daylight-topo |
| 166 | 151545.096m | 573279.871m | 142.047m | daylight-topo |
| 167 | 151544.860m | 573272.365m | 141.964m | daylight-topo |
| 168 | 151546.501m | 573263.039m | 142.523m | daylight-topo |
| 169 | 151546.714m | 573252.832m | 143.392m | daylight-topo |
| 170 | 151536.526m | 573252.776m | 143.276m | daylight-topo |
| 171 | 151535.390m | 573261.976m | 142.475m | daylight-topo |
| 172 | 151534.369m | 573270.351m | 142.040m | daylight-topo |
| 173 | 151532.757m | 573282.032m | 142.130m | daylight-topo |
| 174 | 151532.129m | 573292.769m | 142.429m | daylight-topo |
| 175 | 151529.531m | 573296.040m | 142.403m | daylight-topo |

D4 Project Facility Completion Form

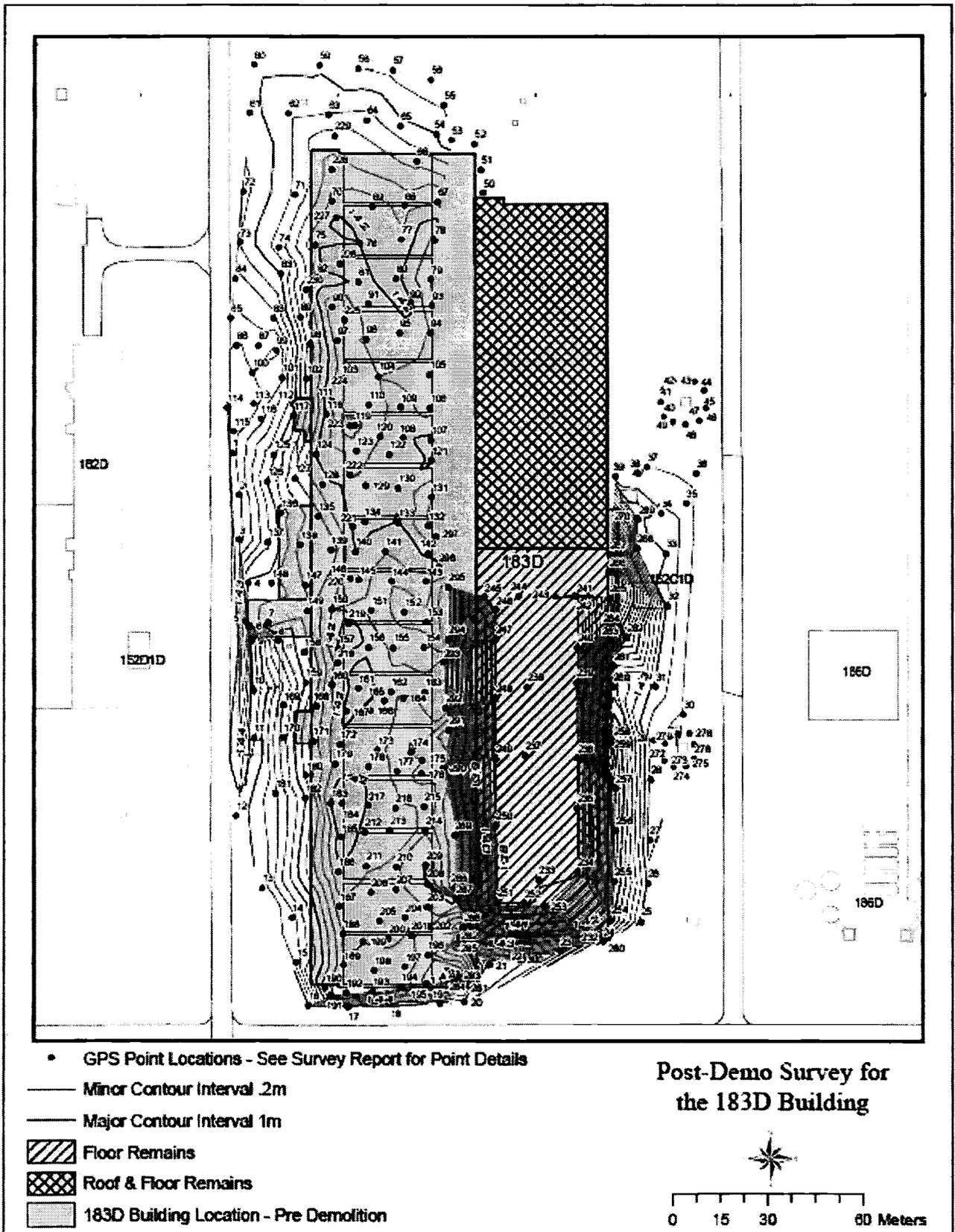
| | | | | |
|-----|-------------|-------------|----------|---------------|
| 176 | 151525.346m | 573295.776m | 142.481m | daylight-topo |
| 177 | 151526.048m | 573288.255m | 142.251m | daylight-topo |
| 178 | 151527.525m | 573279.258m | 142.066m | daylight-topo |
| 179 | 151528.273m | 573269.029m | 142.123m | daylight-topo |
| 180 | 151524.817m | 573259.753m | 142.751m | daylight-topo |
| 181 | 151519.106m | 573250.179m | 143.647m | daylight-topo |
| 182 | 151517.612m | 573259.449m | 143.016m | daylight-topo |
| 183 | 151515.901m | 573267.570m | 141.985m | daylight-topo |
| 184 | 151515.860m | 573271.101m | 141.799m | toe |
| 185 | 151505.235m | 573270.770m | 141.874m | toe |
| 186 | 151494.541m | 573269.901m | 142.053m | toe |
| 187 | 151483.605m | 573270.266m | 142.271m | toe |
| 188 | 151474.908m | 573271.368m | 142.384m | toe |
| 189 | 151465.248m | 573271.551m | 142.416m | toe |
| 190 | 151458.138m | 573265.797m | 142.671m | toe |
| 191 | 151455.849m | 573267.383m | 142.625m | toe |
| 192 | 151456.515m | 573272.333m | 142.448m | toe |
| 193 | 151456.978m | 573280.526m | 142.617m | toe |
| 194 | 151458.471m | 573289.386m | 142.603m | toe |
| 195 | 151459.470m | 573297.330m | 142.122m | toe |
| 196 | 151468.379m | 573297.670m | 142.289m | topo |
| 197 | 151464.701m | 573290.648m | 142.508m | topo |
| 198 | 151463.671m | 573281.018m | 142.508m | topo |
| 199 | 151472.664m | 573277.588m | 142.393m | topo |
| 200 | 151473.555m | 573285.505m | 142.361m | topo |
| 201 | 151474.506m | 573292.598m | 142.421m | topo |
| 202 | 151477.451m | 573297.933m | 142.369m | topo |
| 203 | 151483.389m | 573297.629m | 142.181m | topo |
| 204 | 151480.137m | 573290.782m | 142.366m | topo |
| 205 | 151479.193m | 573282.657m | 142.318m | topo |
| 206 | 151488.157m | 573280.108m | 142.295m | topo |
| 207 | 151488.986m | 573287.900m | 142.286m | topo |
| 208 | 151490.761m | 573297.547m | 141.983m | topo |
| 209 | 151496.615m | 573297.149m | 141.983m | topo |
| 210 | 151496.001m | 573287.964m | 142.233m | topo |
| 211 | 151496.244m | 573278.590m | 142.172m | topo |
| 212 | 151506.886m | 573278.114m | 142.057m | topo |
| 213 | 151507.376m | 573285.933m | 142.123m | topo |
| 214 | 151507.626m | 573296.975m | 142.222m | topo |
| 215 | 151514.907m | 573296.591m | 142.222m | topo |
| 216 | 151514.536m | 573287.746m | 142.143m | topo |
| 217 | 151515.252m | 573279.312m | 142.026m | topo |
| 218 | 151560.065m | 573269.632m | 142.094m | toe |
| 219 | 151572.417m | 573273.006m | 141.918m | toe |
| 220 | 151586.581m | 573273.631m | 142.034m | toe |
| 221 | 151602.766m | 573274.349m | 141.981m | toe |
| 222 | 151619.047m | 573273.477m | 141.781m | toe |
| 223 | 151634.270m | 573273.473m | 141.492m | toe |
| 224 | 151651.792m | 573272.722m | 141.554m | toe |
| 225 | 151667.399m | 573271.762m | 141.591m | toe |
| 226 | 151685.009m | 573270.406m | 141.803m | toe |
| 227 | 151699.362m | 573269.165m | 141.984m | toe |
| 228 | 151714.455m | 573267.816m | 142.300m | toe |
| 229 | 151724.844m | 573268.718m | 142.518m | toe |
| 230 | 151676.938m | 573259.884m | 142.214m | cut-pipe-20in |
| 232 | 151473.510m | 573352.901m | 142.616m | top |
| 233 | 151492.040m | 573332.145m | 137.942m | floor |
| 234 | 151494.407m | 573344.443m | 137.970m | floor-toe |
| 235 | 151514.480m | 573344.339m | 137.935m | floor-toe |
| 236 | 151530.210m | 573344.264m | 137.935m | floor-toe |
| 237 | 151530.950m | 573327.768m | 137.929m | floor |
| 238 | 151552.331m | 573328.549m | 137.922m | floor |
| 239 | 151553.829m | 573344.023m | 137.922m | floor-toe |
| 240 | 151564.957m | 573344.269m | 137.931m | floor-toe |
| 241 | 151580.780m | 573344.629m | 137.919m | floor-toe |
| 242 | 151581.252m | 573343.843m | 139.133m | corner-ledge |
| 243 | 151580.835m | 573337.417m | 137.931m | ledge |
| 244 | 151580.964m | 573325.741m | 137.926m | ledge |
| 245 | 151580.715m | 573315.203m | 137.931m | ledge |
| 246 | 151576.607m | 573318.763m | 137.928m | floor-toe |
| 247 | 151567.467m | 573318.603m | 137.935m | floor-toe |

D4 Project Facility Completion Form

| | | | | |
|-----|-------------|-------------|----------|--------------------|
| 248 | 151548.976m | 573318.635m | 137.932m | floor-toe |
| 249 | 151529.883m | 573318.691m | 137.941m | floor-toe |
| 250 | 151508.926m | 573318.770m | 137.937m | floor-toe |
| 251 | 151484.751m | 573319.100m | 137.959m | floor-toe |
| 252 | 151484.683m | 573327.653m | 137.970m | floor-toe |
| 253 | 151483.882m | 573333.876m | 138.146m | floor-toe-ramp |
| 254 | 151479.291m | 573355.150m | 141.927m | top |
| 255 | 151491.447m | 573356.151m | 141.784m | top |
| 256 | 151507.337m | 573356.513m | 141.710m | top |
| 257 | 151520.548m | 573356.353m | 141.591m | top |
| 258 | 151535.431m | 573355.942m | 141.679m | top |
| 259 | 151534.799m | 573353.917m | 142.508m | ledge-top |
| 260 | 151552.549m | 573355.724m | 142.313m | top |
| 261 | 151559.026m | 573355.779m | 142.429m | top |
| 262 | 151568.103m | 573359.932m | 141.520m | cut-pipe-end-4ft |
| 263 | 151567.093m | 573354.655m | 140.346m | top |
| 264 | 151571.180m | 573355.003m | 139.850m | top-toe |
| 265 | 151580.340m | 573354.625m | 139.636m | top-toe |
| 266 | 151588.552m | 573354.264m | 139.613m | top-toe |
| 267 | 151593.833m | 573354.685m | 139.806m | top-toe |
| 268 | 151595.967m | 573363.173m | 142.890m | top |
| 269 | 151605.156m | 573363.483m | 142.938m | top |
| 270 | 151605.471m | 573362.920m | 142.776m | cut-vert-14in-pipe |
| 271 | 151536.796m | 573373.787m | 143.440m | top |
| 272 | 151534.876m | 573371.988m | 143.414m | top |
| 273 | 151529.538m | 573371.784m | 143.516m | top |
| 274 | 151527.663m | 573374.663m | 143.466m | top |
| 275 | 151527.802m | 573378.586m | 143.450m | top |
| 276 | 151529.911m | 573381.214m | 143.433m | top |
| 277 | 151534.506m | 573381.241m | 143.414m | top |
| 278 | 151538.001m | 573379.667m | 143.479m | top |
| 279 | 151537.759m | 573376.068m | 143.490m | top |
| 280 | 151473.915m | 573354.060m | 142.561m | top-corner |
| 281 | 151438.365m | 573309.124m | 143.040m | top-corner-slab |
| 282 | 151471.565m | 573309.342m | 143.047m | top-slab |
| 283 | 151461.451m | 573306.772m | 141.877m | topo |
| 284 | 151461.619m | 573306.857m | 141.808m | topo |
| 285 | 151473.899m | 573307.954m | 142.167m | topo |
| 286 | 151477.104m | 573308.869m | 143.062m | top-wall |
| 287 | 151485.975m | 573306.598m | 141.927m | topo |
| 288 | 151489.669m | 573306.253m | 142.766m | topo |
| 289 | 151505.885m | 573306.165m | 142.792m | topo |
| 290 | 151526.960m | 573302.526m | 142.519m | topo |
| 291 | 151538.863m | 573304.379m | 142.686m | top-slab |
| 292 | 151545.845m | 573303.360m | 142.091m | topo |
| 293 | 151560.217m | 573302.577m | 142.179m | topo |
| 294 | 151567.517m | 573304.263m | 142.681m | topo |
| 295 | 151583.920m | 573304.174m | 142.719m | top-slab |
| 296 | 151590.165m | 573301.148m | 142.067m | topo |
| 297 | 151599.793m | 573300.256m | 141.702m | topo |
| 300 | 151466.856m | 573326.379m | 143.688m | cpl |
| D3 | 151665.068m | 572745.686m | 142.867m | . |

[Back to top](#)

D4 Project Facility Completion Form



\\CCH\1151111\Y\Images\Demolition\183D\F-2\demo.rdg, 4/18/17 PM

Attachment 20

**Approval to Treat the 100-D-30 Chromium Contaminated Soil
in Accordance with the "TREATMENT PLAN AND
PROTOCOL FOR TREATMENT OF CHROMIUM-
CONTAMINATED SOILS, WCH-284, Rev. 2"**

This approval applies to approximately 600 m³ of chromium contaminated soil from the 100-D-30 waste site as described under waste profiles WP100D30001. The waste matrix consists of chromium contaminated soil. Sample# J1T5F5 had a high of 24.9 mg/L TCLP chromium.

The waste is similar to the material treated in "*TREATMENT PLAN AND PROTOCOL FOR TREATMENT OF CHROMIUM-CONTAMINATED SOILS, WCH-284, Rev. 2*".

This approval allows treatment of this waste using the recipe described in Table 1, *Bench-Scale Test Results for the 100-D-56 and 100-C-7* of the treatment plan under Mixture 3, which limits the TCLP chromium to 36 mg/L

Nina Boyd
 FOR **Nina Menard**
 State of Washington Department of Ecology

December 24, 2013
Date

Edward Y. Johnson for Tom Post
Tom Post
 U.S. Department of Energy

23, Dec 24 13
Date

Attachment 21

| Activity ID | Activity Name | % Cmpl | RD | Start | January 2014 | February 2014 | March 2014 | April 2014 | May 2014 | June 2014 | | | | | | | | | | | | | | | | | | | | | |
|-------------|---------------|--------|----|-------|--------------|---------------|------------|------------|----------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | 30 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 05 | 12 | 19 | 26 | 02 | 09 | 16 | 23 | 30 |

600-326

Excavation

IU222640 Excavation 600-326 (IU-6) *INDEFINITE HOLD 0% 3 08-S...

Loadout

IU222650 Loadout 600-326 *INDEFINITE HOLD 0% 3 14-S...

Closeout Sampling & Docs

IU222710 Closure Sampling 600-326 0% 26 01-O...

Final Project Closeout

IU222720 Prepare Closure Document 600-326 0% 83 17-N...

IU222730 RL/Reg Review of Draft A Closure Document 600-326 0% 26 28-J...

IU222740 RL/Reg Signature Rev 0 Closure Document 600-326 0% 4 13-A...

Backfill

IU222660 Backfill 600-326 0% 1 20-A...

Revegetation

IU222680 Revegetation 600-326 0% 1 21-A...

Culture Resource Reviews

IU225110 Cultural / Eco Clearance 600-326 *INDEFINITE HOLD 5% 150 26-J...

600-301

Final Project Closeout

IU223070 Prepare Closure Document 600-301 76% 42 30-O...

IU223080 RL/Reg Review of Draft A Closure Document 600-301 25% 16 18-D...

IU223090 RL/Reg Signature Rev 0 Closure Document 600-301 0% 4 04-...

Backfill

IU223120 Backfill 600-301 50% 4 03-J...

Revegetation

IU223130 Revegetation 600-301 0% 12 13-J...

600-293

Final Project Closeout

IU222850 Prepare Closure Document 600-293 76% 42 12-N...

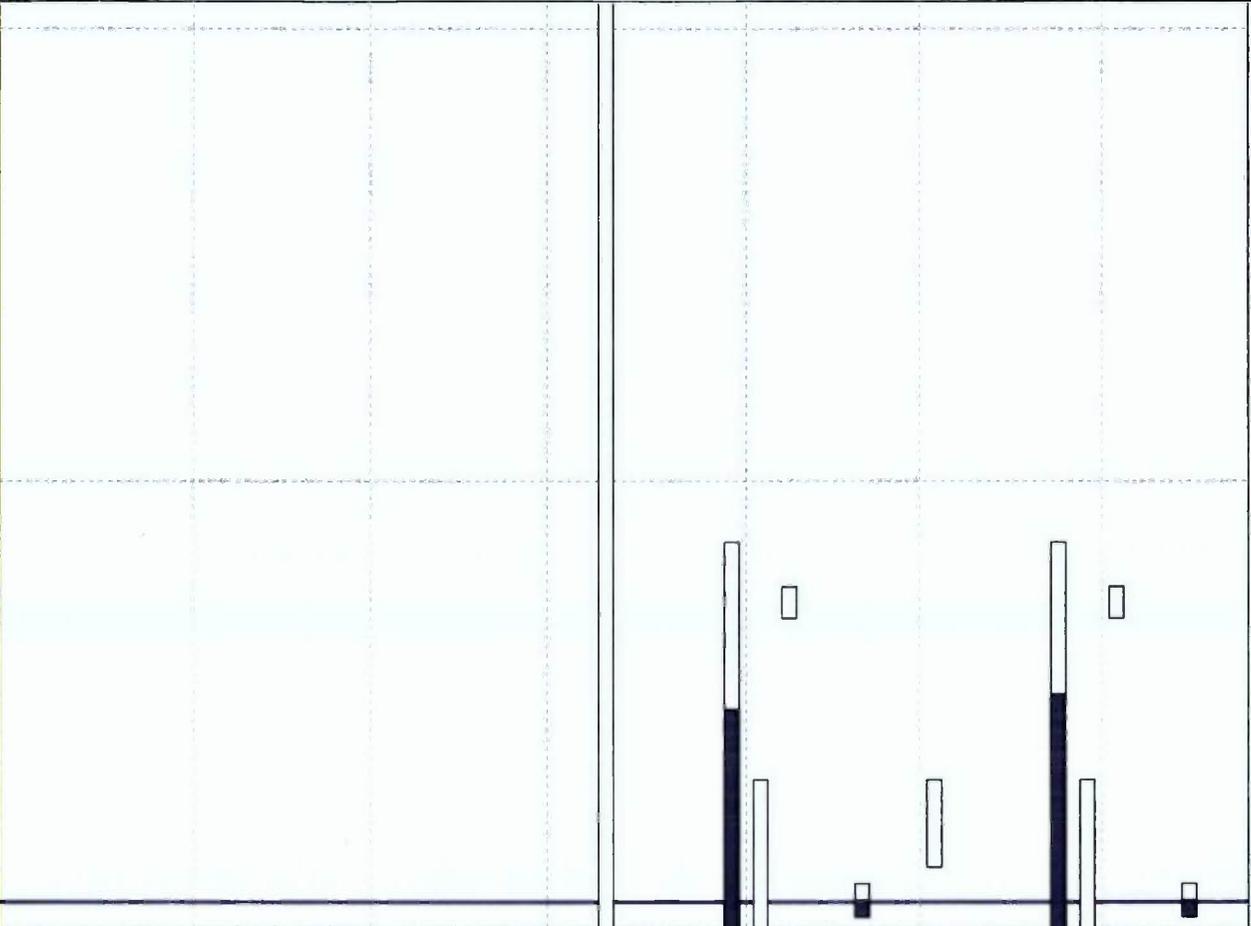
IU222860 RL/Reg Review of Draft A Closure Document 600-293 25% 16 19-D...

IU222870 RL/Reg Signature Rev 0 Closure Document 600-293 0% 4 04-...

Backfill

IU222900 Backfill 600-293 50% 4 03-J...

Revegetation



| Activity ID | Activity Name | % Cmpl | RD | Start | January 2014 | February 2014 | March 2014 | April 2014 | May 2014 | June 2014 | | | | | | | | | | | | | | | | | | | | | |
|-------------|---------------|--------|----|-------|--------------|---------------|------------|------------|----------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | 30 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 05 | 12 | 19 | 26 | 02 | 09 | 16 | 23 | 30 |

600-376

Final Project Closeout

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|----------|---|-----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224610 | Prepare Closure Document 600-376 | 76% | 34 | 28-O... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224620 | RL/Reg Review of Draft A Closure Document 600-376 | 50% | 8 | 03-D... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224630 | RL/Reg Signature Rev 0 Closure Document 600-376 | 0% | 4 | 18-F... | | | | | | | | | | | | | | | | | | | | | | | |

Backfill

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|------------------|----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224660 | Backfill 600-376 | 0% | 1 | 18-F... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|------------------|----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Revegetation

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224670 | Revegetation 600-376 | 0% | 12 | 19-F... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

600-374

Final Project Closeout

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|----------|---|-----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224390 | Prepare Closure Document 600-374 | 76% | 38 | 29-O... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224400 | RL/Reg Review of Draft A Closure Document 600-374 | 50% | 12 | 11-D... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224410 | RL/Reg Signature Rev 0 Closure Document 600-374 | 0% | 4 | 25-F... | | | | | | | | | | | | | | | | | | | | | | | |

Backfill

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|----------|------------------|----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224440 | Backfill 600-374 | 0% | 1 | 12-F... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|------------------|----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Revegetation

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224450 | Revegetation 600-374 | 0% | 12 | 13-F... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

600-377

Excavation

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--------------------|-----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224790 | Excavation 600-377 | 98% | 1 | 16-D... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--------------------|-----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Loadout

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|-----------------|-----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224690 | Loadout 600-377 | 98% | 1 | 16-D... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|-----------------|-----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Closeout Sampling & Docs

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--------------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224710 | Closure Sampling 600-377 | 0% | 26 | 21-J... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|--------------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Final Project Closeout

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224720 | Prepare Closure Document 600-377 | 0% | 93 | 10-... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224730 | RL/Reg Review of Draft A Closure Document 600-377 | 0% | 26 | 13-... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224740 | RL/Reg Signature Rev 0 Closure Document 600-377 | 0% | 4 | 29-J... | | | | | | | | | | | | | | | | | | | | | | | |

Backfill

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|------------------|----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224770 | Backfill 600-377 | 0% | 1 | 21-A... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|------------------|----|---|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Revegetation

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IU224780 | Revegetation 600-377 | 0% | 12 | 10-N... | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------------------|----|----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

600-379

| Activity ID | Activity Name | % Cmpl | RD | Start | January 2014 | February 2014 | March 2014 | April 2014 | May 2014 | June 2014 | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|--------|----|---------|--------------|---------------|------------|------------|----------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | 30 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 05 | 12 | 19 | 26 | 02 | 09 | 16 | 23 | 30 |
| Excavation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU225010 | Excavation 600-379 | 98% | 1 | 18-D... | | | | | | | | | | | | | | | | | | | | | | | |
| Loadout | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224910 | Loadout 600-379 | 98% | 1 | 18-D... | | | | | | | | | | | | | | | | | | | | | | | |
| Closeout Sampling & Docs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224930 | Closure Sampling 600-379 | 0% | 26 | 21-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Final Project Closeout | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224940 | Prepare Closure Document 600-379 | 0% | 93 | 10-... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224950 | RL/Reg Review of Draft A Closure Document 600-379 | 0% | 26 | 13-... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224960 | RL/Reg Signature Rev 0 Closure Document 600-379 | 0% | 4 | 29-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Backfill | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224990 | Backfill 600-379 | 0% | 1 | 21-A... | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU225000 | Revegetation 600-379 | 0% | 12 | 10-N... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-378 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224900 | Excavation 600-378 | 20% | 4 | 17-D... | | | | | | | | | | | | | | | | | | | | | | | |
| Loadout | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224800 | Loadout 600-378 | 20% | 4 | 17-D... | | | | | | | | | | | | | | | | | | | | | | | |
| Closeout Sampling & Docs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224860 | Prepare Work Instruction 600-378 | 0% | 75 | 10-F... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224870 | RL/Reg Review of Draft A Work Instruction 600-378 | 0% | 26 | 01-A... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224810 | RL/Reg Signature Rev 0 WI 600-378 | 0% | 4 | 15-... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224820 | Closure Sampling 600-378 | 0% | 26 | 24-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Final Project Closeout | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224830 | Prepare Closure Document 600-378 | 0% | 93 | 11-A... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224840 | RL/Reg Review of Draft A Closure Document 600-378 | 0% | 26 | 15-O... | | | | | | | | | | | | | | | | | | | | | | | |
| IU224850 | RL/Reg Signature Rev 0 Closure Document 600-378 | 0% | 4 | 06-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Backfill | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224880 | Backfill 600-378 | 0% | 1 | 29-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU224890 | Revegetation 600-378 | 0% | 12 | 02-F... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-279 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excavation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU223360 | Excavation 600-279 | 98% | 18 | 30-S... | | | | | | | | | | | | | | | | | | | | | | | |

| Activity ID | Activity Name | % Cmpl | RD | Start | January 2014 | February 2014 | March 2014 | April 2014 | May 2014 | June 2014 | | | | | | | | | | | | | | | | | |
|-------------------------------|---|--------|----|---------|--------------|---------------|------------|------------|----------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | 30 | 06 | 13 | 20 | 27 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 05 | 12 | 19 | 26 | 02 | 09 | 16 | 23 | 30 |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU221790 | Revegetation 600-319 | 0% | 1 | 13-J... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-320 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Backfill | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU221880 | Backfill 600-320 | 40% | 4 | 02-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU221900 | Revegetation 600-320 | 0% | 1 | 13-J... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-321 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Backfill | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU221990 | Backfill 600-321 | 40% | 4 | 03-J... | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU222010 | Revegetation 600-321 | 0% | 1 | 13-J... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-328 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU222340 | Revegetation 600-328 | 0% | 1 | 06-J... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-108 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UC501E30 | Reveg for 600-108 bpa disturbance | 0% | 22 | 06-J... | | | | | | | | | | | | | | | | | | | | | | | |
| 600-380 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Final Project Closeout | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IU225050 | Prepare Closure Document 600-380 | 76% | 50 | 16-D... | | | | | | | | | | | | | | | | | | | | | | | |
| IU225060 | RL/Reg Review of Draft A Closure Document 600-380 | 25% | 23 | 31-D... | | | | | | | | | | | | | | | | | | | | | | | |
| IU225070 | RL/Reg Signature Rev.0 Closure Document 600-380 | 0% | 4 | 17-... | | | | | | | | | | | | | | | | | | | | | | | |

Attachment 22

| |
|--------|
| 173793 |
|--------|

^WCH Document Control

From: Saueressig, Daniel G
Sent: Monday, November 18, 2013 9:57 AM
To: ^WCH Document Control
Subject: FW: 600-340 Additional Remediation and Resampling Agreement:
Attachments: 600-340 additional remediation and resampling writeup.doc

Please provide a chron number (and include the attachment). This email documents a regulatory approval.

Thanks,

Dan Saueressig
FR Environmental Project Lead
Washington Closure Hanford
521-5326

From: Chance, Joanne C [mailto:joanne.chance@rl.doe.gov]
Sent: Monday, November 18, 2013 9:56 AM
To: Elliott, Wanda; Jakubek, Joshua E
Cc: Berezovskiy, Inna B; Saueressig, Daniel G; Biebrich, Ernest J; Nielson, Renee J; Howell, Theresa Q
Subject: RE: 600-340 Additional Remediation and Resampling Agreement:

I concur also. Thanks.

Joanne C. Chance
U.S. Department of Energy
Office of Assistant Manager for River and Plateau
825 Jadwin Ave / MSIN A3-04
Richland, WA 99352
(509) 376-0811

From: Elliott, Wanda (ECY) [mailto:wel461@ecy.wa.gov]
Sent: Monday, November 18, 2013 6:37 AM
To: Jakubek, Joshua E; Chance, Joanne C; Chance, Joanne C
Cc: Berezovskiy, Inna B; Saueressig, Daniel G; Biebrich, Ernest J; Nielson, Renee J; Howell, Theresa Q
Subject: RE: 600-340 Additional Remediation and Resampling Agreement:

I concur with the proposed approach.

Wanda Elliott
(509) 372-7904
Environmental Scientist
Nuclear Waste Program
Washington State Department of Ecology

11/18/2013



From: Jakubek, Joshua E [mailto:jejakube@wch-rcc.com]

Sent: Wednesday, November 13, 2013 11:04 AM

To: Elliott, Wanda (ECY); Elliott, Wanda (ECY); Chance, Joanne C; Chance, Joanne C

Cc: Berezovskiy, Inna B; Saueressig, Daniel G; Biebrich, Ernest J; Nielson, Renee J; Howell, Theresa Q

Subject: 600-340 Additional Remediation and Resampling Agreement:

Wanda / Joanne-

We just got our verification sample results back from the 600-340 waste site (adjacent to the 100 Area Fire Station) and we have one TPH failure that we would like to perform additional remediation on. Attached is a request for additional remediation and resampling of this area.

Would you please let me know if the proposed approach will be acceptable for this site? As always, please let me know if we have any questions.

<< File: 600-340 additional remediation and resampling writeup.doc >>

Thanks,

Josh Jakubek
Washington Closure Hanford
Resident Engineer
509-942-4703

600-340 Waste Site Additional Remediation and Resampling Request

Background Information

Remedial action at the 600-340 waste site occurred between June 19, 2013 and September 10, 2013. The excavation extended to a maximum depth of approximately 2.0 m (6.6 ft) below ground surface. Verification sampling was conducted on October 23, 2013 per the approved verification work instruction. One decision unit was identified for the 600-340 waste site and includes the excavation only. Twelve statistical samples plus quality assurance/quality control (QA/QC) samples were collected from the decision unit.

Sample location EXC-6 failed direct exposure remedial action goals (RAGs) for total petroleum hydrocarbons (TPH).

Recommendation for Path Forward

Washington Closure Hanford proposes additional soil removal from the 600-340 waste site excavation at the EXC-6 location for disposal at the Environmental Restoration Disposal Facility. To be conservative, generally, half the distance between the failed verification sample location and the nearest passing verification sample location is used as the boundary for additional soil removal (Figure 1). The depth of additional soil removal will be between 1 to 2 meters depending on observations in the field (e.g., discolored or stained soil, debris, etc.).

Following additional soil removal, a replacement verification sample will be collected at EXC-6 and analyzed for TPH only, by EPA Method NWTPH-Dx (Table 1).

Figure 1. Sample Location EXC-6 and Proposed Area for Additional Remediation.

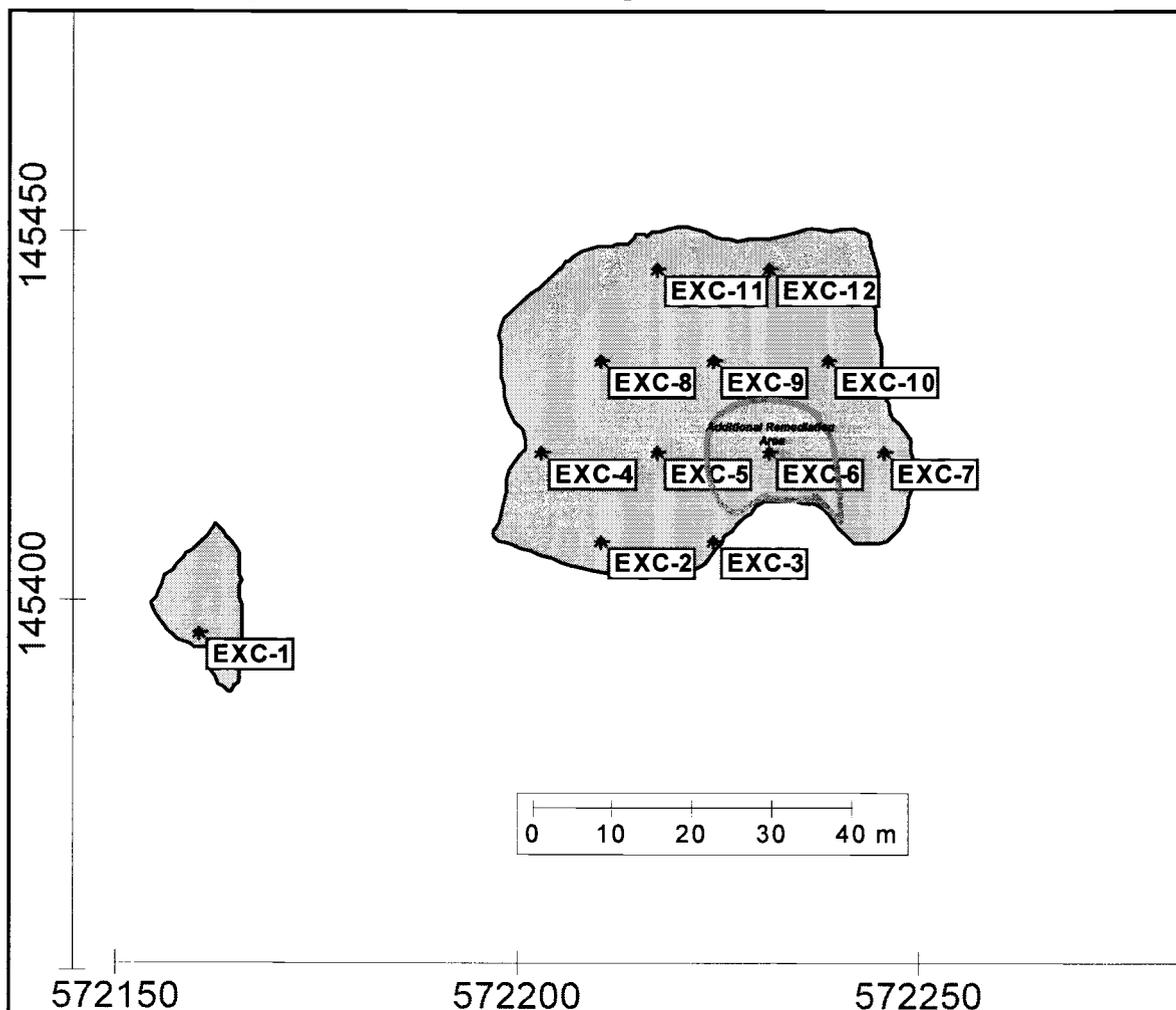


Table 1. 600-340 Waste Site Replacement Verification Sample Summary.

| Sample Location | HEIS Sample Number | Washington State Plane Coordinates (m) | | Sample Analysis |
|-----------------|--------------------|--|----------|---------------------------|
| | | Northing | Easting | |
| EXC-6 | TBD | 145420.3 | 572231.5 | TPH – EPA Method NWTPH-Dx |

HEIS = Hanford Environmental Information System

TBD = to be determined

TPH = total petroleum hydrocarbons

Attachment 23

300 Area Closure Project Status
January 9, 2014
100/300 Area Combined Unit Manager Meeting

Ongoing Activities

- 309 Reactor – Reactor is completely cut free. Installation of lift assembly and lower boost jacks ongoing. Tentative schedule to boost the reactor core the week of January 13th.
340 Vault: Finalizing installation of full lift assembly, tentatively scheduled to begin lifting the week of January 13th.
- 324 – Continue min-safe operations. Preparing to award subcontract for 300-296 retrieval.
- Remaining 300 Area Waste Sites – Continue to advance remedial designs and decision units. Initiation of Zone 5 process sewer piping remediation pending.
- Initiated development of new RDR/RAWP following issuance of the 300 Area Final Action Record of Decision.
- Completed backfill of UPR-300-4 (321/323) excavation.

Demolition & Remediation Preparation Activities

- 326 – Above-grade demolition complete, completing below-grade demolition and basement cleanout.
- 3790 – Hazardous material and asbestos removal ongoing, demolition pending.

60-Day Project Look Ahead

- Lift, package, and transport 340 vault to ERDF.
- Lift, package, and transport 309 reactor to ERDF.
- Complete demolition of the 326 Building.
- Complete demolition of 3790.
- Complete demolition of 3730.
- Initiate south Apple waste sites remediation.
- Finalize revision to the 300-FF-2 portion of the RDR/RAWP.

Attachment 24

ESH&QA Mission Completion Project
January 9, 2014

Long-Term Stewardship

- No new information to report.

Document Review Look-Ahead

- None